# LIST OF THE BOUNDARY-VALUE PROBLEMS (L3C) FOR 3D CARTESIAN DOMAINS, FOR WHICH HAVE BEEN CONSTRUCTED THE GREEN'S TENSORS

All these Green's tensors can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

It is important to note that the results given in this file for the space, the half-space, the quarter-space and the octant are given in extremely compact form in terms of elementary functions. Moreover, it can be said that the list of all expressions for dilatation influence functions and Green's matrices for Lame's equations are presented in a compact form. This form contains some derivatives of the respective Green's functions for Poisson's equation.

## (L3C) 1. Space $\left(-\infty \leq x_1, x_2, x_3 \leq \infty\right)$

The functions of influence of the unit concentrated body forces $\int\limits_V \delta_{ik}\delta(x-\xi)dV(\xi)=\delta_{ik}$, $i,k$=1,2,3 applied at the inner space points $\xi_1, \xi_2, \xi_3$ along the co-ordinate axis $0x_k$, onto the bulk dilatation (the influence functions for the dilatation $-\Theta^{(k)}(x,\xi)$) as well as onto the displacements (the components of the displacements Green's matrix $-U_i^{(k)}(x,\xi)$ at the points of observation $x \equiv (x_1, x_2, x_3)$ along co-ordinate axis $0x_i$. The formulations and the final Answer to a boundary-value Problem (L3C)s on constructing the influence functions for dilatation and Green's matrices for Lame's equations in the case of the space are given there.

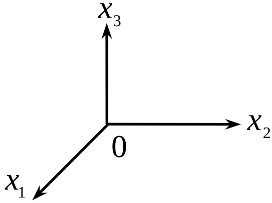


Figure 1: Space in Cartesian co-ordinates.

## Problem (L3C) 1.1

To construct the influence function for the dilatation $-\Theta^{(k)}(x,\xi)$ and the components of the displacements Green's matrix $-U_i^{(k)}(x,\xi)$ for Lame's equations in the case of the elastic space $(-\infty \le x_1, x_2, x_3 \le \infty)$.

To obtain the Solution of this Problem (L3C) it is necessary to integrate the system of Lame's equations

$$\nabla^2 U_i^{(k)}(x,\xi) + (\lambda+\mu)\Theta_{,i}^{(k)}(x,\xi) = -\delta_{ik}\delta(x-\xi); \quad i,k = 1,2,3,$$

both the desired influence function $-\theta^{(\kappa)}$ and the displacements $U_i^{(k)}$ vanishing at infinity.

The Answer to Problem (L3C) 1.1 **for space** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

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## (L3C) 2. Half-space $(0 \le x_1 \le \infty, -\infty \le x_2, x_3 \le \infty)$

Section 15.L gives the functions of influence of the unit concentrated body forces $\int_V \delta_{ik}\delta(x-\xi)dV(\xi) = \delta_{ik}$, i,k=1,2,3 applied at the inner half-space points $\xi \equiv (\xi_1, \xi_2, \xi_3)$ along co-ordinate axis $0x_k$, onto the bulk dilatation (the influence functions for the dilatation $-\Theta^{(k)}(x,\xi)$) as well as onto the displacements (the components of the displacements Green's matrix $-U_i^{(k)}(x,\xi)$ at the points of observation $x \equiv (x_1, x_2, x_3)$ along co-ordinate axis $0x_i$.

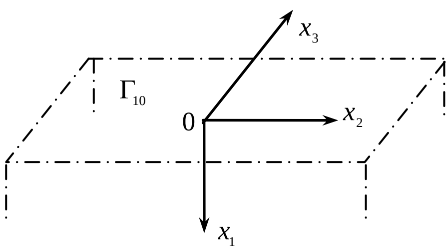


Figure 2: Half-space with boundary plane $\Gamma_{10}$.

The formulations to four boundary-value Problem (L3C)s on constructing the influence functions for dilatation and Green's matrices for Lame's equations in the case of the half-space are given there.

## Problems (L3C) 2.1- (L3C) 2-4

To construct influence functions for the dilatation $\Theta^{(k)}(x,\xi)$ and for components of the displacements Green's matrices for Lame's equation for the elastic half-space $\left(0 \le x_1 \le \infty, -\infty \le x_2, x_3 \le \infty\right)$ under the following homogeneous boundary conditions:

### Problem (L3C) 2.1

$$U_1^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0;\ x_1 = 0., -\infty \le x_1 \le \infty.$$

The Answer to Problem (L3C) 2.1 **for half-space** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

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### Problem (L3C) 2.2

$$\sigma_{11}^{(k)} = U_2^{(k)} = U_3^{(k)} = 0;\ x_1 = 0, -\infty \le x_2, x_3 \le \infty.$$

The Answer to Problem (L3C) 2.2 **for half-space** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

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### Problem (L3C) 2.3

$$U_1^{(k)} = U_2^{(k)} = U_3^{(k)} = 0;\ x_1 = 0, -\infty \le x_2, x_3 \le \infty.$$

The Answer to Problem (L3C) 2.3 **for half-space** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

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### Problem (L3C) 2.4

$$\sigma_{11}^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0;\ x_1 = 0, -\infty \le x_2, x_3 \le \infty.$$

The Answer to Problem (L3C) 2.4 **for half-space** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

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## (L3C) 3. Quarter-space $\left(0 \le x_1, x_2 \le \infty, -\infty \le x_3 \le \infty\right)$

This section gives the functions of influence of the unit concentrated body forces $\int\limits_V \delta_{ik}\delta(x-\xi)dV(\xi) = \delta_{ik}$, i,k=1,2,3 applied at the inner quarter-space points $\xi_1, \xi_2, \xi_3$ along co-ordinate axis $0x_k$, onto the bulk dilatation (the influence functions for the dilatation - $\Theta^{(k)}(x,\xi)$) as well as onto the displacements (the components of the displacements Green's matrix - $U_i^{(k)}(x,\xi)$ at the points of observation $x \equiv (x_1, x_2, x_3)$ along co-ordinate axis $0x_i$. The formulations to 16 boundary-value Problem (L3C)s on constructing the influence functions for dilatation and Green's matrices for Lame's equations in the case of the quarter-space are given there.

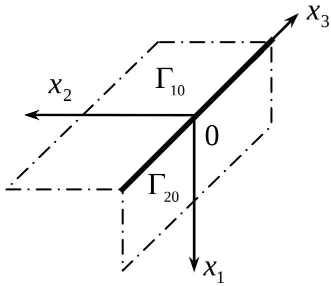


Figure 3: Quarter-space with boundary half-planes $\Gamma_{10}$ and $\Gamma_{20}$.

## Problems (L3C) 3.1–(L3C) 3. 8

To construct influence functions for the dilatation - $\Theta^{(k)}(x,\xi)$ and for components of the displacements Green's matrices - $U_i^{(k)}(x,\xi)$ for Lame's equation for the elastic quarter-space $\left(0 \le x_1, x_2 \le \infty, -\infty \le x_3 \le \infty\right)$ under the following locally mixed boundary conditions of a sliding-fixation type.

### Problem (L3C) 3.1

$$\left.\begin{array}{l} U_1^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0;\ x_1 = 0, 0 \le x_2 \le \infty \\ U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0;\ x_2 = 0, 0 \le x_1 \le \infty \end{array}\right\}, -\infty \le x_3 \le \infty.$$

The Answer to Problem (L3C) 3.1 **for quarter-space** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

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**Problem (L3C) 3.2**

$$\left.\begin{array}{l}\sigma_{11}^{(k)}=U_2^{(k)}=U_3^{(k)}=0;\ x_1=0,0\le x_2\le\infty\\ \sigma_{22}^{(k)}=U_1^{(k)}=U_3^{(k)}=0;\ x_2=0,0\le x_1\le\infty\end{array}\right\},-\infty\le x_3\le\infty.$$

The Answer to Problem (L3C) 3.2 **for quarter-space** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

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**Problem (L3C) 3.3**

$$\left.\begin{array}{l}U_1^{(k)}=\sigma_{12}^{(k)}=\sigma_{13}^{(k)}=0;\ x_1=0,0\le x_2\le\infty\\ \sigma_{22}^{(k)}=U_1^{(k)}=U_3^{(k)}=0;\ x_2=0,0\le x_1\le\infty\end{array}\right\},-\infty\le x_3\le\infty.$$

The Answer to Problem (L3C) 3.3 **for quarter-space** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

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**Problem (L3C) 3.4**

$$\left.\begin{array}{l}\sigma_{11}^{(k)}=U_2^{(k)}=U_3^{(k)}=0;\ x_1=0,0\le x_2\le\infty\\ U_2^{(k)}=\sigma_{21}^{(k)}=\sigma_{23}^{(k)}=0;\ x_2=0,0\le x_1\le\infty\end{array}\right\},-\infty\le x_3\le\infty.$$

The Answer to Problem (L3C) 3.4 **for quarter-space** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

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**Problem (L3C) 3.5**

$$\left.\begin{array}{l}U_1^{(k)}=U_2^{(k)}=U_3^{(k)}=0;\ x_1=0,0\le x_2\le\infty\\ U_2^{(k)}=\sigma_{21}^{(k)}=\sigma_{23}^{(k)}=0;\ x_2=0,0\le x_1\le\infty\end{array}\right\},-\infty\le x_3\le\infty.$$

The Answer to Problem (L3C) 3.5 **for quarter-space** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

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**Problem (L3C) 3.6**

$$\left.\begin{array}{l} U_1^{(k)}=U_2^{(k)}=U_3^{(k)}=0;\ x_1=0,0\le x_2\le\infty \\ \sigma_{22}^{(k)}=U_1^{(k)}=U_3^{(k)}=0;\ x_2=0,0\le x_1\le\infty \end{array}\right\},-\infty\le x_3\le\infty.$$

The Answer to Problem (L3C) 3.6 **for quarter-space** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

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**Problem (L3C) 3.7**

$$\left.\begin{array}{l} \sigma_{11}^{(k)}=\sigma_{12}^{(k)}=\sigma_{13}^{(k)}=0;\ x_1=0,0\le x_2\le\infty \\ U_2^{(k)}=\sigma_{21}^{(k)}=\sigma_{23}^{(k)}=0,\ x_2=0,0\le x_1\le\infty \end{array}\right\},-\infty\le x_3\le\infty.$$

The Answer to Problem (L3C) 3.7 **for quarter-space** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

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**Problem (L3C) 3.8**

$$\left.\begin{array}{l} \sigma_{11}^{(k)}=\sigma_{12}^{(k)}=\sigma_{13}^{(k)}=0;\ x_1=0,0\le x_2\le\infty \\ \sigma_{22}^{(k)}=U_1^{(k)}=U_3^{(k)}=0,\ x_2=0,0\le x_1\le\infty \end{array}\right\},-\infty\le x_3\le\infty.$$

The Answer to Problem (L3C) 3.8 **for quarter-space** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

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## (L3C)_ 4. Octant $(0\le x_1,x_2,x_3\le\infty)$

Section 4 gives the functions of influence of the unit concentrated body forces $\int_V \delta_{ik}\delta(x-\xi)dV(\xi)=\delta_{ik}$, $i,k$=1,2,3 applied at the inner octant points $\xi\equiv(\xi_1,\xi_2,\xi_3)$ along co-ordinate axis $0x_k$, onto the bulk dilatation (the influence functions for the dilatation $-\Theta^{(k)}(x,\xi)$) as well as onto the displacements (the components of the displacements Green's matrix $-U_i^{(k)}(x,\xi)$ at the points of observation $x\equiv(x_1,x_2,x_3)$ along co-ordinate axis $0x_i$.

The formulations to 16 boundary-value Problem (L3C)s on constructing the influence functions for dilatation and Green's matrices for Lame's equations in the case of the octant are given there.

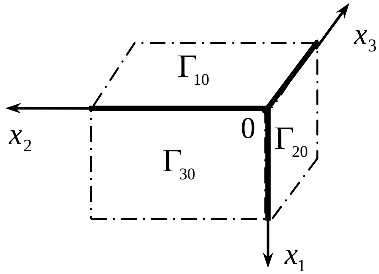


Figure 4: Octant with boundary quadrants $\Gamma_{10}$ , $\Gamma_{20}$ and $\Gamma_{30}$ .

## Problems (L3C) 4.1–(L3C) 4.16

To construct influence functions for the dilatation $\Theta^{(k)}(x,\xi)$ and for components of the displacements Green's matrices $U_i^{(k)}(x,\xi)$ for Lame's equation for the octant $(0 \le x_1, x_2, \; x_3 \le \infty)$ under the following boundary conditions.

**Problem (L3C) 4.1**

$$\left.\begin{array}{l} U_1^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0;\; x_1 = 0,\; 0 \le x_2 \le \infty \\ U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0;\; x_2 = 0,\, 0 \le x_1 \le \infty \end{array}\right\},\; -\infty \le x_3 \le \infty;$$
$$U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0;\; x_3 = 0,\; 0 \le x_1 \le \infty,\; 0 \le x_2 \le \infty .$$

The Answer to Problem (L3C) 4.1 **for octant** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

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**Problem (L3C) 4.2**

$$\left.\begin{array}{l} \sigma_{11}^{(k)} = U_2^{(k)} = U_3^{(k)} = 0;\; x_1 = 0,\; 0 \le x_2 \le \infty \\ \sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0;\; x_2 = 0,\, 0 \le x_1 \le \infty \end{array}\right\},\, -\infty \le x_3 \le \infty;$$
$$\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0;\; x_3 = 0,\, 0 \le x_1 \le \infty,\, 0 \le x_2 \le \infty .$$

The Answer to Problem (L3C) 4.2 **for octant** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

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**Problem (L3C) 4.3**

$$\left.\begin{array}{l} U_1^{(k)}=\sigma_{12}^{(k)}=\sigma_{13}^{(k)}=0;\ x_1=0,\ 0\le x_2\le\infty \\ U_2^{(k)}=\sigma_{21}^{(k)}=\sigma_{23}^{(k)}=0;\ x_2=0,\ 0\le x_1\le\infty \end{array}\right\},\ -\infty\le x_3\le\infty;$$
$$\sigma_{33}^{(k)}=U_1^{(k)}=U_2^{(k)}=0,\ x_3=0,\ 0\le x_1\le\infty,\ 0\le x_2\le\infty.$$

The Answer to Problem (L3C) 4.3 **for octant** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

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**Problem (L3C) 4.4**

$$\left.\begin{array}{l} \sigma_{11}^{(k)}=U_2^{(k)}=U_3^{(k)}=0;\ x_1=0,\ 0\le x_2\le\infty \\ \sigma_{22}^{(k)}=U_1^{(k)}=U_3^{(k)}=0,\ x_2=0,\ 0\le x_1\le\infty \end{array}\right\},-\infty\le x_3\le\infty;$$
$$U_3^{(k)}=\sigma_{31}^{(k)}=\sigma_{32}^{(k)}=0,\ x_3=0, 0\le x_1\le\infty, 0\le x_2\le\infty.$$

The Answer to Problem (L3C) 4.4 **for octant** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

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**Problem (L3C) 4.5**

$$\left.\begin{array}{l} \sigma_{11}^{(k)}=U_2^{(k)}=U_3^{(k)}=0;\ x_1=0,\ 0\le x_2\le\infty \\ U_2^{(k)}=\sigma_{21}^{(k)}=\sigma_{23}^{(k)}=0,\ x_2=0,\ 0\le x_1\le\infty \end{array}\right\},-\infty\le x_3\le\infty;$$
$$U_3^{(k)}=\sigma_{31}^{(k)}=\sigma_{32}^{(k)}=0,\ x_3=0, 0\le x_1\le\infty, 0\le x_2\le\infty.$$

The Answer to Problem (L3C) 4.5 **for octant** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

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**Problem (L3C) 4.6**

$$\left.\begin{array}{l} \sigma_{11}^{(k)}=U_2^{(k)}=U_3^{(k)}=0;\ x_1=0,\ 0\le x_2\le\infty \\ U_2^{(k)}=\sigma_{21}^{(k)}=\sigma_{23}^{(k)}=0,\ x_2=0,\ 0\le x_1\le\infty \end{array}\right\},-\infty\le x_3\le\infty;$$
$$\sigma_{33}^{(k)}=U_1^{(k)}=U_2^{(k)}=0,\ x_3=0, 0\le x_1\le\infty, 0\le x_2\le\infty.$$

The Answer to Problem (L3C) 4.6 **for octant** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

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**Problem (L3C) 4.7**

$$\left.\begin{aligned} &U_1^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0;\ x_1 = 0,\ 0 \le x_2 \le \infty \\ &\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0;\ \ x_2 = 0,\ 0 \le x_1 \le \infty \end{aligned}\right\},\ -\infty \le x_3 \le \infty;$$
$$\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0,\ \ x_3 = 0,\ 0 \le x_1 \le \infty,\ \ 0 \le x_2 \le \infty .$$

The Answer to Problem (L3C) 4.7 **for octant** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

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**Problem (L3C) 4.8**

$$\left.\begin{aligned} &U_1^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0;\ x_1 = 0,\ 0 \le x_2 \le \infty \\ &\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0;\ \ x_2 = 0,\ 0 \le x_1 \le \infty \end{aligned}\right\},\ -\infty \le x_3 \le \infty;$$
$$U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0,\ \ x_3 = 0,\ 0 \le x_1 \le \infty,\ \ 0 \le x_2 \le \infty .$$

The Answer to Problem (L3C) 4.8 **for octant** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

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**Problem (L3C) 4.9**

$$\left.\begin{aligned} &U_1^{(k)} = U_2^{(k)} = U_3^{(k)} = 0;\ x_1 = 0,\ 0 \le x_2 \le \infty \\ &U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0;\ \ x_2 = 0,\ 0 \le x_1 \le \infty \end{aligned}\right\},\ -\infty \le x_3 \le \infty;$$
$$U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0,\ \ x_3 = 0,\ 0 \le x_1 \le \infty,\ \ 0 \le x_2 \le \infty .$$

The Answer to Problem (L3C) 4.9 **for octant** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

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**Problem (L3C) 4.10**

$$\left.\begin{aligned} &U_1^{(k)} = U_2^{(k)} = U_3^{(k)} = 0;\ x_1 = 0,\ 0 \le x_2 \le \infty \\ &\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0;\ \ x_2 = 0,\ 0 \le x_1 \le \infty \end{aligned}\right\},\ -\infty \le x_3 \le \infty;$$
$$\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0,\ \ x_3 = 0,\ 0 \le x_1 \le \infty,\ \ 0 \le x_2 \le \infty .$$

The Answer to Problem (L3C) 4.10 **for octant** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

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**Problem (L3C) 4.11**

$$\left.\begin{array}{l} U_1^{(k)} = U_2^{(k)} = U_3^{(k)} = 0;\ x_1 = 0,\ 0 \le x_2 \le \infty \\ U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0;\ x_2 = 0,\ 0 \le x_1 \le \infty \end{array}\right\},\ -\infty \le x_3 \le \infty;$$
$$\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0,\ \ x_3 = 0,\ 0 \le x_1 \le \infty,\ \ 0 \le x_2 \le \infty .$$

The Answer to Problem (L3C) 4.11 **for octant** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

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**Problem (L3C) 4.12**

$$\left.\begin{array}{l} U_1^{(k)} = U_2^{(k)} = U_3^{(k)} = 0;\ x_1 = 0,\ 0 \le x_2 \le \infty \\ \sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0;\ \ x_2 = 0,\ 0 \le x_1 \le \infty \end{array}\right\},\ -\infty \le x_3 \le \infty;$$
$$U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0,\ \ x_3 = 0,\ 0 \le x_1 \le \infty,\ \ 0 \le x_2 \le \infty .$$

The Answer to Problem (L3C) 4.12 **for octant** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

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**Problem (L3C) 4.13**

$$\left.\begin{array}{l} \sigma_{11}^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0;\ x_1 = 0,\ 0 \le x_2 \le \infty \\ \sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0;\ x_2 = 0,\ 0 \le x_1 \le \infty \end{array}\right\},-\infty \le x_3 \le \infty;$$
$$\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0;\ \ x_3 = 0,\ 0 \le x_1 \le \infty,\ 0 \le x_2 \le \infty .$$

The Answer to Problem (L3C) 4.13 **for octant** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

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**Problem (L3C) 4.14**

$$\left.\begin{array}{l} \sigma_{11}^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0;\ x_1 = 0,\ 0 \le x_2 \le \infty \\ U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0;\ x_2 = 0,\ 0 \le x_1 \le \infty \end{array}\right\},-\infty \le x_3 \le \infty;$$
$$U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0;\ \ x_3 = 0,\ 0 \le x_1 \le \infty,\ 0 \le x_2 \le \infty .$$

The Answer to Problem (L3C) 4.14 **for octant** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

**Problem (L3C) 4.15**

$$\left.\begin{array}{l}\sigma_{11}^{(k)}=\sigma_{12}^{(k)}=\sigma_{13}^{(k)}=0;\ x_1=0,\ 0\le x_2\le\infty\\ U_2^{(k)}=\sigma_{21}^{(k)}=\sigma_{23}^{(k)}=0;\ x_2=0,\ 0\le x_1\le\infty\end{array}\right\},-\infty\le x_3\le\infty;$$
$$\sigma_{33}^{(k)}=U_1^{(k)}=U_2^{(k)}=0;\ x_3=0,\ 0\le x_1\le\infty,\ 0\le x_2\le\infty.$$

The Answer to Problem (L3C) 4.15 **for octant** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

**Problem (L3C) 4.16**

$$\left.\begin{array}{l}\sigma_{11}^{(k)}=\sigma_{12}^{(k)}=\sigma_{13}^{(k)}=0;\ x_1=0,\ 0\le x_2\le\infty\\ \sigma_{22}^{(k)}=U_1^{(k)}=U_3^{(k)}=0,\ x_2=0,\ 0\le x_1\le\infty\end{array}\right\},-\infty\le x_3\le\infty;$$
$$U_3^{(k)}=\sigma_{31}^{(k)}=\sigma_{32}^{(k)}=0,\ x_3=0,\ 0\le x_1\le\infty,\ 0\le x_2\le\infty.$$

The Answer to Problem (L3C) 4.16 **for octant** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## (L3C) 5. Layer $(-\infty\le x_1,x_2\le\infty,\ 0\le x_3\le a_3)$

Section 5.L gives the functions of influence of the unit concentrated body forces $\int_V \delta_{ik}\delta(x-\xi)dV(\xi)=\delta_{ik}$, $i,k$ = 1,2,3 applied at the inner layer points $\xi\equiv(\xi_1,\xi_2,\xi_3)$ along co-ordinate axis $0x_k$, onto the bulk dilatation (the influence functions for the dilatation $-\Theta^{(k)}(x,\xi)$) as well as onto the displacements (the components of the displacements Green's matrix $-U_i^{(k)}(x,\xi)$ at the points of observation $x\equiv(x_1,x_2,x_3)$ along co-ordinate axis $0x_i$. The formulations to four boundary-value Problem (L3C)s on constructing the influence functions for dilatation and Green's matrices for Lame's equations in a case of the layer are given there.

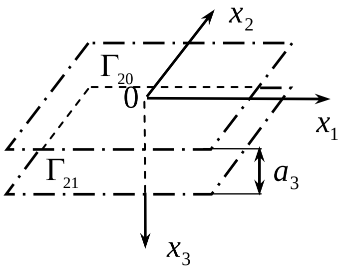


Figure 5: Layer with boundary planes $\Gamma_{20}$ and $\Gamma_{21}$.

## Problems (L3C) 5.1– (L3C) 5. 4

To construct influence functions for the dilatation $\Theta^{(k)}(x,\xi)$ and for components of the displacements Green's matrices $U_i^{(k)}(x,\xi)$ for Lame's equations for the elastic layer $(-\infty \le x_1, x_2 \le \infty, 0 \le x_3 \le a_3)$ under the following locally mixed boundary conditions of a sliding-fixation type

**Problem (L3C) 5.1**

$$\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0;\ x_3 = 0, a_3\,, -\infty \le x_1, x_2 \le \infty.$$

The Answer to Problem (L3C) 5.1 **for layer** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

**Problem (L3C) 5.2**

$$U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0;\ x_3 = 0, a_3\,, -\infty \le x_1, x_2 \le \infty.$$

The Answer to Problem (L3C) 5.2 **for layer** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

**Problem (L3C) 5.3**

$$\left.\begin{aligned} &\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0, x_3 = 0 \\ &U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0,\ x_3 = a_3 \end{aligned}\right\}, -\infty \le x_1, x_2 \le \infty.$$

The Answer to Problem (L3C) 5.3 **for layer** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 5.4

$$\left.\begin{array}{l} U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0, x_3 = 0 \\ \sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0,\ x_3 = a_3 \end{array}\right\}, -\infty \le x_1, x_2 \le \infty.$$

The Answer to Problem (L3C) 5.4 **for layer** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## (L3C) 6. Half-layer $(0 \le x_1 \le \infty, -\infty \le x_2 \le \infty, 0 \le x_3 \le a_3)$

Section 6 gives the functions of influence of the unit concentrated body forces $\int\limits_V \delta_{ik}\delta(x-\xi)dV(\xi) = \delta_{ik}$, $i,k$=1,2,3 applied at the inner half-layer points $\xi \equiv (\xi_1, \xi_2, \xi_3)$ along co-ordinate axis $0x_k$, onto the bulk dilatation (the influence functions for the dilatation - $\Theta^{(k)}(x,\xi)$) as well as onto the displacements (the components of the displacements Green's matrix - $U_i^{(k)}(x,\xi)$ at the points of observation $x \equiv (x_1, x_2, x_3)$ along co-ordinate axis $0x_i$. The formulations to 12 boundary-value Problem (L3C)s on constructing the influence functions for dilatation and Green's matrices for Lame's equations in the case of the half-layer are given there.

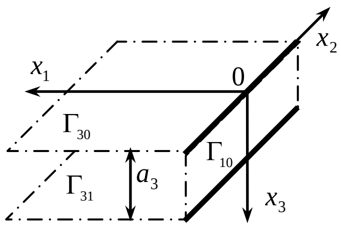


Figure 6: Half-layer with boundary half- planes $\Gamma_{30}$, $\Gamma_{31}$ and boundary strip $\Gamma_{10}$.

## Problems (L3C) of First Type. Problems (L3C) 6.1–(L3C) 6.8

To construct influence functions for the dilatation $\Theta^{(k)}(x,\xi)$ and for components of the displacements Green's matrices $U_i^{(k)}(x,\xi)$ for

Lame's equation for the elastic half-layer $(0 \le x_1 \le \infty, -\infty \le x_2 \le \infty, 0 \le x_3 \le a_3)$ under the following locally mixed boundary conditions of a sliding-fixation type:

## Problem (L3C) 6.1

$$\sigma_{11}^{(k)} = U_2^{(k)} = U_3^{(k)} = 0;\ x_1 = 0,\ -\infty \le x_2 \le \infty,\ 0 \le x_3 \le a_2;$$
$$\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0;\ x_3 = 0, a_3,\ 0 \le x_1 \le \infty,\ -\infty \le x_2 \le \infty.$$

The Answer to Problem (L3C) 6.1 **for half-layer** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 6.2

$$\sigma_{11}^{(k)} = U_2^{(k)} = U_3^{(k)} = 0;\ x_1 = 0,\ -\infty \le x_2 \le \infty,\ 0 \le x_3 \le a_2;$$
$$U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0;\ x_3 = 0, a_3,\ 0 \le x_1 \le \infty, -\infty \le x_2 \le \infty.$$

The Answer to Problem (L3C) 6.2 **for half-layer** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 6.3

$$\sigma_{11}^{(k)} = U_2^{(k)} = U_3^{(k)} = 0;\ x_1 = 0,\ -\infty \le x_2 \le \infty, 0 \le x_3 \le a_3;$$
$$\left.\begin{array}{l}\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; x_3 = 0\\ U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0;\ x_3 = a_3\end{array}\right\},\ 0 \le x_1 \le \infty,\ -\infty \le x_2 \le \infty.$$

The Answer to Problem (L3C) 6.3 **for half-layer** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 6.4

$$\sigma_{11}^{(k)} = U_2^{(k)} = U_3^{(k)} = 0;\ x_1 = 0,\ -\infty \le x_2 \le \infty, 0 \le x_3 \le a_3;$$
$$\left.\begin{array}{l}U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = 0\\ U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0;\ x_3 = a_3\end{array}\right\},\ 0 \le x_1 \le \infty,\ -\infty \le x_2 \le \infty.$$

The Answer to Problem (L3C) 6.4 **for half-layer** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 6.5

$$U_1^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0;\ x_1 = 0, -\infty \le x_2 \le \infty, 0 \le x_3 \le a_3;$$
$$\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0;\ x_3 = 0, a_3,\ \ 0 \le x_1 \le \infty, -\infty \le x_2 \le \infty .$$

The Answer to Problem (L3C) 6.5 **for half-layer** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 6.6

$$U_1^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0;\ x_1 = 0, -\infty \le x_2 \le \infty, 0 \le x_3 \le a_3;$$
$$U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0;\ x_3 = 0, a_3,\ \ 0 \le x_1 \le \infty, -\infty \le x_2 \le \infty .$$

The Answer to Problem (L3C) 6.6 **for half-layer** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 6.7

$$U_1^{(k)} = \sigma_{2}^{(k)} = \sigma_{13}^{(k)} = 0;\ x_1 = 0, -\infty \le x_2 \le \infty, 0 \le x_3 \le a_3;$$
$$\left.\begin{array}{l} \sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; x_3 = 0 \\ U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0;\ x_3 = a_3 \end{array}\right\},\ 0 \le x_1 \le \infty, -\infty \le x_2 \le \infty .$$

The Answer to Problem (L3C) 6.7 **for half-layer** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 6.8

$$U_1^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0; x_1 = 0, -\infty \le x_2 \le \infty, 0 \le x_3 \le a_3;$$
$$\left.\begin{array}{l} U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = 0 \\ \sigma_{31}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0;\ x_3 = a_3 \end{array}\right\},\ 0 \le x_1 \le \infty, -\infty \le x_2 \le \infty .$$

The Answer to Problem (L3C) 6.8 **for half-layer** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problems (L3C) of Second Type. Problems (L3C) 6.9–(L3C) 6.12

To construct influence functions for the dilatation $\Theta^{(k)}(x,\xi)$ and for components of the displacements Green's matrices $U_i^{(k)}(x,\xi)$ for Lame's equation for the elastic half-layer $(0 \le x_1 \le \infty, -\infty \le x_2 \le \infty, 0 \le x_3 \le a_3)$ under the following locally mixed boundary conditions of rigid and sliding- fixations types:

### Problem (L3C) 6.9

$$U_1^{(k)} = U_2^{(k)} = U_3^{(k)} = 0;\ x_1 = 0,\ -\infty \le x_2 \le \infty,\ 0 \le x_3 \le a_2;$$
$$\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0;\ x_3 = 0, a_3,\ \ 0 \le x_1 \le \infty,\ -\infty \le x_2 \le \infty.$$

The Answer to Problem (L3C) 6.9 **for half-layer** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

### Problem (L3C) 6.10

$$U_1^{(k)} = U_2^{(k)} = U_3^{(k)} = 0;\ x_1 = 0,\ -\infty \le x_2 \le \infty,\ 0 \le x_3 \le a_2;$$
$$U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0;\ x_3 = 0, a_3,\ \ 0 \le x_1 \le \infty,\ -\infty \le x_2 \le \infty\ .$$

The Answer to Problem (L3C) 6.10 **for half-layer** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

### Problem (L3C) 6.11

$$U_1^{(k)} = U_2^{(k)} = U_3^{(k)} = 0;\ x_1 = 0,\ -\infty \le x_2 \le \infty, 0 \le x_3 \le a_3;$$
$$\left.\begin{aligned} \sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0;\ x_3 = 0 \\ U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0;\ x_3 = a_3 \end{aligned}\right\},\ 0 \le x_1 \le \infty,\ -\infty \le x_2 \le \infty\ .$$

The Answer to Problem (L3C) 6.11 **for half-layer** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 6.12

$$U_1^{(k)} = U_2^{(k)} = U_3^{(k)} = 0;\ x_1 = 0,\ -\infty \le x_2 \le \infty, 0 \le x_3 \le a_3;$$

$$\left.\begin{array}{l} U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = 0 \\ \sigma_{33}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0;\ x_3 = a_3 \end{array}\right\},\ 0 \le x_1 \le \infty,\ -\infty \le x_2 \le \infty .$$

The Answer to Problem (L3C) 6.12 **for half-layer** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

# (L3C) 7. Quarter-layer $\left(0 \le x_1, x_2 \le \infty,\ 0 \le x_3 \le a_3\right)$

Section 7 gives the functions of influence of the unit concentrated body forces $\int_V \delta_{ik}\delta(x-\xi)dV(\xi) = \delta_{ik}$, $i,k$=1,2,3 applied at the inner quarter-layer points $\xi \equiv (\xi_1, \xi_2, \xi_3)$ along co-ordinate axis $0x_k$, onto the bulk dilatation (the influence functions for the dilatation $-\Theta^{(k)}(x,\xi)$) as well as onto the displacements (the components of the displacements Green's matrix $-U_i^{(k)}(x,\xi)$ at the points of observation $x \equiv (x_1, x_2, x_3)$ along co-ordinate axis $0x_i$. The formulations to 24 boundary-value Problem (L3C)s on constructing the influence functions for dilatation and Green's matrices for Lame's equations in the case of the quarter-layer are given there.

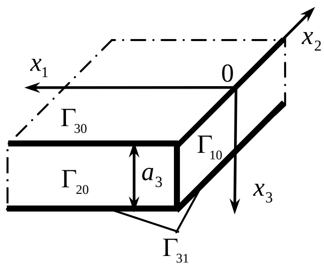


Figure 7: Quarter-layer with boundary quadrants $\Gamma_{30}, \Gamma_{31}$ and boundary half-strips $\Gamma_{10}, \Gamma_{20}$.

## Problems (L3C) of First Type. Problems (L3C) 7.1– (L3C) 7.16

To construct influence functions for the dilatation $\Theta^{(k)}(x,\xi)$ and for the components of the displacements Green's matrices $U_i^{(k)}(x,\xi)$ for Lame's equations for the elastic quarter-layer $(0 \le x_1, x_2 \le \infty, 0 \le x_3 \le a_3)$ under the following locally mixed boundary conditions of a sliding-fixation type.

### Problem (L3C) 7.1

$$\sigma_{11}^{(k)} = U_2^{(k)} = U_3^{(k)} = 0;\ x_1 = 0,\ \ 0 \le x_2 \le \infty, 0 \le x_3 \le a_3;$$
$$\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0;\ x_2 = 0,\ \ 0 \le x_1 \le \infty,\ 0 \le x_3 \le a_3;$$
$$\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0;\ x_3 = 0, a_3\ ,\ \ 0 \le x_1 \le \infty, 0 \le x_2 \le \infty.$$

The Answer to Problem (L3C) 7.1 **for quarter-layer** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

### Problem (L3C) 7.2

$$\sigma_{11}^{(k)} = U_2^{(k)} = U_3^{(k)} = 0;\ x_1 = 0,\ \ 0 \le x_2 \le \infty, 0 \le x_3 \le a_3;$$
$$\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0;\ x_2 = 0,\ \ 0 \le x_1 \le \infty,\ 0 \le x_3 \le a_3;$$
$$U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0;\ x_3 = 0, a_3\ ,\ \ 0 \le x_1 \le \infty, 0 \le x_2 \le \infty.$$

The Answer to Problem (L3C) 7.2 **for quarter -layer** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

### Problem (L3C) 7.3

$$\sigma_{11}^{(k)} = U_2^{(k)} = U_3^{(k)} = 0;\ x_1 = 0,\ \ 0 \le x_2 \le \infty, 0 \le x_3 \le a_3;$$
$$\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0;\ x_2 = 0,\ \ 0 \le x_1 \le \infty,\ 0 \le x_3 \le a_3;$$
$$\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0;\ x_3 = 0,\ \ 0 \le x_1 \le \infty, 0 \le x_2 \le \infty;$$
$$U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0;\ \ \ x_3 = a_3, 0 \le x_1 \le \infty, 0 \le x_2 \le \infty.$$

The Answer to Problem (L3C) 7.3 **for quarter -layer** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 7.4

$$\sigma_{11}^{(k)} = U_2^{(k)} = U_3^{(k)} = 0;\ x_1 = 0,\ \ 0 \le x_2 \le \infty, 0 \le x_3 \le a_3;$$
$$\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0;\ x_2 = 0,\ \ 0 \le x_1 \le \infty,\ 0 \le x_3 \le a_3;$$
$$U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0;\ x_3 = 0,\ \ 0 \le x_1 \le \infty, 0 \le x_2 \le \infty;$$
$$\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0;\ \ x_3 = a_3, 0 \le x_1 \le \infty, 0 \le x_2 \le \infty.$$

The Answer to Problem (L3C) 7.4 **for quarter -layer** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 7.5

$$\sigma_{11}^{(k)} = U_2^{(k)} = U_3^{(k)} = 0;\ x_1 = 0,\ \ 0 \le x_2 \le \infty, 0 \le x_3 \le a_3;$$
$$U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0;\ x_2 = 0,\ \ 0 \le x_1 \le \infty,\ 0 \le x_3 \le a_3;$$
$$\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0;\ x_3 = 0, a_3,\ \ 0 \le x_1 \le \infty, 0 \le x_2 \le \infty.$$

The Answer to Problem (L3C) 7.5 **for quarter -layer** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 7.6

$$\sigma_{11}^{(k)} = U_2^{(k)} = U_3^{(k)} = 0;\ x_1 = 0,\ \ 0 \le x_2 \le \infty, 0 \le x_3 \le a_3;$$
$$U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0;\ x_2 = 0,\ \ 0 \le x_1 \le \infty,\ 0 \le x_3 \le a_3;$$
$$U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0;\ x_3 = 0, a_3,\ \ 0 \le x_1 \le \infty, 0 \le x_2 \le \infty.$$

The Answer to Problem (L3C) 7.6 **for quarter -layer** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 7.7

$$\begin{array}{|l|}\hline \sigma_{11}^{(k)} = U_2^{(k)} = U_3^{(k)} = 0;\ x_1 = 0,\ \ 0 \le x_2 \le \infty, 0 \le x_3 \le a_3; \\ U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0;\ x_2 = 0,\ \ 0 \le x_1 \le \infty,\ 0 \le x_3 \le a_3; \\ \sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0;\ x_3 = 0,\ 0 \le x_1 \le \infty, 0 \le x_2 \le \infty; \\ U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0;\ \ x_3 = a_3, 0 \le x_1 \le \infty, 0 \le x_2 \le \infty. \\ \hline \end{array}$$

The Answer to Problem (L3C) 7.7 **for quarter -layer** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 7.8

$$\begin{array}{|l|}\hline \sigma_{11}^{(k)} = U_2^{(k)} = U_3^{(k)} = 0;\ x_1 = 0,\ \ 0 \le x_2 \le \infty, 0 \le x_3 \le a_3; \\ U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0;\ x_2 = 0,\ \ 0 \le x_1 \le \infty,\ 0 \le x_3 \le a_3; \\ U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0;\ x_3 = 0,\ 0 \le x_1 \le \infty, 0 \le x_2 \le \infty; \\ \sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0;\ \ x_3 = a_3, 0 \le x_1 \le \infty, 0 \le x_2 \le \infty. \\ \hline \end{array}$$

The Answer to Problem (L3C) 7.8 **for quarter -layer** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 7.9

$$\begin{array}{|l|}\hline U_1^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0;\ x_1 = 0,\ \ 0 \le x_2 \le \infty, 0 \le x_3 \le a_3; \\ \sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0;\ x_2 = 0,\ \ 0 \le x_1 \le \infty,\ 0 \le x_3 \le a_3; \\ \sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0;\ x_3 = 0, a_3,\ \ 0 \le x_1 \le \infty, 0 \le x_2 \le \infty. \\ \hline \end{array}$$

The Answer to Problem (L3C) 7.9 **for quarter -layer** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 7.10

$$\begin{array}{|l|}\hline U_1^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0;\ x_1 = 0,\ \ 0 \le x_2 \le \infty, 0 \le x_3 \le a_3; \\ \sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0;\ x_2 = 0,\ \ 0 \le x_1 \le \infty,\ 0 \le x_3 \le a_3; \\ U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0;\ x_3 = 0, a_3,\ \ 0 \le x_1 \le \infty, 0 \le x_2 \le \infty. \\ \hline \end{array}$$

The Answer to Problem (L3C) 7.10 **for quarter -layer** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 7.11

$$U_1^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0;\ x_1 = 0,\ \ 0 \le x_2 \le \infty, 0 \le x_3 \le a_3;$$
$$\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0;\ x_2 = 0,\ \ 0 \le x_1 \le \infty,\ 0 \le x_3 \le a_3;$$
$$\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0;\ x_3 = 0,\ \ 0 \le x_1 \le \infty, 0 \le x_2 \le \infty;$$
$$U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0;\ \ x_3 = a_3, 0 \le x_1 \le \infty, 0 \le x_2 \le \infty.$$

The Answer to Problem (L3C) 7.11 **for quarter -layer** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 7.12

$$U_1^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0;\ x_1 = 0,\ \ 0 \le x_2 \le \infty, 0 \le x_3 \le a_3;$$
$$\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0;\ x_2 = 0,\ \ 0 \le x_1 \le \infty,\ 0 \le x_3 \le a_3;$$
$$U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0;\ x_3 = 0,\ \ 0 \le x_1 \le \infty, 0 \le x_2 \le \infty;$$
$$\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0;\ \ x_3 = a_3, 0 \le x_1 \le \infty, 0 \le x_2 \le \infty.$$

The Answer to Problem (L3C) 7.12 **for quarter -layer** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 7.13

$$U_1^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0;\ x_1 = 0,\ \ 0 \le x_2 \le \infty, 0 \le x_3 \le a_3;$$
$$U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0;\ x_2 = 0,\ \ 0 \le x_1 \le \infty,\ 0 \le x_3 \le a_3;$$
$$\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0;\ x_3 = 0, a_3,\ \ 0 \le x_1 \le \infty, 0 \le x_2 \le \infty.$$

The Answer to Problem (L3C) 7.13 **for quarter -layer** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

**Problem (L3C) 7.14**

$$U_1^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0;\ x_1 = 0,\ \ 0 \le x_2 \le \infty,\ 0 \le x_3 \le a_3;$$
$$U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0;\ x_2 = 0,\ \ 0 \le x_1 \le \infty,\ 0 \le x_3 \le a_3;$$
$$U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0;\ x_3 = 0, a_3,\ \ 0 \le x_1 \le \infty,\ 0 \le x_2 \le \infty.$$

The Answer to Problem (L3C) 7.14 **for quarter -layer** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

**Problem (L3C) 7.15**

$$U_1^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0;\ x_1 = 0,\ \ 0 \le x_2 \le \infty,\ 0 \le x_3 \le a_3;$$
$$U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0;\ x_2 = 0,\ \ 0 \le x_1 \le \infty,\ 0 \le x_3 \le a_3;$$
$$\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0;\ x_3 = 0,\ \ 0 \le x_1 \le \infty,\ 0 \le x_2 \le \infty;$$
$$U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0;\ \ x_3 = a_3,\ 0 \le x_1 \le \infty,\ 0 \le x_2 \le \infty.$$

The Answer to Problem (L3C) 7.15 **for quarter -layer** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

**Problem (L3C) 7.16**

$$U_1^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0;\ x_1 = 0,\ \ 0 \le x_2 \le \infty,\ 0 \le x_3 \le a_3;$$
$$U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0;\ x_2 = 0,\ \ 0 \le x_1 \le \infty,\ 0 \le x_3 \le a_3;$$
$$U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0;\ x_3 = 0,\ \ 0 \le x_1 \le \infty,\ 0 \le x_2 \le \infty;$$
$$\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0;\ \ x_3 = a_3,\ 0 \le x_1 \le \infty,\ 0 \le x_2 \le \infty.$$

The Answer to Problem (L3C) 7.16 **for quarter -layer** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problems (L3C) of Second Type. Problems (L3C) 7.17– (L3C) 7.24

To construct influence functions for the dilatation -$\Theta^{(k)}(x,\xi)$ and for the components of the displacement Green's matrices -$U_i^{(k)}(x,\xi)$ for Lame's equations for the quarter-layer $\left(0 \le x_1, x_2 \le \infty, 0 \le x_3 \le a_3\right)$ under the following mixed boundary conditions of rigid and sliding-fixations type

**Problem (L3C) 7.17**

$$U_1^{(k)} = U_2^{(k)} = U_3^{(k)} = 0;\ x_1 = 0,\ \ 0 \le x_2 \le \infty, 0 \le x_3 \le a_3;$$
$$\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0;\ x_2 = 0,\ \ \ 0 \le x_1 \le \infty,\ 0 \le x_3 \le a_3;$$
$$U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0;\ x_3 = 0, a_3\ ,\ \ 0 \le x_1 \le \infty, 0 \le x_2 \le \infty.$$

The Answer to Problem (L3C) 7.17 **for quarter -layer** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

**Problem (L3C) 7.18**

$$U_1^{(k)} = U_2^{(k)} = U_3^{(k)} = 0;\ x_1 = 0,\ \ 0 \le x_2 \le \infty, 0 \le x_3 \le a_3;$$
$$\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0;\ x_2 = 0,\ \ \ 0 \le x_1 \le \infty,\ 0 \le x_3 \le a_3;$$
$$\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0;\ x_3 = 0,\ \ 0 \le x_1 \le \infty, 0 \le x_2 \le \infty;$$
$$U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0;\ \ \ \ x_3 = a_3, 0 \le x_1 \le \infty, 0 \le x_2 \le \infty.$$

The Answer to Problem (L3C) 7.18 **for quarter -layer** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

**Problem (L3C) 7.19**

$$U_1^{(k)} = U_2^{(k)} = U_3^{(k)} = 0;\ x_1 = 0,\ \ 0 \le x_2 \le \infty, 0 \le x_3 \le a_3;$$
$$\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0;\ x_2 = 0,\ \ \ 0 \le x_1 \le \infty,\ 0 \le x_3 \le a_3;$$
$$U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0;\ x_3 = 0,\ \ 0 \le x_1 \le \infty, 0 \le x_2 \le \infty;$$
$$\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0;\ \ \ \ x_3 = a_3, 0 \le x_1 \le \infty, 0 \le x_2 \le \infty.$$

The Answer to Problem (L3C) 7.19 **for quarter -layer** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

**Problem (L3C) 7.20**

$$U_1^{(k)} = U_2^{(k)} = U_3^{(k)} = 0;\ x_1 = 0,\ \ 0 \le x_2 \le \infty, 0 \le x_3 \le a_3;$$
$$U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0;\ x_2 = 0,\ \ \ 0 \le x_1 \le \infty,\ 0 \le x_3 \le a_3;$$
$$U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0;\ x_3 = 0, a_3\ ,\ \ 0 \le x_1 \le \infty, 0 \le x_2 \le \infty.$$

The Answer to Problem (L3C) 7.20 **for quarter -layer** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

**Problem (L3C) 7.21**

$$U_1^{(k)} = U_2^{(k)} = U_3^{(k)} = 0;\ x_1 = 0,\ \ 0 \le x_2 \le \infty,\ 0 \le x_3 \le a_3;$$
$$U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0;\ x_2 = 0,\ \ 0 \le x_1 \le \infty,\ 0 \le x_3 \le a_3;$$
$$\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0;\ x_3 = 0, a_3,\ \ 0 \le x_1 \le \infty,\ 0 \le x_2 \le \infty.$$

The Answer to Problem (L3C) 7.21 **for quarter -layer** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

**Problem (L3C) 7.22**

$$U_1^{(k)} = U_2^{(k)} = U_3^{(k)} = 0;\ x_1 = 0,\ \ 0 \le x_2 \le \infty,\ 0 \le x_3 \le a_3;$$
$$U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0;\ x_2 = 0,\ \ 0 \le x_1 \le \infty,\ 0 \le x_3 \le a_3;$$
$$\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0;\ x_3 = 0,\ \ 0 \le x_1 \le \infty,\ 0 \le x_2 \le \infty;$$
$$U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0;\ \ x_3 = a_3,\ 0 \le x_1 \le \infty,\ 0 \le x_2 \le \infty.$$

The Answer to Problem (L3C) 7.22 **for quarter -layer** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

**Problem (L3C) 7.23**

$$U_1^{(k)} = U_2^{(k)} = U_3^{(k)} = 0;\ x_1 = 0,\ \ 0 \le x_2 \le \infty,\ 0 \le x_3 \le a_3;$$
$$U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0;\ x_2 = 0,\ \ 0 \le x_1 \le \infty,\ 0 \le x_3 \le a_3;$$
$$U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0;\ x_3 = 0,\ \ 0 \le x_1 \le \infty,\ 0 \le x_2 \le \infty;$$
$$\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0;\ \ x_3 = a_3,\ 0 \le x_1 \le \infty,\ 0 \le x_2 \le \infty.$$

The Answer to Problem (L3C) 7.23 **for quarter -layer** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

**Problem (L3C) 7.24**

$$U_1^{(k)} = U_2^{(k)} = U_3^{(k)} = 0;\ x_1 = 0,\ \ 0 \le x_2 \le \infty,\ 0 \le x_3 \le a_3;$$
$$\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0;\ x_2 = 0,\ \ 0 \le x_1 \le \infty,\ 0 \le x_3 \le a_3;$$
$$\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0;\ x_3 = 0, a_3,\ \ 0 \le x_1 \le \infty,\ 0 \le x_2 \le \infty.$$

The Answer to Problem (L3C) 7.24 **for quarter -layer** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## (L3C) 8. Unbounded Parallelepiped

$\left(-\infty \le x_1 \le \infty; 0 \le x_2 \le a_2; 0 \le x_3 \le a_3\right)$

Section 8 gives the functions of influence of the unit concentrated body forces $\int_V \delta_{ik}\delta(x-\xi)dV(\xi) = \delta_{ik}$, $i,k$=1,2,3 applied at the inner unbounded parallelepiped points $\xi \equiv (\xi_1, \xi_2, \xi_3)$ along co-ordinate axis $0x_k$, onto the bulk dilatation ( the influence functions for the dilatation - $\Theta^{(k)}(x,\xi)$) as well as onto the displacements (the components of the displacements Green's matrix - $U_i^{(k)}(x,\xi)$ at the points of observation $x \equiv (x_1, x_2, x_3)$ along co-ordinate $0x_i$. The formulations to 16 boundary-value Problem (L3C)s on constructing the influence functions for dilatation and Green's matrices for Lame's equations in the case of the unbounded parallelepiped are given there.

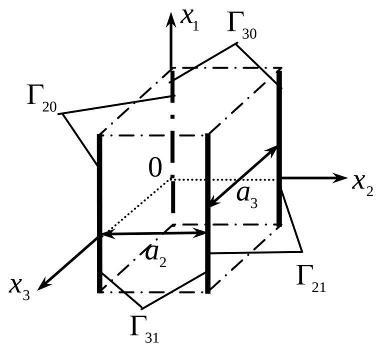


Figure 8: Unbounded parallelepiped with boundary strips $\Gamma_{20}, \Gamma_{21}$ and $\Gamma_{30}, \Gamma_{31}$.

## Problems (L3C) of First Type. Problems (L3C) 8.1– (L3C) 8.16

To construct influence functions for the dilatation $\Theta^{(k)}(x,\xi)$ and for components of the displacements Green's matrices $U_i^{(k)}(x,\xi)$ for Lame's equation for the unbounded parallelepiped $(-\infty \le x_1 \le \infty; 0 \le x_2 \le a_2; 0 \le x_3 \le a_3)$ under the following locally mixed boundary conditions of a sliding-fixation type.

**Problem (L3C) 8.1**

$$U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0;\ x_2 = 0, a_2, \quad -\infty \le x_1 \le \infty,\ 0 \le x_3 \le a_3;$$
$$U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0;\ x_3 = 0, a_3, \quad -\infty \le x_1 \le \infty, 0 \le x_2 \le a_2\ .$$

The Answer to Problem (L3C) 8.1 **for unbounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

**Problem (L3C) 8.2**

$$\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0;\ x_2 = 0, a_2 \quad -\infty \le x_1 \le \infty,\ 0 \le x_3 \le a_3;$$
$$\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; \quad x_3 = 0, a_3, -\infty \le x_1 \le \infty, 0 \le x_2 \le a_2\ .$$

The Answer to Problem (L3C) 8.2 **for unbounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

**Problem (L3C) 8.3**

$$\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0;\ x_2 = 0, a_2 \quad -\infty \le x_1 \le \infty, \quad 0 \le x_3 \le a_3;$$
$$U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; \quad x_3 = 0, a_3, -\infty \le x_1 \le \infty,\ 0 \le x_2 \le \infty.$$

The Answer to Problem (L3C) 8.3 **for unbounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

**Problem (L3C) 8.4**

$$\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0;\ x_2 = 0, \quad -\infty \le x_1 \le \infty,\ 0 \le x_3 \le a_3;$$
$$U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{22}^{(k)} = 0;\ x_2 = a_2, \quad -\infty \le x_1 \le \infty, 0 \le x_3 \le a_3;$$
$$\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; \quad x_3 = 0, a_3, -\infty \le x_1 \le \infty, 0 \le x_2 \le a_2\ .$$

The Answer to Problem (L3C) 8.4 **for unbounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

**Problem (L3C) 8.5**

$$U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{22}^{(k)} = 0;\ \ x_2 = 0, a_2, \quad -\infty \le x_1 \le \infty,\ 0 \le x_3 \le a_3;$$
$$\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; \quad x_3 = 0, \quad -\infty \le x_1 \le \infty,\ 0 \le x_2 \le a_2;$$
$$U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0, \quad x_3 = a_3, \quad -\infty \le x_1 \le \infty,\ 0 \le x_2 \le a_2\,.$$

The Answer to Problem (L3C) 8.5 **for unbounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

**Problem (L3C) 8.6**

$$\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0;\ \ x_2 = 0, a_2, \quad -\infty \le x_1 \le \infty,\ 0 \le x_3 \le a_3;$$
$$\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; \quad x_3 = 0, \quad -\infty \le x_1 \le \infty,\ 0 \le x_2 \le a_2;$$
$$U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0, \quad x_3 = a_3, \quad -\infty \le x_1 \le \infty,\ 0 \le x_2 \le a_2\,.$$

The Answer to Problem (L3C) 8.6 **for unbounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

**Problem (L3C) 8.7**

$$U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0;\ x_2 = 0, \quad -\infty \le x_1 \le \infty,\ \ 0 \le x_3 \le a_3;$$
$$\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0;\ \ x_2 = a_2, \quad -\infty \le x_1 \le \infty,\ \ 0 \le x_3 \le a_3$$
$$\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; \quad x_3 = 0,\ \ -\infty \le x_1 \le \infty,\ \ 0 \le x_2 \le a_2$$
$$U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0, \quad x_3 = a_3,\ -\infty \le x_1 \le \infty,\ \ 0 \le x_2 \le a_2$$

The Answer to Problem (L3C) 8.7 **for unbounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

**Problem (L3C) 8.8**

$$\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0;\ x_2 = 0, \quad -\infty \le x_1 \le \infty,\ 0 \le x_3 \le a_3;$$
$$U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0;\ x_2 = a_2, \quad -\infty \le x_1 \le \infty,\ 0 \le x_3 \le a_3;$$
$$\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; \quad x_3 = 0,\ -\infty \le x_1 \le \infty,\ 0 \le x_2 \le a_2;$$
$$U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0, \quad x_3 = a_3,\ -\infty \le x_1 \le \infty,\ 0 \le x_2 \le a_2\,.$$

The Answer to Problem (L3C) 8.8 **for unbounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

**Problem (L3C) 8.9**

$$U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0;\ x_2 = 0, \quad -\infty \le x_1 \le \infty,\ 0 \le x_3 \le a_3;$$
$$\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0;\ x_2 = a_2, \quad -\infty \le x_1 \le \infty,\ 0 \le x_3 \le a_3;$$
$$U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0, \quad x_3 = 0, a_3,\ -\infty \le x_1 \le \infty,\ 0 \le x_2 \le a_2\,.$$

The Answer to Problem (L3C) 8.9 **for unbounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

**Problem (L3C) 8.10**

$$U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0;\ x_2 = 0, \quad -\infty \le x_1 \le \infty,\ 0 \le x_3 \le a_3;$$
$$\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0;\ x_2 = a_2, \quad -\infty \le x_1 \le \infty,\ 0 \le x_3 \le a_3;$$
$$\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; \quad x_3 = 0, a_3,\ -\infty \le x_1 \le \infty,\ 0 \le x_2 \le a_2\,.$$

The Answer to Problem (L3C) 8.10 **for unbounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

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**Problem (L3C) 8.11**

$$U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0;\ x_2 = 0,\ a_2, \quad -\infty \le x_1 \le \infty,\ 0 \le x_3 \le a_3;$$
$$\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; \quad x_3 = 0, a_3,\ -\infty \le x_1 \le \infty,\ 0 \le x_2 \le a_2\,.$$

The Answer to Problem (L3C) 8.11 **for unbounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

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**Problem (L3C) 8.12**

$$U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0;\ x_2 = 0, a_2, \quad -\infty \le x_1 \le \infty,\ 0 \le x_3 \le a_3;$$
$$U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; \quad x_3 = 0,\ -\infty \le x_1 \le \infty,\ 0 \le x_2 \le a_2;$$
$$\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0, \quad x_3 = a_3,\ -\infty \le x_1 \le \infty,\ 0 \le x_2 \le a_2 .$$

The Answer to Problem (L3C) 8.12 **for unbounded parallelepiped**
(Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

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**Problem (L3C) 8.13**

$$\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0;\ x_2 = 0, a_2, \quad -\infty \le x_1 \le \infty,\ 0 \le x_3 \le a_3;$$
$$U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; \quad x_3 = 0,\ -\infty \le x_1 \le \infty,\ 0 \le x_2 \le a_2;$$
$$\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0, \quad x_3 = a_3,\ -\infty \le x_1 \le \infty,\ 0 \le x_2 \le a_2 .$$

The Answer to Problem (L3C) 8.13 **for unbounded parallelepiped**
(Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

**Problem (L3C) 8.14**

$$\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0;\ x_2 = 0, \quad -\infty \le x_1 \le \infty,\ 0 \le x_3 \le a_3;$$
$$U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0;\ x_2 = a_2, \quad -\infty \le x_1 \le \infty,\ 0 \le x_3 \le a_3;$$
$$U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0, \quad x_3 = a_3,\ -\infty \le x_1 \le \infty,\ 0 \le x_2 \le a_2 .$$

The Answer to Problem (L3C) 8.14 **for unbounded parallelepiped**
(Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

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**Problem (L3C) 8.15**

$$\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0;\ x_2 = 0, \quad -\infty \le x_1 \le \infty,\ 0 \le x_3 \le a_3;$$
$$U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0;\ x_2 = a_2, \quad -\infty \le x_1 \le \infty,\ 0 \le x_3 \le a_3;$$
$$U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; \quad x_3 = 0,\ -\infty \le x_1 \le \infty,\ 0 \le x_2 \le a_2;$$
$$\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0, \quad x_3 = a_3,\ -\infty \le x_1 \le \infty,\ 0 \le x_2 \le a_2 .$$

The Answer to Problem (L3C) 8.15 **for unbounded parallelepiped**
(Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

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**Problem (L3C) 8.16**

$$U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0;\ x_2 = 0, \quad -\infty \le x_1 \le \infty,\ 0 \le x_3 \le a_3;$$
$$\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0;\ x_2 = a_2, \quad -\infty \le x_1 \le \infty,\ 0 \le x_3 \le a_3;$$
$$U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; \quad x_3 = 0,\ -\infty \le x_1 \le \infty,\ 0 \le x_2 \le a_2;$$
$$\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0, \quad x_3 = a_3,\ -\infty \le x_1 \le \infty,\ 0 \le x_2 \le a_2.$$

The Answer to Problem (L3C) 8.16 **for unbounded parallelepiped**
(Green’s tensor for Lame’s equation in Cartesian coordinates) can be found in the book:
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# (L3C) 9. Semi-bounded Parallelepiped

$\left(0 \le x_1 \le \infty; 0 \le x_2 \le a_2; 0 \le x_3 \le a_3\right)$

Section 9 gives the functions of influence of the unit concentrated body forces $\int_V \delta_{ik}\delta(x-\xi)dV(\xi) = \delta_{ik}$, $i,k$=1,2,3 applied at the inner semi-bounded parallelepiped points $\xi \equiv (\xi_1, \xi_2, \xi_3)$ along co-ordinate axis $0x_k$, onto the bulk dilatation (the influence functions for the dilatation - $\Theta^{(k)}(x,\xi)$) as well as onto the displacements (the components of the displacements Green’s matrix - $U_i^{(k)}(x,\xi)$ at the points of observation $x \equiv (x_1, x_2, x_3)$ along co-ordinate axis $0x_i$. The formulations to 64 boundary-value Problem (L3C)s on constructing the influence functions for dilatation and Green’s matrices for Lame’s equations in the case of the semi-bounded parallelepiped are given there.

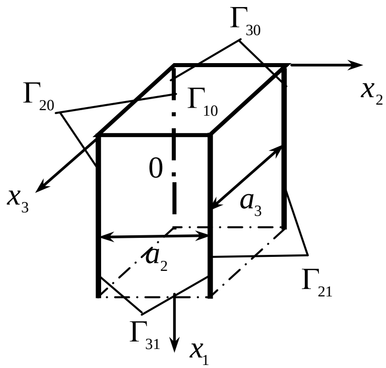


Figure 9: Semi-bounded parallelepiped with boundary half-strips $\Gamma_{20}, \Gamma_{21}, \Gamma_{30}, \Gamma_{31}$ and boundary rectangular $\Gamma_{10}$.

**Problems (L3C) of First Type. Problems (L3C) 9.1– (L3C) 9.32**

To construct influence functions for the dilatation $\Theta^{(k)}(x,\xi)$ and for components of the displacements Green's matrices $U_i^{(k)}(x,\xi)$ for Lame's equations for the semi-bounded parallelepiped $(0 \le x_1 \le \infty, 0 \le x_2 \le a_2, 0 \le x_3 \le a_3)$ under the following locally mixed boundary conditions of a sliding-fixation type:

## Problem (L3C) 9.1

$$U_1^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0; x_1 = 0; 0 \le x_2 \le a_2; 0 \le x_3 \le a_3;$$
$$U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0; x_2 = 0, a_2; 0 \le x_1 \le \infty; 0 \le x_3 \le a_3;$$
$$U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = 0, a_3; 0 \le x_1 \le \infty; 0 \le x_2 \le a_2.$$

The Answer to Problem (L3C) 9.1 **for semi-bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

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## Problem (L3C) 9.2

$$U_1^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0; x_1 = 0; 0 \le x_2 \le a_2; 0 \le x_3 \le a_3;$$
$$\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0; x_2 = 0, a_2; 0 \le x_1 \le \infty; 0 \le x_3 \le a_3;$$
$$\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; x_3 = 0, a_3; 0 \le x_1 \le \infty; 0 \le x_2 \le a_2.$$

The Answer to Problem (L3C) 9.2 **for semi-bounded parallelepiped**
(Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

# Problem (L3C) 9.3

$$U_1^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0; x_1 = 0; 0 \le x_2 \le a_2; 0 \le x_3 \le a_3;$$
$$\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0; x_2 = 0, a_2; 0 \le x_1 \le \infty; 0 \le x_3 \le a_3;$$
$$U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = 0, a_3; 0 \le x_1 \le \infty; 0 \le x_2 \le a_2.$$

The Answer to Problem (L3C) 9.3 **for semi-bounded parallelepiped**
(Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

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# Problem (L3C) 9.4

$$U_1^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0; x_1 = 0; 0 \le x_2 \le a_2; 0 \le x_3 \le a_3;$$
$$U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0; x_2 = 0; a_2; 0 \le x_1 \le \infty; 0 \le x_3 \le a_3;$$
$$\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; x_3 = 0, a_3; 0 \le x_1 \le \infty; 0 \le x_2 \le a_2.$$

The Answer to Problem (L3C) 9.4 **for semi-bounded parallelepiped**
(Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

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# Problem (L3C) 9.5

$$U_1^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0; x_1 = 0; 0 \le x_2 \le a_2; 0 \le x_3 \le a_3;$$
$$\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0; x_2 = 0, a_2; 0 \le x_1 \le \infty; 0 \le x_3 \le a_3;$$
$$\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; x_3 = 0; 0 \le x_1 \le \infty; 0 \le x_2 \le a_2;$$
$$U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = a_3; 0 \le x_1 \le \infty; 0 \le x_2 \le a_2.$$

The Answer to Problem (L3C) 9.5 **for semi-bounded parallelepiped**
(Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

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## Problem (L3C) 9.6

$$U_1^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0; x_1 = 0; 0 \le x_2 \le a_2; 0 \le x_3 \le a_3;$$
$$\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0; x_2 = 0, a_2; 0 \le x_1 \le \infty; 0 \le x_3 \le a_3;$$
$$U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = 0; 0 \le x_1 \le \infty; 0 \le x_2 \le a_2;$$
$$\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; x_3 = a_3; 0 \le x_1 \le \infty; 0 \le x_2 \le a_2.$$

The Answer to Problem (L3C) 9.6 **for semi-bounded parallelepiped**
(Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

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## Problem (L3C) 9.7

$$U_1^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0; x_1 = 0; 0 \le x_2 \le a_2; 0 \le x_3 \le a_3;$$
$$U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0; x_2 = 0; a_2; 0 \le x_1 \le \infty; 0 \le x_3 \le a_3;$$
$$\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; x_3 = 0; 0 \le x_1 \le \infty; 0 \le x_2 \le a_2;$$
$$U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = a_3; 0 \le x_1 \le \infty; 0 \le x_2 \le a_2.$$

The Answer to Problem (L3C) 9.7 **for semi-bounded parallelepiped**
(Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

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## Problem (L3C) 9.8

$$U_1^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0; x_1 = 0; 0 \le x_2 \le a_2; 0 \le x_3 \le a_3;$$
$$U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0; x_2 = 0; a_2; 0 \le x_1 \le \infty; 0 \le x_3 \le a_3;$$
$$U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = 0; 0 \le x_1 \le \infty; 0 \le x_2 \le a_2;$$
$$\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; x_3 = a_3; 0 \le x_1 \le \infty; 0 \le x_2 \le a_2.$$

The Answer to Problem (L3C) 9.8 **for semi-bounded parallelepiped**
(Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

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## Problem (L3C) 9.9

$$\begin{aligned}
&U_1^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0; x_1 = 0;\ 0 \le x_2 \le a_2;\ 0 \le x_3 \le a_3;\\
&\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0; x_2 = 0;\ 0 \le x_1 \le \infty;\ 0 \le x_3 \le a_3;\\
&U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0; x_2 = a_2;\ 0 \le x_1 \le \infty;\ 0 \le x_3 \le a_3;\\
&\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; x_3 = 0, a_3;\ 0 \le x_1 \le \infty;\ 0 \le x_2 \le a_2.
\end{aligned}$$

The Answer to Problem (L3C) 9.9 **for semi-bounded parallelepiped**
(Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

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## Problem (L3C) 9.10

$$\begin{aligned}
&U_1^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0; x_1 = 0;\ 0 \le x_2 \le a_2;\ 0 \le x_3 \le a_3;\\
&U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0; x_2 = 0;\ 0 \le x_1 \le \infty;\ 0 \le x_3 \le a_3;\\
&\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0; x_2 = a_2;\ 0 \le x_1 \le \infty;\ 0 \le x_3 \le a_3;\\
&U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = 0, a_3;\ 0 \le x_1 \le \infty;\ 0 \le x_2 \le a_2.
\end{aligned}$$

The Answer to Problem (L3C) 9.10 **for semi-bounded parallelepiped**
(Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

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## Problem (L3C) 9.11

$$\begin{aligned}
&U_1^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0; x_1 = 0;\ 0 \le x_2 \le a_2;\ 0 \le x_3 \le a_3;\\
&U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0; x_2 = 0;\ 0 \le x_1 \le \infty;\ 0 \le x_3 \le a_3;\\
&\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0; x_2 = a_2;\ 0 \le x_1 \le \infty;\ 0 \le x_3 \le a_3;\\
&\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; x_3 = 0, a_3;\ 0 \le x_1 \le \infty;\ 0 \le x_2 \le a_2.
\end{aligned}$$

The Answer to Problem (L3C) 9.11 **for semi-bounded parallelepiped**
(Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

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## Problem (L3C) 9.12

$$U_1^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0; x_1 = 0; 0 \le x_2 \le a_2; 0 \le x_3 \le a_3;$$
$$\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0; x_2 = 0; 0 \le x_1 \le \infty; 0 \le x_3 \le a_3;$$
$$U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0; x_2 = a_2; 0 \le x_1 \le \infty; 0 \le x_3 \le a_3;$$
$$U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = a_3; 0 \le x_1 \le \infty; 0 \le x_2 \le a_2.$$

The Answer to Problem (L3C) 9.12 **for semi-bounded parallelepiped**
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## Problem (L3C) 9.13

$$U_1^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0; x_1 = 0; 0 \le x_2 \le a_2; 0 \le x_3 \le a_3;$$
$$U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0; x_2 = 0; 0 \le x_1 \le \infty; 0 \le x_3 \le a_3;$$
$$\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0; x_2 = a_2; 0 \le x_1 \le \infty; 0 \le x_3 \le a_3;$$
$$\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; x_3 = 0; 0 \le x_1 \le \infty; 0 \le x_2 \le a_2;$$
$$U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = a_3; 0 \le x_1 \le \infty; 0 \le x_2 \le a_2.$$

The Answer to Problem (L3C) 9.13 **for semi-bounded parallelepiped**
(Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

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## Problem (L3C) 9.14

$$U_1^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0; x_1 = 0; 0 \le x_2 \le a_2; 0 \le x_3 \le a_3;$$
$$U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0; x_2 = 0; 0 \le x_1 \le \infty; 0 \le x_3 \le a_3;$$
$$\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0; x_2 = a_2; 0 \le x_1 \le \infty; 0 \le x_3 \le a_3;$$
$$U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = 0; 0 \le x_1 \le \infty; 0 \le x_2 \le a_2;$$
$$\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; x_3 = a_3; 0 \le x_1 \le \infty; 0 \le x_2 \le a_2..$$

The Answer to Problem (L3C) 9.14 **for semi-bounded parallelepiped**
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## Problem (L3C) 9.15

$$U_1^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0; x_1 = 0; 0 \le x_2 \le a_2; 0 \le x_3 \le a_3;$$
$$\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0; x_2 = 0; 0 \le x_1 \le \infty; 0 \le x_3 \le a_3;$$
$$U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0; x_2 = a_2; 0 \le x_1 \le \infty; 0 \le x_3 \le a_3;$$
$$\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; x_3 = 0; 0 \le x_1 \le \infty; 0 \le x_2 \le a_2;$$
$$U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = a_3; 0 \le x_1 \le \infty; 0 \le x_2 \le a_2.$$

The Answer to Problem (L3C) 9.15 **for semi-bounded parallelepiped**
(Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 9.16

$$U_1^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0; x_1 = 0; 0 \le x_2 \le a_2; 0 \le x_3 \le a_3;$$
$$\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0; x_2 = 0; 0 \le x_1 \le \infty; 0 \le x_3 \le a_3;$$
$$U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0; x_2 = a_2; 0 \le x_1 \le \infty; 0 \le x_3 \le a_3;$$
$$U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = 0; 0 \le x_1 \le \infty; 0 \le x_2 \le a_2;$$
$$\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; x_3 = a_3; 0 \le x_1 \le \infty; 0 \le x_2 \le a_2.$$

The Answer to Problem (L3C) 9.16 **for semi-bounded parallelepiped**
(Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 9.17

$$\sigma_{11}^{(k)} = U_2^{(k)} = U_3^{(k)} = 0; x_1 = 0; 0 \le x_2 \le a_2; 0 \le x_3 \le a_3;$$
$$\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0; x_2 = 0, a_2; 0 \le x_1 \le \infty; 0 \le x_3 \le a_3;$$
$$\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; x_3 = 0, a_3; 0 \le x_1 \le \infty; 0 \le x_2 \le a_2.$$

The Answer to Problem (L3C) 9.17 **for semi-bounded parallelepiped**
(Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 9.18

$$\sigma_{11}^{(k)} = U_2^{(k)} = U_3^{(k)} = 0; x_1 = 0; 0 \le x_2 \le a_2; 0 \le x_3 \le a_3;$$
$$U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0; x_2 = 0, a_2; 0 \le x_1 \le \infty; 0 \le x_3 \le a_3;$$
$$U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = 0, a_3; 0 \le x_1 \le \infty; 0 \le x_2 \le a_2.$$

The Answer to Problem (L3C) 9.18 **for semi-bounded parallelepiped**
(Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:
Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 9.19

$$\sigma_{11}^{(k)} = U_2^{(k)} = U_3^{(k)} = 0; x_1 = 0; 0 \le x_2 \le a_2; 0 \le x_3 \le a_3;$$
$$\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0; x_2 = 0, a_2; 0 \le x_1 \le \infty; 0 \le x_3 \le a_3;$$
$$U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = 0, a_3; 0 \le x_1 \le \infty; 0 \le x_2 \le a_2.$$

The Answer to Problem (L3C) 9.19 **for semi-bounded parallelepiped**
(Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:
Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 9.20

$$\sigma_{11}^{(k)} = U_2^{(k)} = U_3^{(k)} = 0; x_1 = 0; 0 \le x_2 \le a_2; 0 \le x_3 \le a_3;$$
$$U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0; x_2 = 0, a_2; 0 \le x_1 \le \infty; 0 \le x_3 \le a_3;$$
$$\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; x_3 = 0, a_3; 0 \le x_1 \le \infty; 0 \le x_2 \le a_2;$$

The Answer to Problem (L3C) 9.20 **for semi-bounded parallelepiped**
(Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:
Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 9.21

$$\sigma_{11}^{(k)} = U_2^{(k)} = U_3^{(k)} = 0; x_1 = 0; 0 \le x_2 \le a_2; 0 \le x_3 \le a_3;$$
$$\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0; x_2 = 0, a_2; 0 \le x_1 \le \infty; 0 \le x_3 \le a_3;$$
$$\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; x_3 = 0; 0 \le x_1 \le \infty; 0 \le x_2 \le a_2;$$
$$U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = 0, a_3; 0 \le x_1 \le \infty; 0 \le x_2 \le a_2.$$

The Answer to Problem (L3C) 9.21 **for semi-bounded parallelepiped**
(Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:
Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 9.22

$$\sigma_{11}^{(k)} = U_2^{(k)} = U_3^{(k)} = 0; x_1 = 0; 0 \le x_2 \le a_2; 0 \le x_3 \le a_3;$$
$$\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0; x_2 = 0, a_2; 0 \le x_1 \le \infty; 0 \le x_3 \le a_3;$$
$$U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = 0; 0 \le x_1 \le \infty; 0 \le x_2 \le a_2;$$
$$\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; x_3 = a_3; 0 \le x_1 \le \infty; 0 \le x_2 \le a_2.$$

The Answer to Problem (L3C) 9.22 **for semi-bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 9.23

$$\sigma_{11}^{(k)} = U_2^{(k)} = U_3^{(k)} = 0; x_1 = 0; 0 \le x_2 \le a_2; 0 \le x_3 \le a_3;$$
$$\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0; x_2 = 0; 0 \le x_1 \le \infty; 0 \le x_3 \le a_3;$$
$$U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0; x_2 = a_2; 0 \le x_1 \le \infty; 0 \le x_3 \le a_3;$$
$$U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = 0; 0 \le x_1 \le \infty; 0 \le x_2 \le a_2;$$
$$\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; x_3 = a_3; 0 \le x_1 \le \infty; 0 \le x_2 \le a_2.$$

The Answer to Problem (L3C) 9.23 **for semi-bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 9.24

$$\sigma_{11}^{(k)} = U_2^{(k)} = U_3^{(k)} = 0; x_1 = 0; 0 \le x_2 \le a_2; 0 \le x_3 \le a_3;$$
$$U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0; x_2 = 0, a_2; 0 \le x_1 \le \infty; 0 \le x_3 \le a_3;$$
$$\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; x_3 = 0; 0 \le x_1 \le \infty; 0 \le x_2 \le a_2;$$
$$U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = a_3; 0 \le x_1 \le \infty; 0 \le x_2 \le a_2.$$

The Answer to Problem (L3C) 9.24 **for semi-bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 9.25

$$\sigma_{11}^{(k)} = U_2^{(k)} = U_3^{(k)} = 0; x_1 = 0; 0 \le x_2 \le a_2; 0 \le x_3 \le a_3;$$
$$U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0; x_2 = 0, a_2; 0 \le x_1 \le \infty; 0 \le x_3 \le a_3;$$
$$U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = 0; 0 \le x_1 \le \infty; 0 \le x_2 \le a_2;$$
$$\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; x_3 = a_3; 0 \le x_1 \le \infty; 0 \le x_2 \le a_2.$$

The Answer to Problem (L3C) 9.25 **for semi-bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 9.26

$$\sigma_{11}^{(k)} = U_2^{(k)} = U_3^{(k)} = 0; x_1 = 0; 0 \le x_2 \le a_2; 0 \le x_3 \le a_3;$$
$$\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0; x_2 = 0; 0 \le x_1 \le \infty; 0 \le x_3 \le a_3;$$
$$U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0; x_2 = a_2; 0 \le x_1 \le \infty; 0 \le x_3 \le a_3;$$
$$\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; x_3 = 0, a_3; 0 \le x_1 \le \infty; 0 \le x_2 \le a_2.$$

The Answer to Problem (L3C) 9.26 **for semi-bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 9.27

$$\sigma_{11}^{(k)} = U_2^{(k)} = U_3^{(k)} = 0; x_1 = 0; 0 \le x_2 \le a_2; 0 \le x_3 \le a_3;$$
$$U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0; x_2 = 0; 0 \le x_1 \le \infty; 0 \le x_3 \le a_3;$$
$$\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0; x_2 = a_2; 0 \le x_1 \le \infty; 0 \le x_3 \le a_3;$$
$$U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = 0, a_3; 0 \le x_1 \le \infty; 0 \le x_2 \le a_2.$$

The Answer to Problem (L3C) 9.27 **for semi-bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

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## Problem (L3C) 9.28

$$
\begin{array}{|l|}
\hline
\sigma_{11}^{(k)} = U_2^{(k)} = U_3^{(k)} = 0; x_1 = 0;\ 0 \le x_2 \le a_2;\ 0 \le x_3 \le a_3; \\
U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0; x_2 = 0;\ 0 \le x_1 \le \infty;\ 0 \le x_3 \le a_3; \\
\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0; x_2 = a_2;\ 0 \le x_1 \le \infty;\ 0 \le x_3 \le a_3; \\
\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; x_3 = 0, a_3;\ 0 \le x_1 \le \infty;\ 0 \le x_2 \le a_2. \\
\hline
\end{array}
$$

The Answer to Problem (L3C) 9.28 **for semi-bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 9.29

$$
\begin{array}{|l|}
\hline
\sigma_{11}^{(k)} = U_2^{(k)} = U_3^{(k)} = 0; x_1 = 0;\ 0 \le x_2 \le a_2;\ 0 \le x_3 \le a_3; \\
\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0; x_2 = 0;\ 0 \le x_1 \le \infty;\ 0 \le x_3 \le a_3; \\
U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0; x_2 = a_2;\ 0 \le x_1 \le \infty;\ 0 \le x_3 \le a_3; \\
U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = 0, a_3;\ 0 \le x_1 \le \infty;\ 0 \le x_2 \le a_2. \\
\hline
\end{array}
$$

The Answer to Problem (L3C) 9.29 **for semi-bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 9.30

$$
\begin{array}{|l|}
\hline
\sigma_{11}^{(k)} = U_2^{(k)} = U_3^{(k)} = 0; x_1 = 0;\ 0 \le x_2 \le a_2;\ 0 \le x_3 \le a_3; \\
U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0; x_2 = 0;\ 0 \le x_1 \le \infty;\ 0 \le x_3 \le a_3; \\
\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0; x_2 = a_2;\ 0 \le x_1 \le \infty;\ 0 \le x_3 \le a_3; \\
\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; x_3 = 0;\ 0 \le x_1 \le \infty;\ 0 \le x_2 \le a_2; \\
U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = a_3;\ 0 \le x_1 \le \infty;\ 0 \le x_2 \le a_2. \\
\hline
\end{array}
$$

The Answer to Problem (L3C) 9.30 **for semi-bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 9.31

$$\begin{aligned}
&\sigma_{11}^{(k)} = U_2^{(k)} = U_3^{(k)} = 0; x_1 = 0; 0 \le x_2 \le a_2; 0 \le x_3 \le a_3;\\
&U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0; x_2 = 0; 0 \le x_1 \le \infty; 0 \le x_3 \le a_3;\\
&\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0; x_2 = a_2; 0 \le x_1 \le \infty; 0 \le x_3 \le a_3;\\
&U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = 0; 0 \le x_1 \le \infty; 0 \le x_2 \le a_2;\\
&\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; x_3 = a_3; 0 \le x_1 \le \infty; 0 \le x_2 \le a_2.
\end{aligned}$$

The Answer to Problem (L3C) 9.31 **for semi-bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 9.32

$$\begin{aligned}
&\sigma_{11}^{(k)} = U_2^{(k)} = U_3^{(k)} = 0; x_1 = 0; 0 \le x_2 \le a_2; 0 \le x_3 \le a_3;\\
&\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0; x_2 = 0; 0 \le x_1 \le \infty; 0 \le x_3 \le a_3;\\
&U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0; x_2 = a_2; 0 \le x_1 \le \infty; 0 \le x_3 \le a_3;\\
&\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; x_3 = 0; 0 \le x_1 \le \infty; 0 \le x_2 \le a_2;\\
&U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = a_3; 0 \le x_1 \le \infty; 0 \le x_2 \le a_2.
\end{aligned}$$

The Answer to Problem (L3C) 9.32 **for semi-bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

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## Problem (L3C)s of Second Type. Problems (L3C)s 9.33–9.48

To construct influence functions for the dilatation $\Theta^{(k)}(x,\xi)$ and for components of the displacements Green's matrices $U_i^{(k)}(x,\xi)$ for Lame's equations for the semi-bounded parallelepiped $(0 \le x_1 \le \infty, 0 \le x_2 \le a_2, 0 \le x_3 \le a_3)$ under the following locally mixed boundary conditions of a rigid and a sliding fixations types.

## Problem (L3C) 9.33

$$\begin{aligned}
&U_1^{(k)} = U_2^{(k)} = U_3^{(k)} = 0; x_1 = 0; 0 \le x_2 \le a_2; 0 \le x_3 \le a_3;\\
&U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0; x_2 = 0, a_2; 0 \le x_1 \le \infty; 0 \le x_3 \le a_3;\\
&\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; x_3 = 0, a_3; 0 \le x_1 \le \infty; 0 \le x_2 \le a_2.
\end{aligned}$$

The Answer to Problem (L3C) 9.33 **for semi-bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 9.34

$$U_1^{(k)} = U_2^{(k)} = U_3^{(k)} = 0; x_1 = 0; \ 0 \le x_2 \le a_2; \ 0 \le x_3 \le a_3;$$
$$U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0; x_2 = 0, a_2; \ 0 \le x_1 \le \infty; \ 0 \le x_3 \le a_3;$$
$$U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = 0, a_3; \ 0 \le x_1 \le \infty; \ 0 \le x_2 \le a_2.$$

The Answer to Problem (L3C) 9.34 **for semi-bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 9.35

$$U_1^{(k)} = U_2^{(k)} = U_3^{(k)} = 0; x_1 = 0; \ 0 \le x_2 \le a_2; \ 0 \le x_3 \le a_3;$$
$$\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0; x_2 = 0, a_2; \ 0 \le x_1 \le \infty; \ 0 \le x_3 \le a_3;$$
$$\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; x_3 = 0, a_3; \ 0 \le x_1 \le \infty; \ 0 \le x_2 \le a_2.$$

The Answer to Problem (L3C) 9.35 **for semi-bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 9.36

$$U_1^{(k)} = U_2^{(k)} = U_3^{(k)} = 0; x_1 = 0; \ 0 \le x_2 \le a_2; \ 0 \le x_3 \le a_3;$$
$$\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0; x_2 = 0, a_2; \ 0 \le x_1 \le \infty; \ 0 \le x_3 \le a_3;$$
$$U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = 0, a_3; \ 0 \le x_1 \le \infty; \ 0 \le x_2 \le a_2.$$

The Answer to Problem (L3C) 9.36 **for semi-bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 9.37

$$U_1^{(k)} = U_2^{(k)} = U_3^{(k)} = 0; x_1 = 0; \ 0 \le x_2 \le a_2; \ 0 \le x_3 \le a_3;$$
$$\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0; x_2 = 0, a_2; \ 0 \le x_1 \le \infty; \ 0 \le x_3 \le a_3;$$
$$\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; x_3 = 0; \ 0 \le x_1 \le \infty; \ 0 \le x_2 \le a_2;$$
$$U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = a_3; \ 0 \le x_1 \le \infty; \ 0 \le x_2 \le a_2.$$

The Answer to Problem (L3C) 9.37 **for semi-bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 9.38

$$
\begin{aligned}
&U_1^{(k)} = U_2^{(k)} = U_3^{(k)} = 0; x_1 = 0;\ 0 \le x_2 \le a_2;\ 0 \le x_3 \le a_3;\\
&\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0; x_2 = 0, a_2;\ 0 \le x_1 \le \infty;\ 0 \le x_3 \le a_3;\\
&U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = 0;\ 0 \le x_1 \le \infty;\ 0 \le x_2 \le a_2;\\
&\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; x_3 = a_3;\ 0 \le x_1 \le \infty;\ 0 \le x_2 \le a_2.
\end{aligned}
$$

The Answer to Problem (L3C) 9.38 **for semi-bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 9.39

$$
\begin{aligned}
&U_1^{(k)} = U_2^{(k)} = U_3^{(k)} = 0; x_1 = 0;\ 0 \le x_2 \le a_2;\ 0 \le x_3 \le a_3;\\
&U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0; x_2 = 0; a_2;\ 0 \le x_1 \le \infty;\ 0 \le x_3 \le a_3;\\
&\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; x_3 = 0;\ 0 \le x_1 \le \infty;\ 0 \le x_2 \le a_2;\\
&U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = a_3;\ 0 \le x_1 \le \infty;\ 0 \le x_2 \le a_2.
\end{aligned}
$$

The Answer to Problem (L3C) 9.39 **for semi-bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 9.40

$$
\begin{aligned}
&U_1^{(k)} = U_2^{(k)} = U_3^{(k)} = 0; x_1 = 0;\ 0 \le x_2 \le a_2;\ 0 \le x_3 \le a_3;\\
&U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0; x_2 = 0; a_2;\ 0 \le x_1 \le \infty;\ 0 \le x_3 \le a_3;\\
&U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = 0;\ 0 \le x_1 \le \infty;\ 0 \le x_2 \le a_2;\\
&\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; x_3 = a_3;\ 0 \le x_1 \le \infty;\ 0 \le x_2 \le a_2.
\end{aligned}
$$

The Answer to Problem (L3C) 9.40 **for semi-bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 9.41

$$\begin{array}{|l|}\hline U_1^{(k)} = U_2^{(k)} = U_3^{(k)} = 0; x_1 = 0; 0 \le x_2 \le a_2; 0 \le x_3 \le a_3; \\ \sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0; x_2 = 0; 0 \le x_1 \le \infty; 0 \le x_3 \le a_3; \\ U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0; x_2 = a_2; 0 \le x_1 \le \infty; 0 \le x_3 \le a_3; \\ \sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; x_3 = 0, a_3; 0 \le x_1 \le \infty; 0 \le x_2 \le a_2. \\ \hline\end{array}$$

The Answer to Problem (L3C) 9.41 **for semi-bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 9.42

$$\begin{array}{|l|}\hline U_1^{(k)} = U_2^{(k)} = U_3^{(k)} = 0; x_1 = 0; 0 \le x_2 \le a_2; 0 \le x_3 \le a_3; \\ U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0; x_2 = 0; 0 \le x_1 \le \infty; 0 \le x_3 \le a_3; \\ \sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0; x_2 = a_2; 0 \le x_1 \le \infty; 0 \le x_3 \le a_3; \\ U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = 0, a_3; 0 \le x_1 \le \infty; 0 \le x_2 \le a_2. \\ \hline\end{array}$$

The Answer to Problem (L3C) 9.42 **for semi-bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 9.43

$$\begin{array}{|l|}\hline U_1^{(k)} = U_2^{(k)} = U_3^{(k)} = 0; x_1 = 0; 0 \le x_2 \le a_2; 0 \le x_3 \le a_3; \\ U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0; x_2 = 0; 0 \le x_1 \le \infty; 0 \le x_3 \le a_3; \\ \sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0; x_2 = a_2; 0 \le x_1 \le \infty; 0 \le x_3 \le a_3; \\ U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = 0, a_3; 0 \le x_1 \le \infty; 0 \le x_2 \le a_2. \\ \hline\end{array}$$

The Answer to Problem (L3C) 9.43 **for semi-bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 9.44

$$
\begin{array}{|l|}
\hline
U_1^{(k)} = U_2^{(k)} = U_3^{(k)} = 0; x_1 = 0;\ 0 \le x_2 \le a_2;\ 0 \le x_3 \le a_3; \\
\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0; x_2 = 0;\ 0 \le x_1 \le \infty;\ 0 \le x_3 \le a_3; \\
U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0; x_2 = a_2;\ 0 \le x_1 \le \infty;\ 0 \le x_3 \le a_3; \\
U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = 0, a_3;\ 0 \le x_1 \le \infty;\ 0 \le x_2 \le a_2. \\
\hline
\end{array}
$$

The Answer to Problem (L3C) 9.44 **for semi-bounded parallelepiped**
(Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:
Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 9.45

$$
\begin{array}{|l|}
\hline
U_1^{(k)} = U_2^{(k)} = U_3^{(k)} = 0; x_1 = 0;\ 0 \le x_2 \le a_2;\ 0 \le x_3 \le a_3; \\
U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0; x_2 = 0;\ 0 \le x_1 \le \infty;\ 0 \le x_3 \le a_3; \\
\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0; x_2 = a_2;\ 0 \le x_1 \le \infty;\ 0 \le x_3 \le a_3; \\
\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; x_3 = 0;\ 0 \le x_1 \le \infty;\ 0 \le x_2 \le a_2; \\
U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = a_3;\ 0 \le x_1 \le \infty;\ 0 \le x_2 \le a_2. \\
\hline
\end{array}
$$

The Answer to Problem (L3C) 9.45 **for semi-bounded parallelepiped**
(Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:
Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 9.46

$$
\begin{array}{|l|}
\hline
U_1^{(k)} = U_2^{(k)} = U_3^{(k)} = 0; x_1 = 0;\ 0 \le x_2 \le a_2;\ 0 \le x_3 \le a_3; \\
U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0; x_2 = 0;\ 0 \le x_1 \le \infty;\ 0 \le x_3 \le a_3; \\
\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0; x_2 = a_2;\ 0 \le x_1 \le \infty;\ 0 \le x_3 \le a_3; \\
U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = 0;\ 0 \le x_1 \le \infty;\ 0 \le x_2 \le a_2; \\
\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; x_3 = a_3;\ 0 \le x_1 \le \infty;\ 0 \le x_2 \le a_2. \\
\hline
\end{array}
$$

The Answer to Problem (L3C) 9.46 **for semi-bounded parallelepiped**
(Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:
Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 9.47

$$
\begin{array}{|l|}
\hline
U_1^{(k)} = U_2^{(k)} = U_3^{(k)} = 0; x_1 = 0;\ 0 \le x_2 \le a_2;\ 0 \le x_3 \le a_3; \\
\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0; x_2 = 0;\ 0 \le x_1 \le \infty;\ 0 \le x_3 \le a_3; \\
U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0; x_2 = a_2;\ 0 \le x_1 \le \infty;\ 0 \le x_3 \le a_3; \\
\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; x_3 = 0;\ 0 \le x_1 \le \infty;\ 0 \le x_2 \le a_2; \\
U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = a_3;\ 0 \le x_1 \le \infty;\ 0 \le x_2 \le a_2. \\
\hline
\end{array}
$$

The Answer to Problem (L3C) 9.47 **for semi-bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 9.48

$$
\begin{array}{|l|}
\hline
U_1^{(k)} = U_2^{(k)} = U_3^{(k)} = 0; x_1 = 0;\ 0 \le x_2 \le a_2;\ 0 \le x_3 \le a_3; \\
\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0; x_2 = 0;\ 0 \le x_1 \le \infty;\ 0 \le x_3 \le a_3; \\
U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0; x_2 = a_2;\ 0 \le x_1 \le \infty;\ 0 \le x_3 \le a_3; \\
U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = 0;\ 0 \le x_1 \le \infty;\ 0 \le x_2 \le a_2; \\
\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; x_3 = a_3;\ 0 \le x_1 \le \infty;\ 0 \le x_2 \le a_2. \\
\hline
\end{array}
$$

The Answer to Problem (L3C) 9.48 **for semi-bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problems (L3C) of Third Type. Problems (L3C) 9.49– (L3C) 9.64

To construct influence functions for the dilatation $\Theta^{(k)}(x,\xi)$ and for components of the displacements Green's matrices $U_i^{(k)}(x,\xi)$ for Lame's equations for the semi-bounded parallelepiped $(0 \le x_1 \le \infty, 0 \le x_2 \le a_2, 0 \le x_3 \le a_3)$ under the following locally mixed boundary conditions of a type of free bound plane and of a sliding-fixation type.

## Problem (L3C) 9.49

$$\sigma_{11}^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0;\, x_1 = 0;\, 0 \le x_2 \le a_2;\, 0 \le x_3 \le a_3;$$
$$U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0;\, x_2 = 0, a_2;\, 0 \le x_1 \le \infty;\, 0 \le x_3 \le a_3;$$
$$U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0;\, x_3 = 0, a_3;\, 0 \le x_1 \le \infty;\, 0 \le x_2 \le a_2.$$

The Answer to Problem (L3C) 9.49 **for semi-bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 9.50

$$\sigma_{11}^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0;\, x_1 = 0;\, 0 \le x_2 \le a_2;\, 0 \le x_3 \le a_3;$$
$$U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0;\, x_2 = 0, a_2;\, 0 \le x_1 \le \infty;\, 0 \le x_3 \le a_3;$$
$$\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0;\, x_3 = 0, a_3;\, 0 \le x_1 \le \infty;\, 0 \le x_2 \le a_2.$$

The Answer to Problem (L3C) 9.50 **for semi-bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates)

## Problem (L3C) 9.51

$$\sigma_{11}^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0;\, x_1 = 0;\, 0 \le x_2 \le a_2;\, 0 \le x_3 \le a_3;$$
$$\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0;\, x_2 = 0, a_2;\, 0 \le x_1 \le \infty;\, 0 \le x_3 \le a_3;$$
$$U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0;\, x_3 = 0, a_3;\, 0 \le x_1 \le \infty;\, 0 \le x_2 \le a_2.$$

The Answer to Problem (L3C) 9.51 **for semi-bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 9.52

$$\sigma_{11}^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0;\, x_1 = 0;\, 0 \le x_2 \le a_2;\, 0 \le x_3 \le a_3;$$
$$\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0;\, x_2 = 0, a_2;\, 0 \le x_1 \le \infty;\, 0 \le x_3 \le a_3;$$
$$\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0;\, x_3 = 0, a_3;\, 0 \le x_1 \le \infty;\, 0 \le x_2 \le a_2.$$

The Answer to Problem (L3C) 9.52 **for semi-bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 9.53

$$\sigma_{11}^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0; x_1 = 0; 0 \le x_2 \le a_2; 0 \le x_3 \le a_3;$$
$$\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0; x_2 = 0, a_2; 0 \le x_1 \le \infty; 0 \le x_3 \le a_3;$$
$$\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; x_3 = 0; 0 \le x_1 \le \infty; 0 \le x_2 \le a_2;$$
$$U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = a_3; 0 \le x_1 \le \infty; 0 \le x_2 \le a_2.$$

The Answer to Problem (L3C) 9.53 **for semi-bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 9.54

$$\sigma_{11}^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0; x_1 = 0; 0 \le x_2 \le a_2; 0 \le x_3 \le a_3;$$
$$\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0; x_2 = 0, a_2; 0 \le x_1 \le \infty; 0 \le x_3 \le a_3;$$
$$U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = 0; 0 \le x_1 \le \infty; 0 \le x_2 \le a_2;$$
$$\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; x_3 = a_3; 0 \le x_1 \le \infty; 0 \le x_2 \le a_2.$$

The Answer to Problem (L3C) 9.54 **for semi-bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 9.55

$$\sigma_{11}^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0; x_1 = 0; 0 \le x_2 \le a_2; 0 \le x_3 \le a_3;$$
$$U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0; x_2 = 0, a_2; 0 \le x_1 \le \infty; 0 \le x_3 \le a_3;$$
$$\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; x_3 = 0; 0 \le x_1 \le \infty; 0 \le x_2 \le a_2;$$
$$U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = a_3; 0 \le x_1 \le \infty; 0 \le x_2 \le a_2.$$

The Answer to Problem (L3C) 9.55 **for semi-bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 9.56

$$\begin{array}{c} \sigma_{11}^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0; x_1 = 0;\ 0 \le x_2 \le a_2;\ 0 \le x_3 \le a_3; \\ U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0; x_2 = 0, a_2;\ 0 \le x_1 \le \infty;\ 0 \le x_3 \le a_3; \\ U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = 0;\ 0 \le x_1 \le \infty;\ 0 \le x_2 \le a_2; \\ \sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; x_3 = a_3;\ 0 \le x_1 \le \infty;\ 0 \le x_2 \le a_2. \end{array}$$

The Answer to Problem (L3C) 9.56 **for semi-bounded parallelepiped** (Green’s tensor for Lame’s equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green’s functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 9.57

$$\begin{array}{c} \sigma_{11}^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0; x_1 = 0;\ 0 \le x_2 \le a_2;\ 0 \le x_3 \le a_3; \\ \sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0; x_2 = 0;\ 0 \le x_1 \le \infty;\ 0 \le x_3 \le a_3; \\ U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0; x_2 = a_2;\ 0 \le x_1 \le \infty;\ 0 \le x_3 \le a_3; \\ \sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; x_3 = 0, a_3;\ 0 \le x_1 \le \infty;\ 0 \le x_2 \le a_2. \end{array}$$

The Answer to Problem (L3C) 9.57 **for semi-bounded parallelepiped** (Green’s tensor for Lame’s equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green’s functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 9.58

$$\begin{array}{l} \sigma_{11}^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0; x_1 = 0;\ 0 \le x_2 \le a_2;\ 0 \le x_3 \le a_3; \\ U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0; x_2 = 0;\ 0 \le x_1 \le \infty;\ 0 \le x_3 \le a_3; \\ \sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0; x_2 = a_2;\ 0 \le x_1 \le \infty;\ 0 \le x_3 \le a_3; \\ U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = 0, a_3;\ 0 \le x_1 \le \infty;\ 0 \le x_2 \le a_2. \end{array}$$

The Answer to Problem (L3C) 9.58 **for semi-bounded parallelepiped** (Green’s tensor for Lame’s equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green’s functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 9.59

$$\begin{array}{l} \sigma_{11}^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0; x_1 = 0;\ 0 \le x_2 \le a_2;\ 0 \le x_3 \le a_3; \\ U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0; x_2 = 0;\ 0 \le x_1 \le \infty;\ 0 \le x_3 \le a_3; \\ \sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0; x_2 = 0, a_2;\ 0 \le x_1 \le \infty;\ 0 \le x_3 \le a_3; \\ \sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; x_3 = 0, a_3;\ 0 \le x_1 \le \infty;\ 0 \le x_2 \le a_2. \end{array}$$

The Answer to Problem (L3C) 9.59 **for semi-bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 9.60

$$\begin{array}{l}
\sigma_{11}^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0; x_1 = 0; 0 \le x_2 \le a_2; 0 \le x_3 \le a_3; \\
\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0; x_2 = 0; 0 \le x_1 \le \infty; 0 \le x_3 \le a_3; \\
U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0; x_2 = a_2; 0 \le x_1 \le \infty; 0 \le x_3 \le a_3; \\
U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = 0, a_3; 0 \le x_1 \le \infty; 0 \le x_2 \le a_2.
\end{array}$$

The Answer to Problem (L3C) 9.60 **for semi-bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 9.61

$$\begin{array}{l}
\sigma_{11}^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0; x_1 = 0; 0 \le x_2 \le a_2; 0 \le x_3 \le a_3; \\
U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0; x_2 = 0; 0 \le x_1 \le \infty; 0 \le x_3 \le a_3; \\
\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0; x_2 = a_2; 0 \le x_1 \le \infty; 0 \le x_3 \le a_3; \\
\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; x_3 = 0; 0 \le x_1 \le \infty; 0 \le x_2 \le a_2; \\
U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = a_3; 0 \le x_1 \le \infty; 0 \le x_2 \le a_2.
\end{array}$$

The Answer to Problem (L3C) 9.61 **for semi-bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 9.62

$$\begin{array}{l}
\sigma_{11}^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0; x_1 = 0; 0 \le x_2 \le a_2; 0 \le x_3 \le a_3; \\
U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0; x_2 = 0; 0 \le x_1 \le \infty; 0 \le x_3 \le a_3; \\
\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0; x_2 = a_2; 0 \le x_1 \le \infty; 0 \le x_3 \le a_3; \\
U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = 0; 0 \le x_1 \le \infty; 0 \le x_2 \le a_2; \\
\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; x_3 = a_3; 0 \le x_1 \le \infty; 0 \le x_2 \le a_2.
\end{array}$$

The Answer to Problem (L3C) 9.62 **for semi-bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 9.63

$$\begin{array}{|l|}\hline \sigma_{11}^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0;\, x_1 = 0;\, 0 \le x_2 \le a_2;\, 0 \le x_3 \le a_3; \\ \sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0;\, x_2 = 0;\, 0 \le x_1 \le \infty;\, 0 \le x_3 \le a_3; \\ U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0;\, x_2 = a_2;\, 0 \le x_1 \le \infty;\, 0 \le x_3 \le a_3; \\ \sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0;\, x_3 = 0;\, 0 \le x_1 \le \infty;\, 0 \le x_2 \le a_2; \\ U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0;\, x_3 = a_3;\, 0 \le x_1 \le \infty;\, 0 \le x_2 \le a_2. \\ \hline \end{array}$$

The Answer to Problem (L3C) 9.63 **for semi-bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 9.64

$$\begin{array}{|l|}\hline \sigma_{11}^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0;\, x_1 = 0;\, 0 \le x_2 \le a_2;\, 0 \le x_3 \le a_3; \\ \sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0;\, x_2 = 0;\, 0 \le x_1 \le \infty;\, 0 \le x_3 \le a_3; \\ U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0;\, x_2 = a_2;\, 0 \le x_1 \le \infty;\, 0 \le x_3 \le a_3; \\ U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0;\, x_3 = 0;\, 0 \le x_1 \le \infty;\, 0 \le x_2 \le a_2; \\ \sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0;\, x_3 = a_3;\, 0 \le x_1 \le \infty;\, 0 \le x_2 \le a_2. \\ \hline \end{array}$$

The Answer to Problem (L3C) 9.64 **for semi-bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

# (L3C) 10. Bounded Parallelepiped

$\left(0 \le x_1 \le a_1; 0 \le x_2 \le a_2; 0 \le x_3 \le a_3\right)$

Section 10 gives the functions of influence of the unit concentrated body forces $\int_V \delta_{ik}\delta(x-\xi)dV(\xi) = \delta_{ik}$, $i,k$=1,2,3 applied at the inner bounded parallelepiped points $\xi \equiv (\xi_1, \xi_2, \xi_3)$ along co-ordinate axis $0x_k$, onto the bulk dilatation (the influence functions for the dilatation - $\Theta^{(k)}(x,\xi)$) as well as onto the displacements (the components of the displacements Green's matrix - $U_i^{(k)}(x,\xi)$ at the points of observation $x \equiv (x_1, x_2, x_3)$ along co-ordinate axis $0x_i$. The formulations to 61 boundary-value Problem (L3C)s on constructing the influence functions for dilatation and Green's matrices for Lame's equations in the case of the bounded parallelepiped are given there.

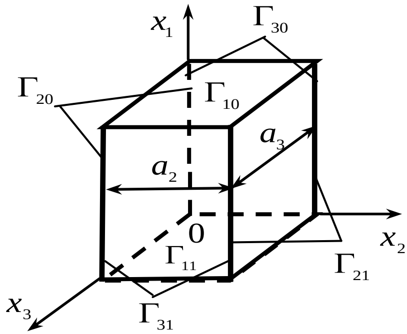


Figure 10: Bounded parallelepiped with boundary rectangulars $\Gamma_{10}$ , $\Gamma_{11}$ , $\Gamma_{20}$ , $\Gamma_{21}$ and $\Gamma_{30}$ , $\Gamma_{31}$ .

## Section 10 Green's Matrices for Lame's Equations

### Problems (L3C) of First Type. Problems (L3C) 10.1– (L3C) 10.61

To construct influence functions for the dilatation $\Theta^{(k)}(x,\xi)$ and for components of the displacements Green's matrices $U_i^{(k)}(x,\xi)$ for Lame's equation for the bounded parallelepiped $(0 \le x_1 \le a_1, 0 \le x_2 \le a_2, 0 \le x_3 \le a_3)$ under the following locally mixed boundary conditions of a sliding-fixation type.

**Problem (L3C) 10.1**

$$U_1^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0; x_1 = 0, a_1;\ 0 \le x_2 \le a_2;\ 0 \le x_3 \le a_3;$$
$$U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0; x_2 = 0, a_2;\ 0 \le x_1 \le a_1;\ 0 \le x_3 \le a_3;$$
$$U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = 0, a_3;\ 0 \le x_1 \le a_1;\ 0 \le x_2 \le a_2.$$

The Answer to Problem (L3C) 10.1 **for bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 10.2

$$\begin{array}{|l|}\hline U_1^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0; x_1 = 0, a_1;\ 0 \le x_2 \le a_2;\ 0 \le x_3 \le a_3; \\ \sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0; x_2 = 0, a_2;\ 0 \le x_1 \le a_1;\ 0 \le x_3 \le a_3; \\ \sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; x_3 = 0, a_3;\ 0 \le x_1 \le a_1;\ 0 \le x_2 \le a_2. \\ \hline \end{array}$$

The Answer to Problem (L3C) 10.2 **for bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 10.3

$$\begin{array}{|l|}\hline U_1^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0; x_1 = 0, a_1;\ 0 \le x_2 \le a_2;\ 0 \le x_3 \le a_3; \\ \sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0; x_2 = 0, a_2;\ 0 \le x_1 \le a_1;\ 0 \le x_3 \le a_3; \\ \sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; x_3 = 0;\ 0 \le x_1 \le a_1;\ 0 \le x_2 \le a_2; \\ U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = a_3;\ 0 \le x_1 \le a_1;\ 0 \le x_2 \le a_2. \\ \hline \end{array}$$

The Answer to Problem (L3C) 10.3 **for bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 10.4

$$\begin{array}{|l|}\hline U_1^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0; x_1 = 0, a_1;\ 0 \le x_2 \le a_2;\ 0 \le x_3 \le a_3; \\ \sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0; x_2 = 0, a_2;\ 0 \le x_1 \le a_1;\ 0 \le x_3 \le a_3; \\ U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = 0;\ 0 \le x_1 \le a_1;\ 0 \le x_2 \le a_2; \\ \sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; x_3 = a_3;\ 0 \le x_1 \le a_1;\ 0 \le x_2 \le a_2. \\ \hline \end{array}$$

The Answer to Problem (L3C) 10.4 **for bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 10.5

$$
\begin{array}{|l|}
\hline
U_1^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0; x_1 = 0, a_1; 0 \le x_2 \le a_2; 0 \le x_3 \le a_3; \\
U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0; x_2 = 0, a_2; 0 \le x_1 \le a_1; 0 \le x_3 \le a_3; \\
\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; x_3 = 0; 0 \le x_1 \le a_1; 0 \le x_2 \le a_2; \\
U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = a_3; 0 \le x_1 \le a_1; 0 \le x_2 \le a_2. \\
\hline
\end{array}
$$

The Answer to Problem (L3C) 10.5 **for bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 10.6

$$
\begin{array}{|l|}
\hline
U_1^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0; x_1 = 0, a_1; 0 \le x_2 \le a_2; 0 \le x_3 \le a_3; \\
U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0; x_2 = 0, a_2; 0 \le x_1 \le a_1; 0 \le x_3 \le a_3; \\
U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = 0; 0 \le x_1 \le a_1; 0 \le x_2 \le a_2; \\
\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; x_3 = a_3; 0 \le x_1 \le a_1; 0 \le x_2 \le a_2. \\
\hline
\end{array}
$$

The Answer to Problem (L3C) 10.6 **for bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 10.7

$$
\begin{array}{|l|}
\hline
U_1^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0; x_1 = 0, a_1; 0 \le x_2 \le a_2; 0 \le x_3 \le a_3; \\
\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0; x_2 = 0; 0 \le x_1 \le a_1; 0 \le x_3 \le a_3; \\
U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0; x_2 = a_2; 0 \le x_1 \le a_1; 0 \le x_3 \le a_3; \\
\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; x_3 = 0, a_3; 0 \le x_1 \le a_1; 0 \le x_2 \le a_2. \\
\hline
\end{array}
$$

The Answer to Problem (L3C) 10.7 **for bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 10.8

$$
\begin{array}{|l|}
\hline
U_1^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0; x_1 = 0, a_1; 0 \le x_2 \le a_2; 0 \le x_3 \le a_3; \\
U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0; x_2 = 0; 0 \le x_1 \le a_1; 0 \le x_3 \le a_3; \\
\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0; x_2 = a_2; 0 \le x_1 \le a_1; 0 \le x_3 \le a_3; \\
U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = 0, a_3; 0 \le x_1 \le a_1; 0 \le x_2 \le a_2. \\
\hline
\end{array}
$$

The Answer to Problem (L3C) 10.8 **for bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 10.9

$$U_1^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0; x_1 = 0, a_1; 0 \le x_2 \le a_2; 0 \le x_3 \le a_3;$$
$$U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0; x_2 = 0; 0 \le x_1 \le a_1; 0 \le x_3 \le a_3;$$
$$\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0; x_2 = a_2; 0 \le x_1 \le a_1; 0 \le x_3 \le a_3;$$
$$\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; x_3 = 0, a_3; 0 \le x_1 \le a_1; 0 \le x_2 \le a_2.$$

The Answer to Problem (L3C) 10.9 **for bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 10.10

$$U_1^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0; x_1 = 0, a_1; 0 \le x_2 \le a_2; 0 \le x_3 \le a_3;$$
$$\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0; x_2 = 0; 0 \le x_1 \le a_1; 0 \le x_3 \le a_3;$$
$$U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0; x_2 = a_2; 0 \le x_1 \le a_1; 0 \le x_3 \le a_3;$$
$$U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = 0, a_3; 0 \le x_1 \le a_1; 0 \le x_2 \le a_2.$$

The Answer to Problem (L3C) 10.10 **for bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 10.11

$$U_1^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0; x_1 = 0, a_1; 0 \le x_2 \le a_2; 0 \le x_3 \le a_3;$$
$$U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0; x_2 = 0; 0 \le x_1 \le a_1; 0 \le x_3 \le a_3;$$
$$\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0; x_2 = a_2; 0 \le x_1 \le a_1; 0 \le x_3 \le a_3;$$
$$\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; x_3 = 0; 0 \le x_1 \le a_1; 0 \le x_2 \le a_2;$$
$$U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = a_3; 0 \le x_1 \le a_1; 0 \le x_2 \le a_2.$$

The Answer to Problem (L3C) 10.11 **for bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 10.12

$$\begin{array}{|l|}\hline U_1^{(k)}=\sigma_{12}^{(k)}=\sigma_{13}^{(k)}=0; x_1=0,a_1; 0\le x_2\le a_2; 0\le x_3\le a_3;\\ U_2^{(k)}=\sigma_{21}^{(k)}=\sigma_{23}^{(k)}=0; x_2=0; 0\le x_1\le a_1; 0\le x_3\le a_3;\\ \sigma_{22}^{(k)}=U_1^{(k)}=U_3^{(k)}=0; x_2=a_2; 0\le x_1\le a_1; 0\le x_3\le a_3;\\ U_3^{(k)}=\sigma_{31}^{(k)}=\sigma_{32}^{(k)}=0; x_3=0; 0\le x_1\le a_1; 0\le x_2\le a_2;\\ \sigma_{33}^{(k)}=U_1^{(k)}=U_2^{(k)}=0; x_3=a_3; 0\le x_1\le a_1; 0\le x_2\le a_2.\\ \hline\end{array}$$

The Answer to Problem (L3C) 10.12 **for bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 10.13

$$\begin{array}{|l|}\hline U_1^{(k)}=\sigma_{12}^{(k)}=\sigma_{13}^{(k)}=0; x_1=0,a_1; 0\le x_2\le a_2; 0\le x_3\le a_3;\\ \sigma_{22}^{(k)}=U_1^{(k)}=U_3^{(k)}=0; x_2=0; 0\le x_1\le a_1; 0\le x_3\le a_3;\\ U_2^{(k)}=\sigma_{21}^{(k)}=\sigma_{23}^{(k)}=0; x_2=a_2; 0\le x_1\le a_1; 0\le x_3\le a_3;\\ \sigma_{33}^{(k)}=U_1^{(k)}=U_2^{(k)}=0; x_3=0; 0\le x_1\le a_1; 0\le x_2\le a_2\\ U_3^{(k)}=\sigma_{31}^{(k)}=\sigma_{32}^{(k)}=0; x_3=a_3; 0\le x_1\le a_1; 0\le x_2\le a_2.\\ \hline\end{array}$$

The Answer to Problem (L3C) 10.13 **for bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 10.14

$$\begin{array}{|l|}\hline U_1^{(k)}=\sigma_{12}^{(k)}=\sigma_{13}^{(k)}=0; x_1=0,a_1; 0\le x_2\le a_2; 0\le x_3\le a_3;\\ \sigma_{2}^{(k)}=U_1^{(k)}=U_3^{(k)}=0; x_2=0; 0\le x_1\le a_1; 0\le x_3\le a_3;\\ U_2^{(k)}=\sigma_{21}^{(k)}=\sigma_{23}^{(k)}=0; x_2=a_2; 0\le x_1\le a_1; 0\le x_3\le a_3;\\ U_3^{(k)}=\sigma_{31}^{(k)}=\sigma_{32}^{(k)}=0; x_3=0; 0\le x_1\le a_1; 0\le x_2\le a_2;\\ \sigma_{33}^{(k)}=U_1^{(k)}=U_2^{(k)}=0; x_3=a_3; 0\le x_1\le a_1; 0\le x_2\le a_2.\\ \hline\end{array}$$

The Answer to Problem (L3C) 10.14 **for bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 10.15

$$\sigma_{11}^{(k)} = U_2^{(k)} = U_3^{(k)} = 0; x_1 = 0, a_1, 0 \le x_2 \le a_2; 0 \le x_3 \le a_3;$$
$$\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0; x_2 = 0, a_2; 0 \le x_1 \le a_1; 0 \le x_3 \le a_3;$$
$$\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; x_3 = 0, a_3; 0 \le x_1 \le a_1; 0 \le x_2 \le a_2.$$

The Answer to Problem (L3C) 10.15 **for bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 10.16

$$\sigma_{11}^{(k)} = U_2^{(k)} = U_3^{(k)} = 0; x_1 = 0, a_1, 0 \le x_2 \le a_2; 0 \le x_3 \le a_3;$$
$$U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0; x_2 = 0, a_2; 0 \le x_1 \le a_1; 0 \le x_3 \le a_3;$$
$$\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; x_3 = 0, a_3; 0 \le x_1 \le a_1; 0 \le x_2 \le a_2.$$

The Answer to Problem (L3C) 10.16 **for bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 10.17

$$\sigma_{11}^{(k)} = U_2^{(k)} = U_3^{(k)} = 0; x_1 = 0, a_1; 0 \le x_2 \le a_2; 0 \le x_3 \le a_3;$$
$$\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0; x_2 = 0; a_2; 0 \le x_1 \le a_1; 0 \le x_3 \le a_3;$$
$$U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = 0, a_3; 0 \le x_1 \le a_1; 0 \le x_2 \le a_2.$$

The Answer to Problem (L3C) 10.17 **for bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 10.18

$$\sigma_{11}^{(k)} = U_2^{(k)} = U_3^{(k)} = 0; x_1 = 0, a_1; 0 \le x_2 \le a_2; 0 \le x_3 \le a_3;$$
$$\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0; x_2 = 0, a_2; 0 \le x_1 \le a_1; 0 \le x_3 \le a_3;$$
$$\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; x_3 = 0; 0 \le x_1 \le a_1; 0 \le x_2 \le a_2;$$
$$U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = a_3; 0 \le x_1 \le a_1; 0 \le x_2 \le a_2.$$

The Answer to Problem (L3C) 10.18 **for bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

# Problem (L3C) 10.19

$$\sigma_{11}^{(k)} = U_2^{(k)} = U_3^{(k)} = 0; x_1 = 0, a_1; 0 \le x_2 \le a_2; 0 \le x_3 \le a_3;$$
$$\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0; x_2 = 0, a_2; 0 \le x_1 \le a_1; 0 \le x_3 \le a_3;$$
$$U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = 0; 0 \le x_1 \le a_1; 0 \le x_2 \le a_2;$$
$$\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; x_3 = a_3; 0 \le x_1 \le a_1; 0 \le x_2 \le a_2.$$

The Answer to Problem (L3C) 10.19 **for bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

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# Problem (L3C) 10.20

$$\sigma_{11}^{(k)} = U_2^{(k)} = U_3^{(k)} = 0; x_1 = 0, a_1; 0 \le x_2 \le a_2; 0 \le x_3 \le a_3;$$
$$U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0; x_2 = 0, a_2; 0 \le x_1 \le a_1; 0 \le x_3 \le a_3;$$
$$\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; x_3 = 0; 0 \le x_1 \le a_1; 0 \le x_2 \le a_2;$$
$$U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = a_3; 0 \le x_1 \le a_1; 0 \le x_2 \le a_2.$$

The Answer to Problem (L3C) 10.20 **for bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

# Problem (L3C) 10.21

$$\sigma_{11}^{(k)} = U_2^{(k)} = U_3^{(k)} = 0; x_1 = 0, a_1; 0 \le x_2 \le a_2; 0 \le x_3 \le a_3;$$
$$U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0; x_2 = 0, a_2; 0 \le x_1 \le a_1; 0 \le x_3 \le a_3;$$
$$U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = 0; 0 \le x_1 \le a_1; 0 \le x_2 \le a_2;$$
$$\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; x_3 = a_3; 0 \le x_1 \le a_1; 0 \le x_2 \le a_2.$$

The Answer to Problem (L3C) 10.21 **for bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 10.22

$$\begin{array}{l}
\sigma_{11}^{(k)}=U_2^{(k)}=U_3^{(k)}=0; x_1=0,a_1;\ 0\le x_2\le a_2;\ 0\le x_3\le a_3;\\
\sigma_{22}^{(k)}=U_1^{(k)}=U_3^{(k)}=0; x_2=0;\ 0\le x_1\le a_1;\ 0\le x_3\le a_3;\\
U_2^{(k)}=\sigma_{21}^{(k)}=\sigma_{23}^{(k)}=0; x_2=a_2;\ 0\le x_1\le a_1;\ 0\le x_3\le a_3;\\
\sigma_{33}^{(k)}=U_1^{(k)}=U_2^{(k)}=0; x_3=0,a_3;\ 0\le x_1\le a_1;\ 0\le x_2\le a_2.
\end{array}$$

The Answer to Problem (L3C) 10.22 **for bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

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## Problem (L3C) 10.23

$$\begin{array}{l}
\sigma_{11}^{(k)}=U_2^{(k)}=U_3^{(k)}=0; x_1=0,a_1;\ 0\le x_2\le a_2;\ 0\le x_3\le a_3;\\
U_2^{(k)}=\sigma_{21}^{(k)}=\sigma_{23}^{(k)}=0; x_2=0;\ 0\le x_1\le a_1;\ 0\le x_3\le a_3;\\
\sigma_{22}^{(k)}=U_1^{(k)}=U_3^{(k)}=0; x_2=a_2;\ 0\le x_1\le a_1;\ 0\le x_3\le a_3;\\
U_3^{(k)}=\sigma_{31}^{(k)}=\sigma_{32}^{(k)}=0; x_3=0,a_3;\ 0\le x_1\le a_1;\ 0\le x_2\le a_2.
\end{array}$$

The Answer to Problem (L3C) 10.23 **for bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 10.24

$$\begin{array}{l}
\sigma_{11}^{(k)}=U_2^{(k)}=U_3^{(k)}=0; x_1=0,a_1;\ 0\le x_2\le a_2;\ 0\le x_3\le a_3;\\
U_2^{(k)}=\sigma_{21}^{(k)}=\sigma_{23}^{(k)}=0; x_2=0;\ 0\le x_1\le a_1;\ 0\le x_3\le a_3;\\
\sigma_{22}^{(k)}=U_1^{(k)}=U_3^{(k)}=0; x_2=a_2;\ 0\le x_1\le a_1;\ 0\le x_3\le a_3;\\
\sigma_{33}^{(k)}=U_1^{(k)}=U_2^{(k)}=0; x_3=0,a_3;\ 0\le x_1\le a_1;\ 0\le x_2\le a_2.
\end{array}$$

The Answer to Problem (L3C) 10.24 **for bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 10.25

$$\begin{array}{|l|}\hline \sigma_{11}^{(k)} = U_2^{(k)} = U_3^{(k)} = 0; x_1 = 0, a_1; 0 \le x_2 \le a_2; 0 \le x_3 \le a_3; \\ \sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0; x_2 = 0; 0 \le x_1 \le a_1; 0 \le x_3 \le a_3; \\ U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0; x_2 = a_2; 0 \le x_1 \le a_1; 0 \le x_3 \le a_3; \\ U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = 0, a_3; 0 \le x_1 \le a_1; 0 \le x_2 \le a_2. \\ \hline \end{array}$$

The Answer to Problem (L3C) 10.25 **for bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

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## Problem (L3C) 10.26

$$\begin{array}{|l|}\hline \sigma_{11}^{(k)} = U_2^{(k)} = U_3^{(k)} = 0; x_1 = 0, a_1; 0 \le x_2 \le a_2; 0 \le x_3 \le a_3; \\ U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0; x_2 = 0; 0 \le x_1 \le a_1; 0 \le x_3 \le a_3; \\ \sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0; x_2 = a_2; 0 \le x_1 \le a_1; 0 \le x_3 \le a_3; \\ \sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; x_3 = 0; 0 \le x_1 \le a_1; 0 \le x_2 \le a_2; \\ U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = a_3; 0 \le x_1 \le a_1; 0 \le x_2 \le a_2. \\ \hline \end{array}$$

The Answer to Problem (L3C) 10.26 **for bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

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## Problem (L3C) 10.27

$$\begin{array}{|l|}\hline \sigma_{11}^{(k)} = U_2^{(k)} = U_3^{(k)} = 0; x_1 = 0,\ a_1; 0 \le x_2 \le a_2; 0 \le x_3 \le a_3; \\ U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0; x_2 = 0; 0 \le x_1 \le a_1; 0 \le x_3 \le a_3; \\ \sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0; x_2 = a_2; 0 \le x_1 \le a_1; 0 \le x_3 \le a_3; \\ U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = 0; 0 \le x_1 \le a_1; 0 \le x_2 \le a_2; \\ \sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; x_3 = a_3; 0 \le x_1\ 0 \le x_2 \le a_2. \\ \hline \end{array}$$ ]

The Answer to Problem (L3C) 10.27 **for bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 10.28

$$\sigma_{11}^{(k)} = U_2^{(k)} = U_3^{(k)} = 0; x_1 = 0, a_1; 0 \le x_2 \le a_2; 0 \le x_3 \le a_3;$$
$$\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0; x_2 = 0; 0 \le x_1 \le a_1; 0 \le x_3 \le a_3;$$
$$U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0; x_2 = a_2; 0 \le x_1 \le a_1; 0 \le x_3 \le a_3;$$
$$\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; x_3 = 0; 0 \le x_1 \le a_1; 0 \le x_2 \le a_2;$$
$$U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = a_3; 0 \le x_1 \le a_1; 0 \le x_2 \le a_2.$$

The Answer to Problem (L3C) 10.28 **for bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

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## Problem (L3C) 10.29

$$\sigma_{11}^{(k)} = U_2^{(k)} = U_3^{(k)} = 0; x_1 = 0, a_1; 0 \le x_2 \le a_2; 0 \le x_3 \le a_3;$$
$$\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0; x_2 = 0; 0 \le x_1 \le a_1; 0 \le x_3 \le a_3;$$
$$U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0; x_2 = a_2; 0 \le x_1 \le a_1; 0 \le x_3 \le a_3;$$
$$U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = 0; 0 \le x_1 \le a_1; 0 \le x_2 \le a_2.$$
$$\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; x_3 = a_3; 0 \le x_1 \le a_1; 0 \le x_2 \le a_2$$

The Answer to Problem (L3C) 10.29 **for bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

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## Problem (L3C) 10.30

$$U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0; x_1 = 0; 0 \le x_2 \le a_2; 0 \le x_3 \le a_3;$$
$$\sigma_{11}^{(k)} = U_2^{(k)} = U_3^{(k)} = 0; x_1 = a_1; 0 \le x_2 \le a_2; 0 \le x_3 \le a_3;$$
$$U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0; x_2 = 0, a_2; 0 \le x_1 \le a_1; 0 \le x_3 \le a_3;$$
$$U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = 0, a_3; 0 \le x_1 \le a_1; 0 \le x_2 \le a_2.$$

The Answer to Problem (L3C) 10.30 **for bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

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## Problem (L3C) 10.31

$$U_1^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0; x_1 = 0; 0 \le x_2 \le a_2; 0 \le x_3 \le a_3;$$
$$\sigma_{11}^{(k)} = U_2^{(k)} = U_3^{(k)} = 0; x_1 = a_1; 0 \le x_2 \le a_2; 0 \le x_3 \le a_3;$$
$$\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0; x_2 = 0, a_2; 0 \le x_1 \le a_1; 0 \le x_3 \le a_3;$$
$$\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; x_3 = 0, a_3; 0 \le x_1 \le a_1; 0 \le x_2 \le a_2.$$

The Answer to Problem (L3C) 10.31 **for bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

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## Problem (L3C) 10.32

$$U_1^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0; x_1 = 0; 0 \le x_2 \le a_2; 0 \le x_3 \le a_3;$$
$$\sigma_{11}^{(k)} = U_2^{(k)} = U_3^{(k)} = 0; x_1 = a_1; 0 \le x_2 \le a_2; 0 \le x_3 \le a_3;$$
$$\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0; x_2 = 0, a_2; 0 \le x_1 \le a_1; 0 \le x_3 \le a_3;$$
$$U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = 0, a_3; 0 \le x_1 \le a_1; 0 \le x_2 \le a_2.$$

The Answer to Problem (L3C) 10.32 **for bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

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## Problem (L3C) 10.33

$$U_1^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0; x_1 = 0; 0 \le x_2 \le a_2; 0 \le x_3 \le a_3;$$
$$\sigma_{11}^{(k)} = U_2^{(k)} = U_3^{(k)} = 0; x_1 = a_1; 0 \le x_2 \le a_2; 0 \le x_3 \le a_3;$$
$$U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0; x_2 = 0, a_2; 0 \le x_1 \le a_1; 0 \le x_3 \le a_3;$$
$$\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; x_3 = 0, a_3; 0 \le x_1 \le a_1; 0 \le x_2 \le a_2.$$

The Answer to Problem (L3C) 10.33 **for bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

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## Problem (L3C) 10.34

$$U_1^{(k)}=\sigma_{12}^{(k)}=\sigma_{13}^{(k)}=0; x_1=0;\ 0\le x_2\le a_2;\ 0\le x_3\le a_3;$$
$$\sigma_{11}^{(k)}=U_2^{(k)}=U_3^{(k)}=0; x_1=a_1,\ 0\le x_2\le a_2;\ 0\le x_3\le a_3;$$
$$\sigma_{22}^{(k)}=U_1^{(k)}=U_3^{(k)}=0; x_2=0,a_2;\ 0\le x_1\le a_1;\ 0\le x_3\le a_3;$$
$$\sigma_{33}^{(k)}=U_1^{(k)}=U_2^{(k)}=0; x_3=0;\ 0\le x_1\le a_1;\ 0\le x_2\le a_2;$$
$$U_3^{(k)}=\sigma_{31}^{(k)}=\sigma_{32}^{(k)}=0; x_3=a_3;\ 0\le x_1\le a_1;\ 0\le x_2\le a_2.$$

The Answer to Problem (L3C) 10.34 **for bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

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## Problem (L3C) 10.35

$$U_1^{(k)}=\sigma_{12}^{(k)}=\sigma_{13}^{(k)}=0; x_1=0;\ 0\le x_2\le a_2;\ 0\le x_3\le a_3;$$
$$\sigma_{11}^{(k)}=U_2^{(k)}=U_3^{(k)}=0; x_1=a_1;\ 0\le x_2\le a_2;\ 0\le x_3\le a_3;$$
$$\sigma_{22}^{(k)}=U_1^{(k)}=U_3^{(k)}=0; x_2=0,a_2;\ 0\le x_1\le a_1;\ 0\le x_3\le a_3;$$
$$U_3^{(k)}=\sigma_{31}^{(k)}=\sigma_{32}^{(k)}=0; x_3=0;\ 0\le x_1\le a_1;\ 0\le x_2\le a_2;$$
$$\sigma_{33}^{(k)}=U_1^{(k)}=U_2^{(k)}=0; x_3=a_3;\ 0\le x_1\le a_1;\ 0\le x_2\le a_2.$$

The Answer to Problem (L3C) 10.35 **for bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

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## Problem (L3C) 10.36

$$U_1^{(k)}=\sigma_{12}^{(k)}=\sigma_{13}^{(k)}=0; x_1=0;\ 0\le x_2\le a_2;\ 0\le x_3\le a_3;$$
$$\sigma_{11}^{(k)}=U_2^{(k)}=U_3^{(k)}=0; x_1=a_1,\ 0\le x_2\le a_2;\ 0\le x_3\le a_3;$$
$$U_2^{(k)}=\sigma_{21}^{(k)}=\sigma_{23}^{(k)}=0; x_2=0,a_2;\ 0\le x_1\le a_1;\ 0\le x_3\le a_3;$$
$$\sigma_{33}^{(k)}=U_1^{(k)}=U_2^{(k)}=0; x_3=0;\ 0\le x_1\le a_1;\ 0\le x_2\le a_2;$$
$$U_3^{(k)}=\sigma_{31}^{(k)}=\sigma_{32}^{(k)}=0; x_3=a_3;\ 0\le x_1\le a_1;\ 0\le x_2\le a_2.$$

The Answer to Problem (L3C) 10.36 **for bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

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## Problem (L3C) 10.37

$$U_1^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0; x_1 = 0; 0 \le x_2 \le a_2; 0 \le x_3 \le a_3;$$
$$\sigma_{11}^{(k)} = U_2^{(k)} = U_3^{(k)} = 0; x_1 = a_1, 0 \le x_2 \le a_2; 0 \le x_3 \le a_3;$$
$$U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0; x_2 = 0, a_2; 0 \le x_1 \le a_1; 0 \le x_3 \le a_3;$$
$$U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = 0; 0 \le x_1 \le a_1; 0 \le x_2 \le a_2;$$
$$\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; x_3 = a_3; 0 \le x_1 \le a_1; 0 \le x_2 \le a_2.$$

The Answer to Problem (L3C) 10.37 **for bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

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## Problem (L3C) 10.38

$$U_1^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0; x_1 = 0; 0 \le x_2 \le a_2; 0 \le x_3 \le a_3;$$
$$\sigma_{11}^{(k)} = U_2^{(k)} = U_3^{(k)} = 0; x_1 = a_1, 0 \le x_2 \le a_2; 0 \le x_3 \le a_3;$$
$$\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0; x_2 = 0; 0 \le x_1 \le a_1; 0 \le x_3 \le a_3;$$
$$U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0; x_2 = a_2; 0 \le x_1 \le a_1; 0 \le x_3 \le a_3;$$
$$\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; x_3 = 0, a_3; 0 \le x_1 \le a_1; 0 \le x_2 \le a_2.$$

The Answer to Problem (L3C) 10.38 **for bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

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## Problem (L3C) 10.39

$$U_1^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0; x_1 = 0; 0 \le x_2 \le a_2; 0 \le x_3 \le a_3;$$
$$\sigma_{11}^{(k)} = U_2^{(k)} = U_3^{(k)} = 0; x_1 = a_1; 0 \le x_2 \le a_2; 0 \le x_3 \le a_3;$$
$$U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0; x_2 = 0; 0 \le x_1 \le a_1; 0 \le x_3 \le a_3;$$
$$\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0; x_2 = a_2; 0 \le x_1 \le a_1; 0 \le x_3 \le a_3;$$
$$U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = 0; a_3; 0 \le x_1 \le a_1; 0 \le x_2 \le a_2.$$

The Answer to Problem (L3C) 10.39 **for bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

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## Problem (L3C) 10.40

$$U_1^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0; x_1 = 0; 0 \le x_2 \le a_2; 0 \le x_3 \le a_3;$$
$$\sigma_{11}^{(k)} = U_2^{(k)} = U_3^{(k)} = 0; x_1 = a_1, 0 \le x_2 \le a_2; 0 \le x_3 \le a_3;$$
$$U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0; x_2 = 0; 0 \le x_1 \le a_1; 0 \le x_3 \le a_3;$$
$$\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0; x_2 = a_2; 0 \le x_1 \le a_1; 0 \le x_3 \le a_3;$$
$$\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; x_3 = 0, a_3; 0 \le x_1 \le a_1; 0 \le x_2 \le a_2.$$

The Answer to Problem (L3C) 10.40 **for bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 10.41

$$U_1^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0; x_1 = 0; 0 \le x_2 \le a_2; 0 \le x_3 \le a_3;$$
$$\sigma_{11}^{(k)} = U_2^{(k)} = U_3^{(k)} = 0; x_1 = a_1, 0 \le x_2 \le a_2; 0 \le x_3 \le a_3;$$
$$\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0; x_2 = 0; 0 \le x_1 \le a_1; 0 \le x_3 \le a_3;$$
$$U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0; x_2 = a_2; 0 \le x_1 \le a_1; 0 \le x_3 \le a_3;$$
$$U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = 0, a_3; 0 \le x_1 \le a_1; 0 \le x_2 \le a_2.$$

The Answer to Problem (L3C) 10.41 **for bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

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## Problem (L3C) 10.42

$$U_1^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0; x_1 = 0; 0 \le x_2 \le a_2; 0 \le x_3 \le a_3;$$
$$\sigma_{11}^{(k)} = U_2^{(k)} = U_3^{(k)} = 0; x_1 = a_1, 0 \le x_2 \le a_2; 0 \le x_3 \le a_3;$$
$$U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0; x_2 = 0; 0 \le x_1 \le a_1; 0 \le x_3 \le a_3;$$
$$\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0; x_2 = a_2; 0 \le x_1 \le a_1; 0 \le x_3 \le a_3;$$
$$\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; x_3 = 0; 0 \le x_1 \le a_1; 0 \le x_2 \le a_2;$$
$$U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = a_3; 0 \le x_1 \le a_1; 0 \le x_2 \le a_2.$$

The Answer to Problem (L3C) 10.42 **for bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 10.43

$$
\begin{array}{l}
U_1^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0; x_1 = 0; 0 \le x_2 \le a_2; 0 \le x_3 \le a_3; \\
\sigma_{11}^{(k)} = U_2^{(k)} = U_3^{(k)} = 0; x_1 = a_1, 0 \le x_2 \le a_2; 0 \le x_3 \le a_3; \\
U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0; x_2 = 0; 0 \le x_1 \le a_1; 0 \le x_3 \le a_3; \\
\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0; x_2 = a_2; 0 \le x_1 \le a_1; 0 \le x_3 \le a_3; \\
U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = 0; 0 \le x_1 \le a_1; 0 \le x_2 \le a_2; \\
\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; x_3 = a_3; 0 \le x_1 \le a_1; 0 \le x_2 \le a_2.
\end{array}
$$

The Answer to Problem (L3C) 10.43 **for bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 10.44

$$
\begin{array}{l}
U_1^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0; x_1 = 0; 0 \le x_2 \le a_2; 0 \le x_3 \le a_3; \\
\sigma_{11}^{(k)} = U_2^{(k)} = U_3^{(k)} = 0; x_1 = a_1, 0 \le x_2 \le a_2; 0 \le x_3 \le a_3; \\
\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0; x_2 = 0; 0 \le x_1 \le a_1; 0 \le x_3 \le a_3; \\
U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0; x_2 = a_2; 0 \le x_1 \le a_1; 0 \le x_3 \le a_3; \\
\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; x_3 = 0; 0 \le x_1 \le a_1; 0 \le x_2 \le a_2; \\
U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = a_3; 0 \le x_1 \le a_1; 0 \le x_2 \le a_2.
\end{array}
$$

The Answer to Problem (L3C) 10.44 **for bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 10.45

$$
\begin{array}{l}
U_1^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0; x_1 = 0; 0 \le x_2 \le a_2; 0 \le x_3 \le a_3; \\
\sigma_{11}^{(k)} = U_2^{(k)} = U_3^{(k)} = 0; x_1 = a_1, 0 \le x_2 \le a_2; 0 \le x_3 \le a_3; \\
\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0; x_2 = 0; 0 \le x_1 \le a_1; 0 \le x_3 \le a_3; \\
U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0; x_2 = a_2; 0 \le x_1 \le a_1; 0 \le x_3 \le a_3; \\
U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = 0; 0 \le x_1 \le a_1; 0 \le x_2 \le a_2; \\
\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; x_3 = a_3; 0 \le x_1 \le a_1; 0 \le x_2 \le a_2.
\end{array}
$$

The Answer to Problem (L3C) 10.45 **for bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 10.46

$$\sigma_{11}^{(k)} = U_2^{(k)} = U_3^{(k)} = 0; x_1 = 0,\ 0 \le x_2 \le a_2; 0 \le x_3 \le a_3;$$
$$U_1^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0; x_1 = a_1; 0 \le x_2 \le a_2; 0 \le x_3 \le a_3;$$
$$\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0; x_2 = 0, a_2; 0 \le x_1 \le a_1; 0 \le x_3 \le a_3;$$
$$\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; x_3 = 0, a_3; 0 \le x_1 \le a_1; 0 \le x_2 \le a_2.$$

The Answer to Problem (L3C) 10.46 **for bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 10.47

$$\sigma_{11}^{(k)} = U_2^{(k)} = U_3^{(k)} = 0; x_1 = 0,\ 0 \le x_2 \le a_2; 0 \le x_3 \le a_3;$$
$$U_1^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0; x_1 = a_1; 0 \le x_2 \le a_2; 0 \le x_3 \le a_3;$$
$$U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0; x_2 = 0, a_2; 0 \le x_1 \le a_1; 0 \le x_3 \le a_3;$$
$$\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; x_3 = 0, a_3; 0 \le x_1 \le a_1; 0 \le x_2 \le a_2.$$

The Answer to Problem (L3C) 10.47 **for bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

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## Problem (L3C) 10.48

$$\sigma_{11}^{(k)} = U_2^{(k)} = U_3^{(k)} = 0; x_1 = 0,\ 0 \le x_2 \le a_2; 0 \le x_3 \le a_3;$$
$$U_1^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0; x_1 = a_1; 0 \le x_2 \le a_2; 0 \le x_3 \le a_3;$$
$$U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0; x_2 = 0, a_2; 0 \le x_1 \le a_1; 0 \le x_3 \le a_3;$$
$$U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = 0, a_3; 0 \le x_1 \le a_1; 0 \le x_2 \le a_2.$$

The Answer to Problem (L3C) 10.48 **for bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 10.49

$$\begin{array}{l}\sigma_{11}^{(k)} = U_2^{(k)} = U_3^{(k)} = 0; x_1 = 0, 0 \le x_2 \le a_2; 0 \le x_3 \le a_3;\\ U_1^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0; x_1 = a_1; 0 \le x_2 \le a_2; 0 \le x_3 \le a_3;\\ \sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0; x_2 = 0, a_2; 0 \le x_1 \le a_1; 0 \le x_3 \le a_3;\\ U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = 0, a_3; 0 \le x_1 \le a_1; 0 \le x_2 \le a_2.\end{array}$$

The Answer to Problem (L3C) 10.49 **for bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 10.50

$$\begin{array}{l}\sigma_{11}^{(k)} = U_2^{(k)} = U_3^{(k)} = 0; x_1 = 0; 0 \le x_2 \le a_2; 0 \le x_3 \le a_3;\\ U_1^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0; x_1 = a_1, 0 \le x_2 \le a_2; 0 \le x_3 \le a_3;\\ \sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0; x_2 = 0, a_2; 0 \le x_1 \le a_1; 0 \le x_3 \le a_3;\\ \sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; x_3 = 0; 0 \le x_1 \le a_1; 0 \le x_2 \le a_2;\\ U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = a_3; 0 \le x_1 \le a_1; 0 \le x_2 \le a_2.\end{array}$$

The Answer to Problem (L3C) 10.50 **for bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

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## Problem (L3C) 10.51

$$\begin{array}{l}\sigma_{11}^{(k)} = U_2^{(k)} = U_3^{(k)} = 0; x_1 = 0; 0 \le x_2 \le a_2; 0 \le x_3 \le a_3;\\ U_1^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0; x_1 = a_1, 0 \le x_2 \le a_2; 0 \le x_3 \le a_3;\\ \sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0; x_2 = 0, a_2; 0 \le x_1 \le a_1; 0 \le x_3 \le a_3;\\ U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = 0; 0 \le x_1 \le a_1; 0 \le x_2 \le a_2;\\ \sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; x_3 = a_3; 0 \le x_1 \le a_1; 0 \le x_2 \le a_2.\end{array}$$

The Answer to Problem (L3C) 10.51 **for bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

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## Problem (L3C) 10.52

$$\begin{aligned}
&\sigma_{11}^{(k)} = U_2^{(k)} = U_3^{(k)} = 0; x_1 = 0,\ 0 \le x_2 \le a_2;\ 0 \le x_3 \le a_3;\\
&U_1^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0; x_1 = a_1;\ 0 \le x_2 \le a_2;\ 0 \le x_3 \le a_3;\\
&U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0; x_2 = 0, a_2;\ 0 \le x_1 \le a_1;\ 0 \le x_3 \le a_3;\\
&\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; x_3 = 0;\ 0 \le x_1 \le a_1;\ 0 \le x_2 \le a_2;\\
&U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = a_3;\ 0 \le x_1 \le a_1;\ 0 \le x_2 \le a_2.
\end{aligned}$$

The Answer to Problem (L3C) 10.52 **for bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

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## Problem (L3C) 10.53

$$\begin{aligned}
&\sigma_{11}^{(k)} = U_2^{(k)} = U_3^{(k)} = 0; x_1 = 0,\ 0 \le x_2 \le a_2;\ 0 \le x_3 \le a_3;\\
&U_1^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0; x_1 = a_1;\ 0 \le x_2 \le a_2;\ 0 \le x_3 \le a_3;\\
&U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0; x_2 = 0, a_2;\ 0 \le x_1 \le a_1;\ 0 \le x_3 \le a_3;\\
&U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = 0;\ 0 \le x_1 \le a_1;\ 0 \le x_2 \le a_2;\\
&\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; x_3 = a_3;\ 0 \le x_1 \le a_1;\ 0 \le x_2 \le a_2.
\end{aligned}$$

The Answer to Problem (L3C) 10.53 **for bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 10.54

$$\begin{aligned}
&\sigma_{11}^{(k)} = U_2^{(k)} = U_3^{(k)} = 0; x_1 = 0,\ 0 \le x_2 \le a_2;\ 0 \le x_3 \le a_3;\\
&U_1^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0; x_1 = a_1;\ 0 \le x_2 \le a_2;\ 0 \le x_3 \le a_3;\\
&\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0; x_2 = 0;\ 0 \le x_1 \le a_1;\ 0 \le x_3 \le a_3;\\
&U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0; x_2 = a_2;\ 0 \le x_1 \le a_1;\ 0 \le x_3 \le a_3;\\
&\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; x_3 = 0; a_3;\ 0 \le x_1 \le a_1;\ 0 \le x_2 \le a_2.
\end{aligned}$$

The Answer to Problem (L3C) 10.54 **for bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 10.55

$$\sigma_{11}^{(k)} = U_2^{(k)} = U_3^{(k)} = 0; x_1 = 0,\ 0 \le x_2 \le a_2; 0 \le x_3 \le a_3;$$
$$U_1^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0; x_1 = a_1; 0 \le x_2 \le a_2; 0 \le x_3 \le a_3;$$
$$U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0; x_2 = 0; 0 \le x_1 \le a_1; 0 \le x_3 \le a_3;$$
$$\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0; x_2 = a_2; 0 \le x_1 \le a_1; 0 \le x_3 \le a_3;$$
$$U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = 0, a_3; 0 \le x_1 \le a_1; 0 \le x_2 \le a_2.$$

The Answer to Problem (L3C) 10.55 **for bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 10.56

$$\sigma_{11}^{(k)} = U_2^{(k)} = U_3^{(k)} = 0; x_1 = 0,\ 0 \le x_2 \le a_2; 0 \le x_3 \le a_3;$$
$$U_1^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0; x_1 = a_1; 0 \le x_2 \le a_2; 0 \le x_3 \le a_3;$$
$$U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0; x_2 = 0; 0 \le x_1 \le a_1; 0 \le x_3 \le a_3;$$
$$\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0; x_2 = a_2; 0 \le x_1 \le a_1; 0 \le x_3 \le a_3;$$
$$\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; x_3 = 0, a_3; 0 \le x_1 \le a_1; 0 \le x_2 \le a_2.$$

The Answer to Problem (L3C) 10.56 **for bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 10.57

$$\sigma_{11}^{(k)} = U_2^{(k)} = U_3^{(k)} = 0; x_1 = 0,\ 0 \le x_2 \le a_2; 0 \le x_3 \le a_3;$$
$$U_1^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0; x_1 = a_1; 0 \le x_2 \le a_2; 0 \le x_3 \le a_3;$$
$$\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0; x_2 = 0; 0 \le x_1 \le a_1; 0 \le x_3 \le a_3;$$
$$U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0; x_2 = a_2; 0 \le x_1 \le a_1; 0 \le x_3 \le a_3;$$
$$U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = 0, a_3; 0 \le x_1 \le a_1; 0 \le x_2 \le a_2.$$

The Answer to Problem (L3C) 10.57 **for bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

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## Problem (L3C) 10.58

$$\begin{array}{l}
\sigma_{11}^{(k)} = U_2^{(k)} = U_3^{(k)} = 0; x_1 = 0,\ 0 \le x_2 \le a_2;\ 0 \le x_3 \le a_3; \\
U_1^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0; x_1 = a_1;\ 0 \le x_2 \le a_2;\ 0 \le x_3 \le a_3; \\
U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0; x_2 = 0;\ 0 \le x_1 \le a_1;\ 0 \le x_3 \le a_3; \\
\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0; x_2 = a_2;\ 0 \le x_1 \le a_1;\ 0 \le x_3 \le a_3; \\
U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = 0;\ 0 \le x_1 \le a_1;\ 0 \le x_2 \le a_2; \\
\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; x_3 = a_3;\ 0 \le x_1 \le a_1;\ 0 \le x_2 \le a_2.
\end{array}$$

The Answer to Problem (L3C) 10.58 **for bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 10.59

$$\begin{array}{l}
\sigma_{11}^{(k)} = U_2^{(k)} = U_3^{(k)} = 0; x_1 = 0,\ 0 \le x_2 \le a_2;\ 0 \le x_3 \le a_3; \\
U_1^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0; x_1 = a_1;\ 0 \le x_2 \le a_2;\ 0 \le x_3 \le a_3; \\
U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0; x_2 = 0;\ 0 \le x_1 \le a_1;\ 0 \le x_3 \le a_3; \\
\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0; x_2 = a_2;\ 0 \le x_1 \le a_1;\ 0 \le x_3 \le a_3; \\
\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; x_3 = 0;\ 0 \le x_1 \le a_1;\ 0 \le x_2 \le a_2; \\
U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = a_3;\ 0 \le x_1 \le a_1;\ 0 \le x_2 \le a_2.
\end{array}$$

The Answer to Problem (L3C) 10.59 **for bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 10.60

$$\begin{array}{l}
\sigma_{11}^{(k)} = U_2^{(k)} = U_3^{(k)} = 0; x_1 = 0,\ 0 \le x_2 \le a_2;\ 0 \le x_3 \le a_3; \\
U_1^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0; x_1 = a_1;\ 0 \le x_2 \le a_2;\ 0 \le x_3 \le a_3; \\
\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0; x_2 = 0;\ 0 \le x_1 \le a_1;\ 0 \le x_3 \le a_3; \\
U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0; x_2 = a_2;\ 0 \le x_1 \le a_1;\ 0 \le x_3 \le a_3; \\
\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; x_3 = 0;\ 0 \le x_1 \le a_1;\ 0 \le x_2 \le a_2; \\
U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = a_3;\ 0 \le x_1 \le a_1;\ 0 \le x_2 \le a_2.
\end{array}$$

The Answer to Problem (L3C) 10.60 **for bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)

## Problem (L3C) 10.61

$$\sigma_{11}^{(k)} = U_2^{(k)} = U_3^{(k)} = 0; x_1 = 0,\ 0 \le x_2 \le a_2;\ 0 \le x_3 \le a_3;$$
$$U_1^{(k)} = \sigma_{12}^{(k)} = \sigma_{13}^{(k)} = 0; x_1 = a_1;\ 0 \le x_2 \le a_2;\ 0 \le x_3 \le a_3;$$
$$\sigma_{22}^{(k)} = U_1^{(k)} = U_3^{(k)} = 0; x_2 = 0;\ 0 \le x_1 \le a_1;\ 0 \le x_3 \le a_3;$$
$$U_2^{(k)} = \sigma_{21}^{(k)} = \sigma_{23}^{(k)} = 0; x_2 = a_2;\ 0 \le x_1 \le a_1;\ 0 \le x_3 \le a_3;$$
$$U_3^{(k)} = \sigma_{31}^{(k)} = \sigma_{32}^{(k)} = 0; x_3 = 0;\ 0 \le x_1 \le a_1;\ 0 \le x_2 \le a_2;$$
$$\sigma_{33}^{(k)} = U_1^{(k)} = U_2^{(k)} = 0; x_3 = a_3;\ 0 \le x_1 \le a_1;\ 0 \le x_2 \le a_2.$$

The Answer to Problem (L3C) 10.61 **for bounded parallelepiped** (Green's tensor for Lame's equation in Cartesian coordinates) can be found in the book:

Seremet V.D. Handbook of Green's functions and matrices - WIT press, Southampton and Boston, UK&USA, 2003, Book 304 p. + CD ROM, 232 p. (in English)