

## NUMERICKA RJEŠENJA ZADATAKA

### 2 REDUKCIJA SKUPA SILA

- 2.1  $F_{Rx} = 172,4 \text{ N}$ ,  $F_{Ry} = 281,1 \text{ N}$ ,  $F_{Rz} = 291,3 \text{ N}$ ,  $F_R \approx 440 \text{ N}$ ,  $\alpha = 66,93^\circ$ ,  
 $\beta = 50,29^\circ$ ,  $\gamma = 48,55^\circ$ ,  $M_x = -133,2 \text{ N}\cdot\text{m}$ ,  $M_y = 83,18 \text{ N}\cdot\text{m}$ ,  $M_z = -7,3 \text{ N}\cdot\text{m}$ ,  
 $M_O = 157,2 \text{ N}\cdot\text{m}$ ,  $\varphi = 147,92^\circ$ ,  $\psi = 58,06^\circ$ ,  $\vartheta = 92,66^\circ$ ,  $\delta = 91,42^\circ$  ( $\angle \vec{F}_R, \vec{M}_O$ ).
- 2.2  $F_R = 11,18 \text{ N}$ ,  $M_A = -22 \text{ N}\cdot\text{cm}$ .
- 2.3  $F_{Rx} = -2,243 \text{ kN}$ ,  $F_{Ry} = 1,414 \text{ kN}$ ,  $F_R = 2,65 \text{ kN}$ ,  $M_A = -7,7 \text{ kN}\cdot\text{m}$ .
- 2.4  $F_{Rx} = -0,84 \text{ kN}$ ,  $F_{Ry} = -2,12 \text{ kN}$ ,  $F_R = 2,28 \text{ kN}$ ,  $M_A = -4,68 \text{ kN}\cdot\text{m}$ .
- 2.5  $F_{Rx} = -180 \text{ N}$ ,  $F_{Ry} = 90 \text{ N}$ ,  $F_R = 201,25 \text{ N}$ ,  $\alpha_R = 153,43^\circ$ ,  $M_A = -10 \text{ N}\cdot\text{m}$ .
- 2.6  $F_{Rx} = -30,62 \text{ kN}$ ,  $F_{Ry} = -30 \text{ kN}$ ,  $F_{Rz} = 27,43 \text{ kN}$ ,  $F_R = 50,89 \text{ kN}$ ,  $M_x = -6,11 \text{ kN}\cdot\text{m}$ ,  
 $M_y = 3,12 \text{ kN}\cdot\text{m}$ ,  $M_z = -13,75 \text{ kN}\cdot\text{m}$ ,  $M_O = 15,36 \text{ kN}\cdot\text{m}$ .

### 4 UVJETI RAVNOTEŽE TIJELA

- 4.1  $S_1 = 3 \text{ kN}$ ,  $S_2 = -5 \text{ kN}$ ,  $S_3 = -4,24 \text{ kN}$ ,  $S_4 = -1 \text{ kN}$ ,  $S_5 = 4 \text{ kN}$ ,  $S_6 = -5,83 \text{ kN}$ .
- 4.2  $S_1 = -5 \text{ kN}$ ,  $S_2 = 2 \text{ kN}$ ,  $S_3 = -3,61 \text{ kN}$ ,  $S_4 = 0$ ,  $S_5 = 4 \text{ kN}$ ,  $S_6 = -5,39 \text{ kN}$ .
- 4.3  $F_{Ax} = 194,8 \text{ N}$ ,  $F_{Ay} = 237,55 \text{ N}$ ,  $F_A = 307,2 \text{ N}$ ,  $F_{Bx} = 5,23 \text{ N}$ ,  $F_{By} = 22,25 \text{ N}$ ,  
 $F_{Bz} = 496,4 \text{ N}$ ,  $F_B = 496,9 \text{ N}$ .
- 4.4  $F_{Ax} = 400 \text{ N}$ ,  $F_{Az} = -50 \text{ N}$ ,  $F_A = 403,1 \text{ N}$ ,  $F_{Bx} = 0$ ,  $F_{By} = 400 \text{ N}$ ,  $F_{Bz} = 0$ ,  
 $F_S = 640 \text{ N}$ .
- 4.5  $S_1 = 195 \text{ N}$ ,  $S_2 = 137,5 \text{ N}$ ,  $F_{Ax} = 0$ ,  $F_{Ay} = 300 \text{ N}$ ,  $F_{Az} = 75 \text{ N}$ ,  $F_A = 309,2 \text{ N}$ .
- 4.6  $F_S = 1340 \text{ N}$ ,  $F_{Ax} = -870,33 \text{ N}$ ,  $F_{Az} = 670 \text{ N}$ ,  $F_A = 1098,35 \text{ N}$ ,  $F_{Bz} = 0$ ,  
 $F_{Bx} = 2030,77 \text{ N} = F_B$ .
- 4.7  $S_1 = 1236,9 \text{ N}$ ,  $S_2 = 0$ ,  $S_3 = -540,8 \text{ N}$ ,  
 $F_{Ax} = 600 \text{ N}$ ,  $F_{Ay} = 450 \text{ N}$ ,  $F_{Az} = 0$ ,  $F_A = 750 \text{ N}$ .
- 4.8  $S_{CD} = 544,7 \text{ N}$ ,  $F_S = 143,75 \text{ N}$ ,  $F_{Ax} = -116,04 \text{ N}$ ,  $F_{Ay} = 587,1 \text{ N}$ ,  $F_{Az} = 36,6 \text{ N}$ ,  
 $F_A = 599,6 \text{ N}$ .
- 4.9  $S_1 = 0,75 \text{ kN}$ ,  $S_2 = 0,375 \text{ kN}$ ,  $F_{Ax} = -0,47 \text{ kN}$ ,  $F_{Ay} = 8 \text{ kN}$ ,  $F_{Az} = 1,833 \text{ kN}$ ,  
 $F_{Bx} = -2,156 \text{ kN}$ ,  $F_{Bz} = 1,167 \text{ kN}$ ,  $F_A = 8,22 \text{ kN}$ ,  $F_B = 2,45 \text{ kN}$ .
- 4.10  $S_1 = 326,67 \text{ N}$ ,  $S_2 = 105 \text{ N}$ ,  
 $F_{Ax} = -23,33 \text{ N}$ ,  $F_{Ay} = 350 \text{ N}$ ,  $F_{Az} = 105 \text{ N}$ ,  $F_A = 366,15 \text{ N}$ .
- 4.11  $S = -500 \text{ N}$ ,  $F_{Ax} = 0$ ,  $F_{Ay} = -371,3 \text{ N}$ ,  $F_{Az} = 0$ ,  $F_A = 371,3 \text{ N}$ ,  
 $F_{Bx} = -222,8 \text{ N}$ ,  $F_{Bz} = 250 \text{ N}$ ,  $F_B = 334,9 \text{ N}$ .