

$$4.21 \quad \frac{v_1}{v_2} = 2,2307, \quad \frac{c_1}{c_2} = 2,366, \\ k = 0,224$$

$$4.22 \quad c_L = 66 \text{ m/s}, F = 152 \text{ N}$$

$$4.23 \quad c_A = 5,4 \text{ m/s}, m_A = 1824,6 \text{ kg}, \\ \Delta s = 28,7054 \text{ m}, F_{BA} = 83,2 \text{ kN}$$

$$4.24 \quad c_A = -1,5 \text{ m/s}, c_B = 5,5 \text{ m/s}, \\ F_{BA} = -35 \text{ kN}, \\ \Delta s = 165,65 \text{ m}$$

$$4.25 \quad c_A = -2,545 \text{ m/s}, \\ c_B = 0,6545 \text{ m/s}, \\ h = 0,0218 \text{ m} = 21,8 \text{ mm}$$

$$4.26 \quad \vec{v}_A = -60\vec{i} + 4\vec{j}, \quad \vec{c}_B = -55\vec{i}$$

$$4.27 \quad \vec{v}_A = -3,797\vec{i}, \\ \vec{v}_B = 2,378\vec{i} - 6,062\vec{j}$$

Momenti tromosti tijela

$$5.1.1 \quad J_{z2} = \frac{m}{3}(a^2 + b^2)$$

$$5.1.2 \quad J_{yz} = \frac{F_G a^2}{12g}, \quad J_{zx} = 0, \quad J_{xy} = 0$$

$$5.1.3 \quad J_z = \frac{\pi \rho r_2^4 A}{10} + \\ + \frac{\pi \rho B^2}{10}(r_1^3 + r_2 C^2),$$

$$\text{gdje su: } A = a + 5b + c, \\ B^2 = ar_1,$$

$$C^2 = r_1^2 + r_1 r_2 + r_2^2, \quad h = \frac{ar_1}{r_1 - r_2}$$

$$5.1.4 \quad J = J_v + J_r + J_g \\ J = 190,73 + 13,32 + 0,69 = \\ = 204,74 \text{ kg} \cdot \text{m}^2$$

$$5.1.5 \quad m = 146,34 \text{ kg}, \\ J = 4,622 \text{ kg} \cdot \text{m}^2$$

$$5.1.6 \quad J_{zx} = -0,05147 \cdot 10^{-6} \text{ kg} \cdot \text{m}^2$$

$$5.1.7 \quad J_{zx} = -0,010857 \text{ kg} \cdot \text{m}^2$$

$$5.1.8 \quad J_x = 4,958 \text{ kg} \cdot \text{m}^2, \\ J_y = 13,167 \text{ kg} \cdot \text{m}^2$$

$$5.1.9 \quad J_x = 0,367 \text{ kg} \cdot \text{m}^2$$

$$5.1.10 \quad J_{y1} = \frac{mr^2}{2},$$

$$J_y = mr^2 \left(\frac{1}{2} - \frac{16}{9} \frac{\sin^2 \frac{\alpha}{2}}{\alpha^2} \right)$$

$$5.1.11 \quad J_x = 0,1987 \text{ kg m}^2$$

$$5.1.12 \quad J_x = \frac{3mr^2}{2}$$

$$5.1.13 \quad J_x = mr^2 \left(\frac{3}{2} - \frac{4}{\pi} \right)$$

$$5.1.14 \quad J_x = 2,58 \text{ kg m}^2$$

$$5.1.15 \quad x_s = 1 \text{ cm}, \\ J_s = 0,0185 \text{ kg m}^2$$