Ravninsko gibanje krutog tijela

5.4.1 a) $a = 2{,}8$ m/s^2, b) $a = 3{,}4$ m/s^2,

5.4.2 $a_2 = 7{,}01$ m/s^2, $F_{S1} = 532{,}5$ N, $F_{S2} = 168{,}2$ N, $F_{S3} = 655{,}2$ N, $F_{S4} = 45{,}6$ N

5.4.3 $a = \frac{2}{9}g$, $F_A = 10mg$, $F_B = 0$.

5.4.4 $a_S = 3{,}68$ m/s^2, $\alpha = 1{,}84$ rad/s^2

5.4.5 $c = 769{,}9$ N/m, $\omega = 2{,}817$ rad/s

5.4.6 $v_S = \sqrt{\frac{2}{3}gr}$

5.4.7 $F_S = 100$ N, $a = 6{,}54$ m/s^2

5.4.8 $a_S = F\cdot(R - r)\cdot[m\cdot R + (J_S/R)]^{-1}$, $\alpha = a_S/R$

5.4.9 $v = 6{,}025$ m/s

5.4.10 $a = 1{,}858$ m/s^2

5.4.11 $t = 3{,}4$ s

5.4.12 $F = 81{,}49$ N

5.4.13 $a_S = \frac{2F}{m}\cdot\frac{\cos^2\beta}{(1/3)+\cos^2\beta}$,

$\alpha = \frac{4F}{ml}\cdot\frac{\cos\beta}{(1/3)+\cos^2\beta}$,

$F_{nB} = F\cdot\frac{\frac{1}{3}-\cos^2\beta}{(1/3)+\cos^2\beta}$

5.4.14 a) $a_A = \frac{3g}{(4/\lambda)+\lambda}$,

b) $a_A = 0{,}3528\,g$,

c) $(a_A)_{max} = 0{,}75g$ za $\lambda = 2$

5.4.15 $r = 10{,}4$ cm

5.4.16 $\alpha = \frac{8g\left(R^3 - r^3\right)}{9\pi\left(R^4 + r^4\right)}$

5.4.17 $v_A = 1$ m/s

5.4.18 $a = 1{,}4$ m/s^2

5.4.19 $h_k = 7{,}14$ m

5.4.20 a) $h = 0{,}135$ m, b) $v_B = 1{,}33$ m/s

5.4.21 a) $\alpha = 5{,}163$ rad/s^2, b) $\mu = 0{,}056$

5.4.22 $\varphi = 55{,}15°$

5.4.23 a) $\alpha = 7{,}976$ rad/s^2, b) $\omega = 7{,}292$ rad/s

5.4.24 $a = 0{,}7124$ m/s^2, $S_1 = 73{,}163$ N, $S_3 = 76{,}724$ N

5.4.25 a) $v_1 = 1{,}522$ m/s, b) $a_1 = 0{,}7723$ m/s^2, c) $F_{s1} = 180{,}75$ N, d) $F_{s2} = 169{,}17$ N

5.4.26 a) $v_1 = 2{,}521$ m/s, b) $a_1 = 3{,}179$ m/s^2, c) $F_{s1} = 83{,}172$ N, d) $F_{s2} = 91{,}139$ N

5.4.27 $v_D = 0{,}7225\sqrt{g} = 2{,}263$ m/s

5.4.28 $\omega = 7{,}734$ rad/s