

Nr.	Mērījumi								Aprēķini, balstoties uz mērījumu datiem							
p. k.	h , m	H , m	m , kg	t_1 , s	t_2 , s	t_3 , s	t_4 , s	t_5 , s	\bar{t}	$\partial g/\partial m$	$\partial g/\partial M$	$\partial g/\partial h$	$\partial g/\partial H$	$\partial g/\partial t$	Δg	g
1	0,16	0,3	0,00560	0,944	0,932	0,952	0,922	0,947	0,9394	-118,685	38,3678	5,5817	-14,5653	3,3708	0,0093977	7,364405
2	0,16	0,3	0,01093	0,654	0,655	0,648	0,649	0,648	0,6508	-247,287	79,9415	16,7872	-30,3476	7,0233	0,0204950	8,185432
3	0,16	0,3	0,01653	0,529	0,522	0,531	0,527	0,521	0,5260	-378,552	122,3759	31,7954	-46,4566	10,7514	0,0327410	8,629760
4	0,20	0,26	0,01563	0,403	0,404	0,403	0,412	0,410	0,4064	-634,146	205,0030	68,9383	-77,8237	18,0106	0,0590518	9,128019
5	0,22	0,24	0,01563	0,349	0,353	0,360	0,358	0,352	0,3544	-833,891	269,5753	103,9538	-102,3368	23,6837	0,0817127	9,297788

\bar{h} , m	\bar{H} , m	\bar{m} , kg	δH , m	δh , m	M , kg	δt , s
0,18	0,28	0,012864	0,0005	0,0005	0,0619	0,001

$$\Delta g = \sqrt{\left(\frac{\partial g}{\partial m} \cdot \Delta m\right)^2 + \left(\frac{\partial g}{\partial M} \cdot \Delta M\right)^2 + \left(\frac{\partial g}{\partial h} \cdot \Delta h\right)^2 + \left(\frac{\partial g}{\partial H} \cdot \Delta H\right)^2 + \left(\frac{\partial g}{\partial t} \cdot \Delta t\right)^2}$$

$$\frac{\partial g}{\partial m} = \frac{H^2 \cdot 2mht^2 - (2M+m) \cdot H^2 \cdot 2Ht^2}{(2mht^2)^2} = \frac{2mH^3t^2 - 4MH^3t^2 - 2mH^3t^2}{4m^2h^2t^4} = \frac{-4MH^3t^2}{4m^2h^2t^4} = \frac{-MH}{m^2t^2}$$

$$\frac{\partial g}{\partial M} = \frac{2 \cdot H^2}{2 \cdot mht^2} = \frac{H^2}{mht^2}$$

$$\frac{\partial g}{\partial h} = \frac{(2M+m) \cdot H^2}{2mh} \cdot (-2t^{-3}) = \frac{(2M+m) \cdot H^2}{mht^3}$$

$$\frac{\partial g}{\partial H} = \frac{(2M+m) \cdot H^2}{2mt^2} \cdot (-h^{-2}) = \frac{-(2M+m) \cdot H^2}{2mh^2t^2}$$

$$\frac{\partial g}{\partial t} = \frac{(2M+m) \cdot 2H}{2mt^2} = \frac{(2M+m) \cdot H}{mt^2}$$

$$\Delta g = \sqrt{\frac{M^2 H^2}{m^4 t^4} \cdot (\Delta m)^2 + \frac{H^4}{(m^2 h^2 t^4)} \cdot (\Delta M)^2 + \frac{(2M+m)^2 \cdot H^2}{(m^2 t^4)} \cdot (\Delta H)^2 + \frac{(2M+m)^2 \cdot H^4}{4m^2 h^4 t^4} \cdot (\Delta h)^2 + \frac{(2M+m)^2 \cdot H^4}{(m^2 h^2 t^6)} \cdot (\Delta t)^2}$$

g_1	$7,3644 \pm 0,0094$ ms	$\varepsilon(g_1)$	0,13%
g_2	$8,1854 \pm 0,0205$ ms	$\varepsilon(g_2)$	0,25%
g_3	$8,6298 \pm 0,0327$ ms	$\varepsilon(g_3)$	0,38%
g_4	$9,128 \pm 0,0591$ ms	$\varepsilon(g_4)$	0,65%
g_5	$9,2978 \pm 0,0817$ ms	$\varepsilon(g_5)$	0,88%