

Še tri naloge

Aleš Mohorič

Presekov seminar 2025/26, 5. srečanje

Še tri naloge z IJSO 2025



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IJSO
SIRIUS, RUSSIA 2025



→ Na zadnji Mednarodni mladinski naravoslovni olimpijadi (22. IJSO 2025, Soči, Rusija) [1] so se avtorji nalog potrudili in na testu z nalogami izbirnega tipa postregli s pestro paletto vsebin [2]. Dve nalogi od desetih smo predstavili v prejšnji

Besedilo naloge je v opisu slike 1.



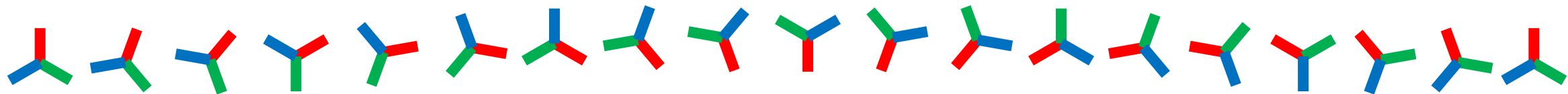
SLIKA 1.

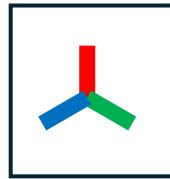
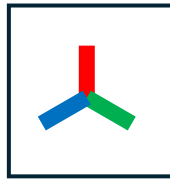
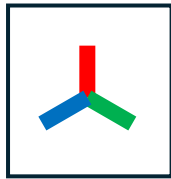
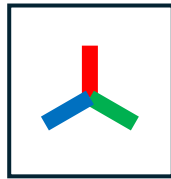
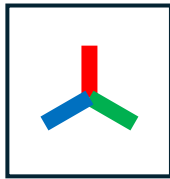
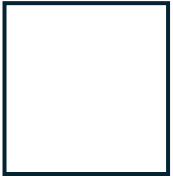
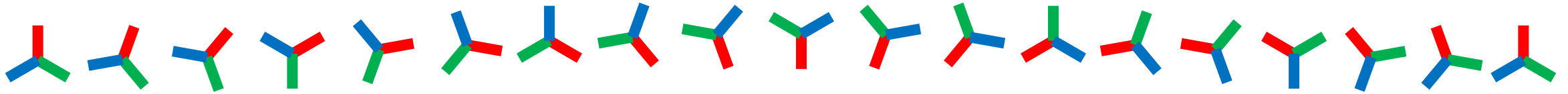
Naloga 1: Na posnetku je vrtavka med vrtenjem. V osi vrtavke je ležaj, radialno od osi pa je razporejenih več lopatic z utežmi. V posnetku, ki je bil posnet s kamero pametnega telefona s 30 sličicami na sekundo, si oglej, kako se vrtavka vrti. Na začetku

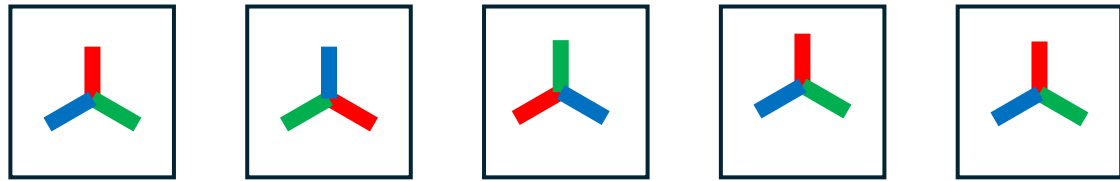
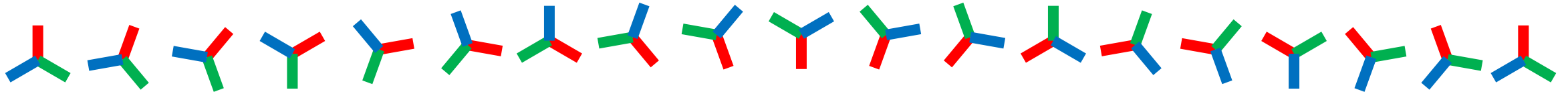
Vrtavka

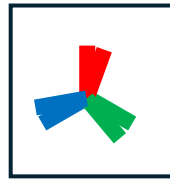
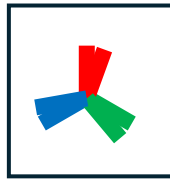
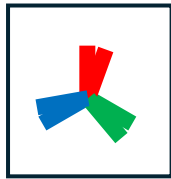
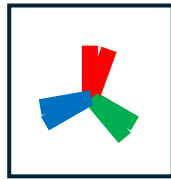
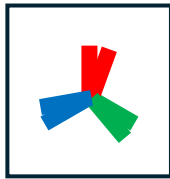
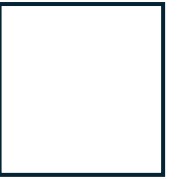
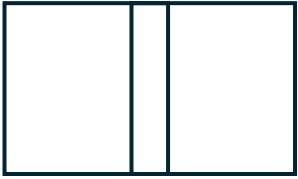
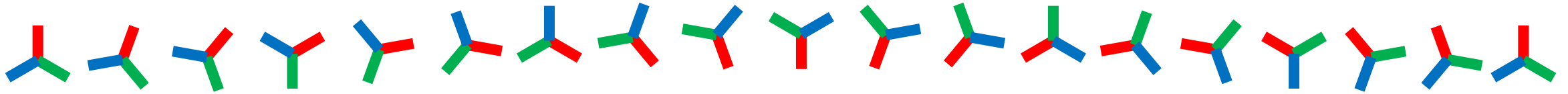


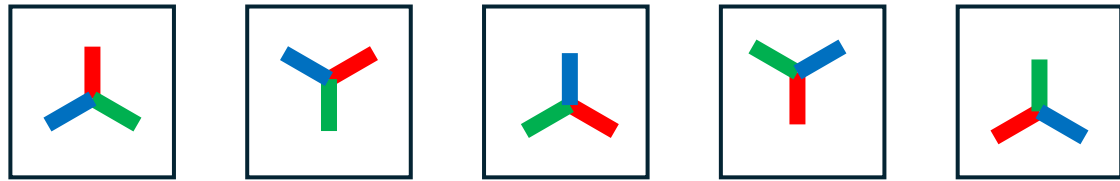
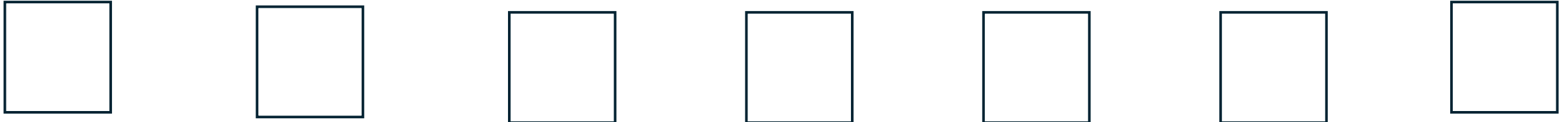
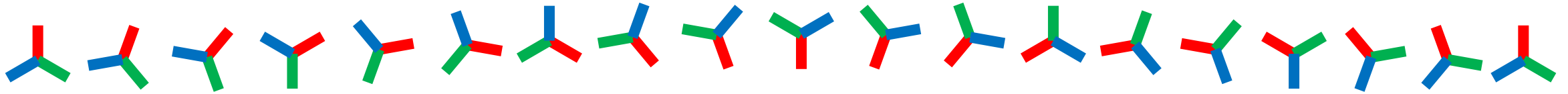
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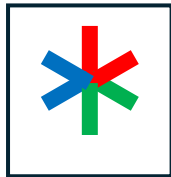
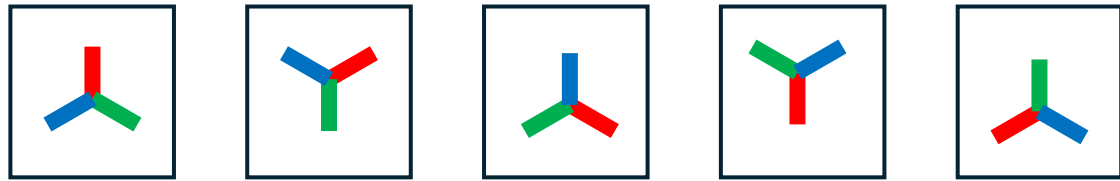
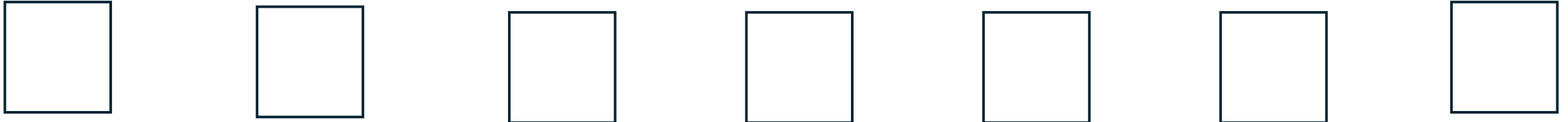
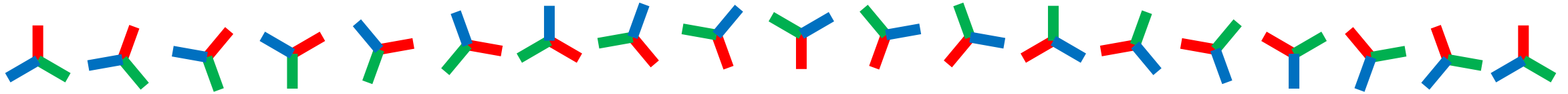




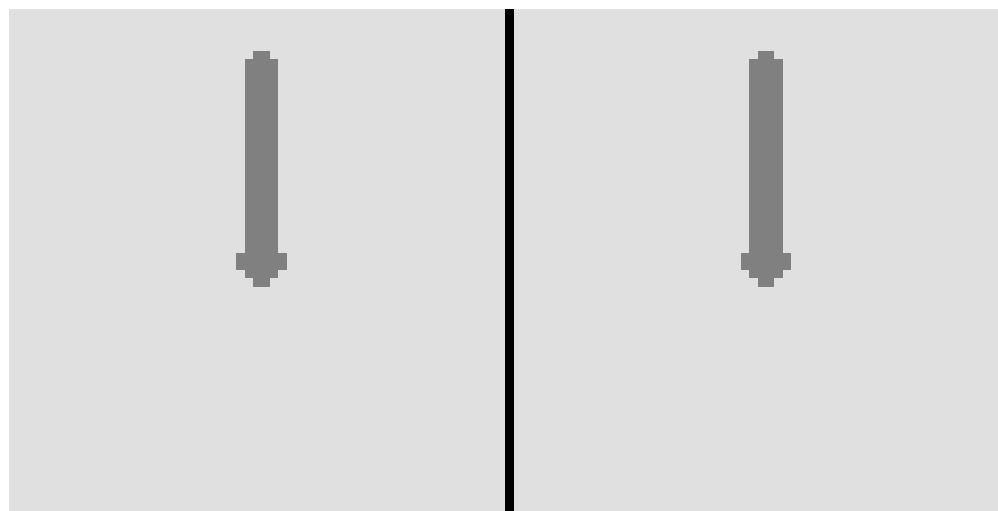




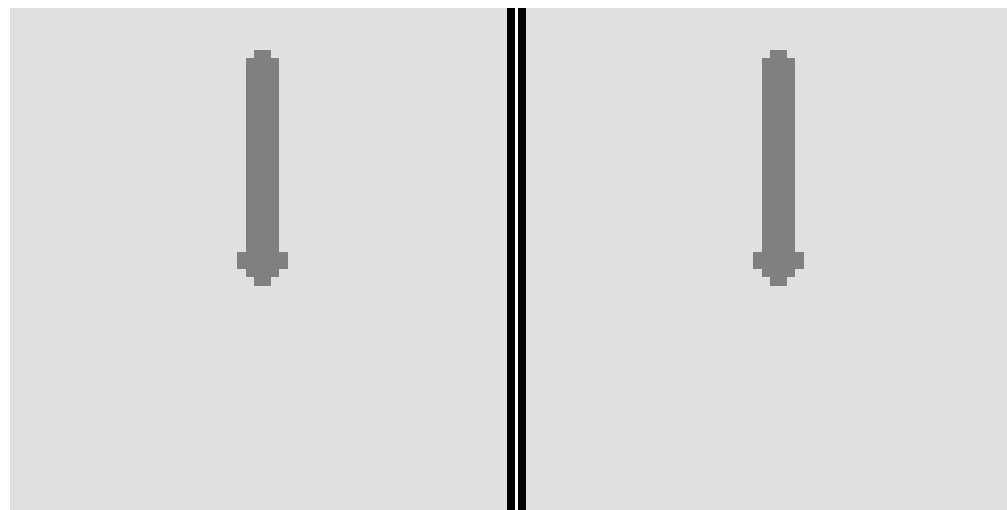




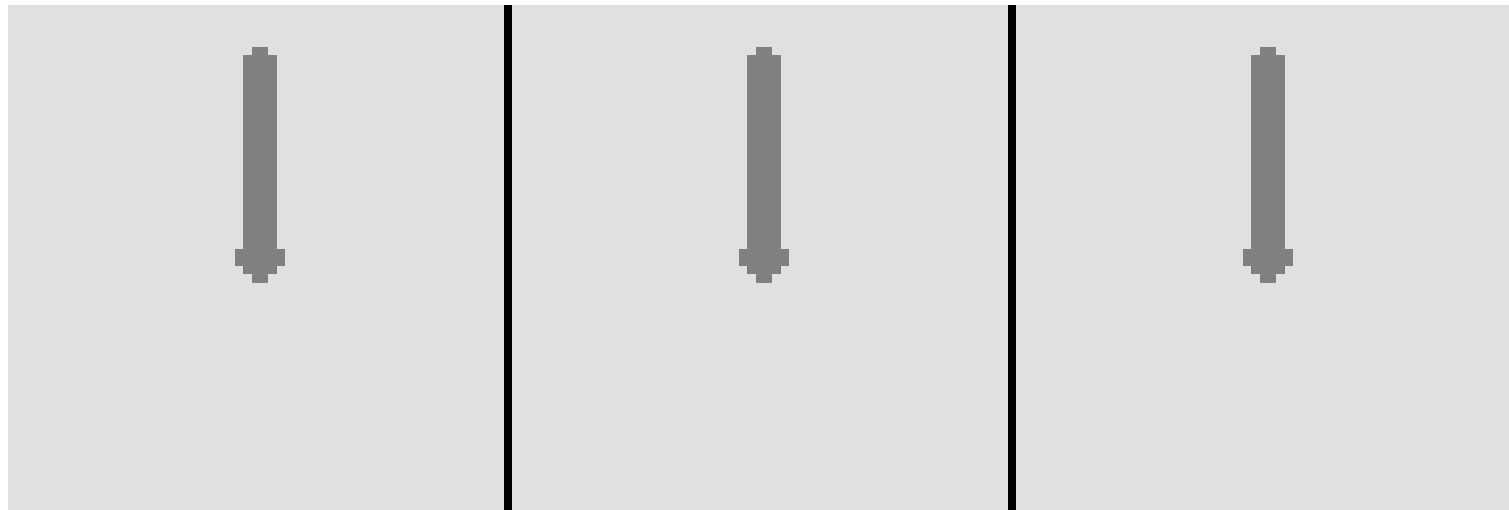
stroboskopski pojav



stroboskopski pojav

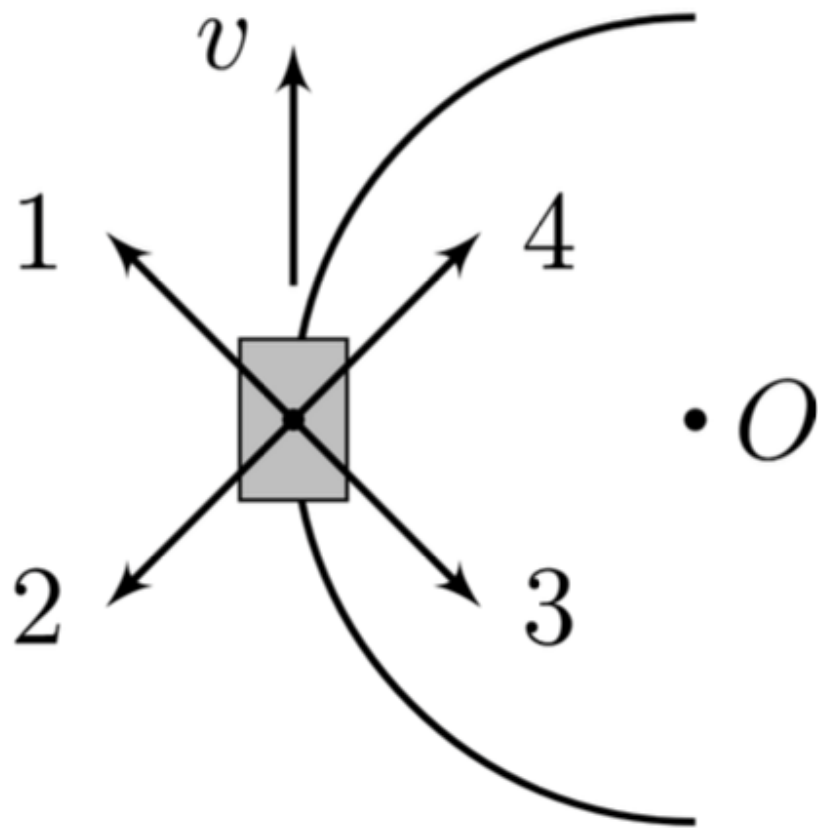


stroboskopski pojav

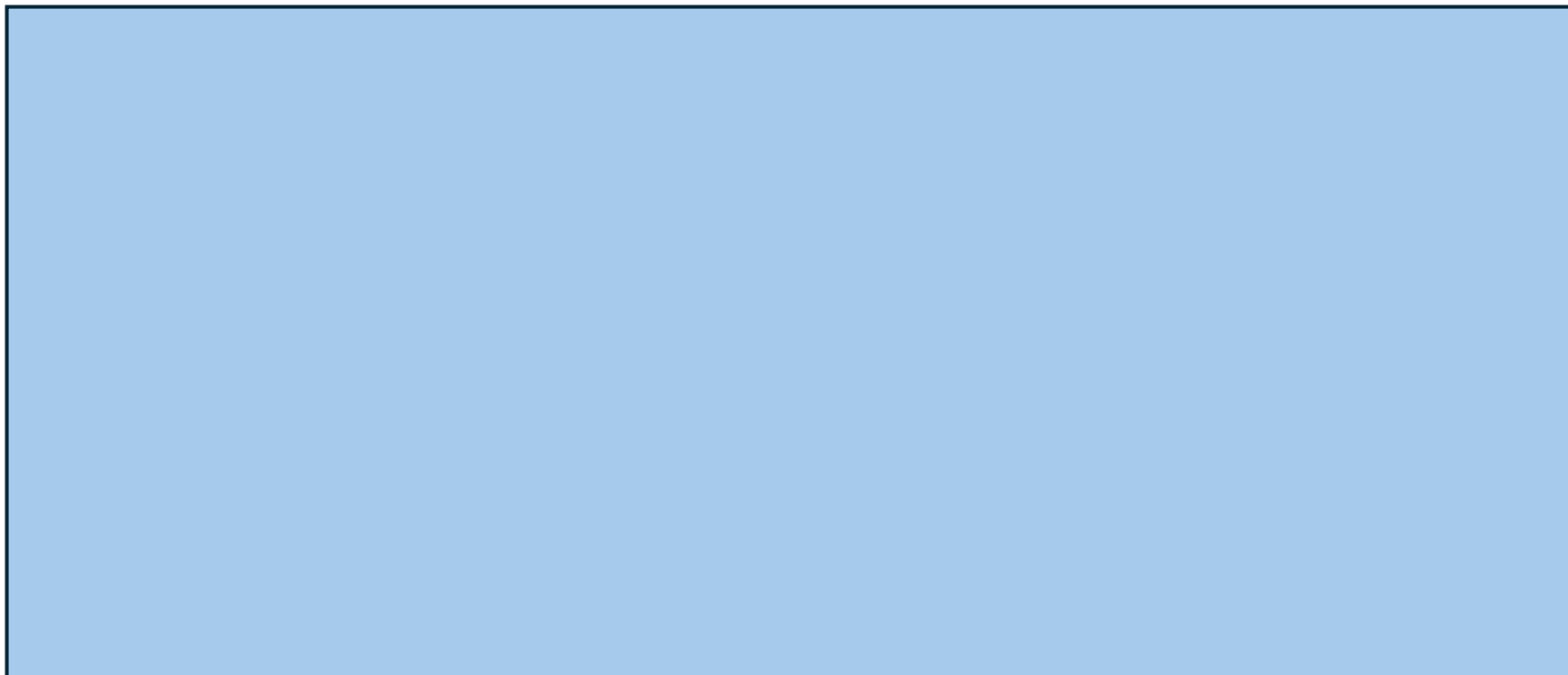


https://en.wikipedia.org/wiki/Stroboscopic_effect

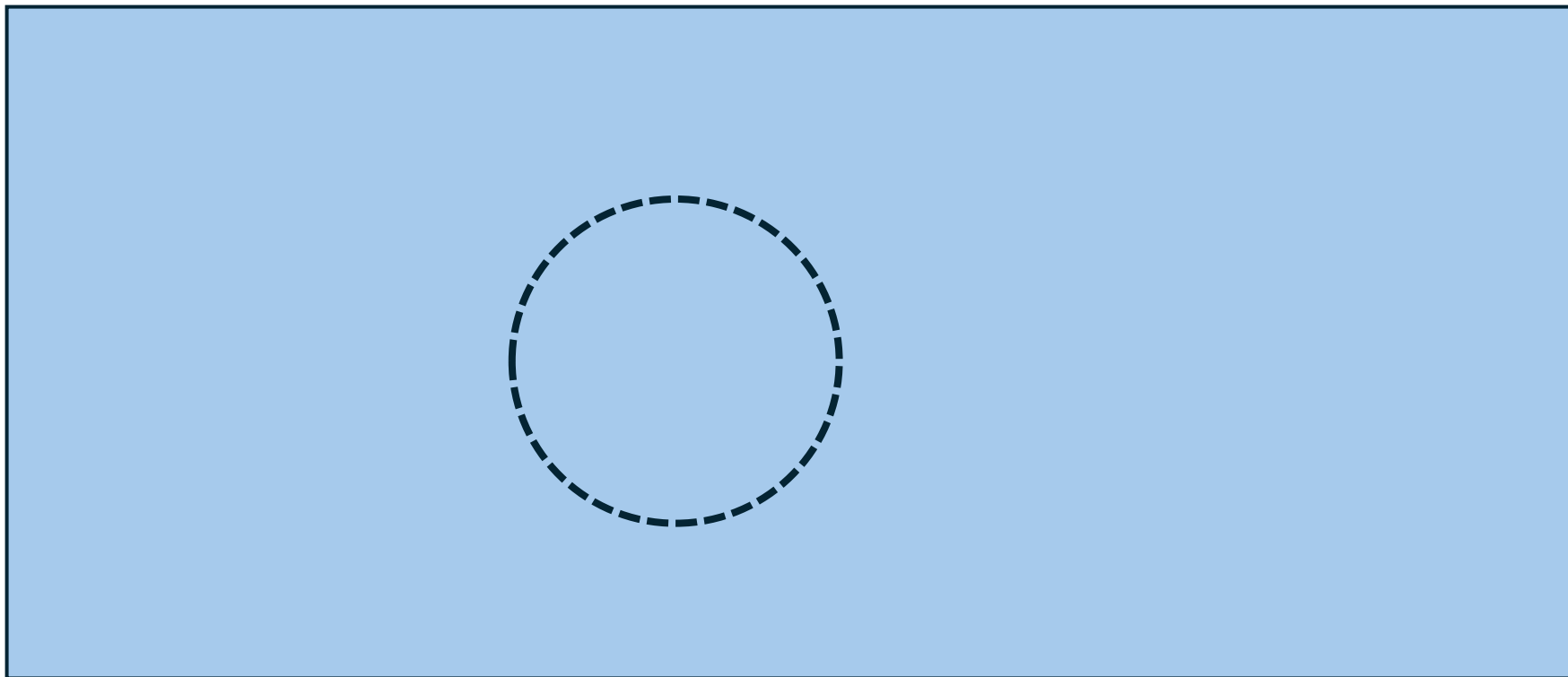
Helijev balon v avtomobilu, ki pospešuje



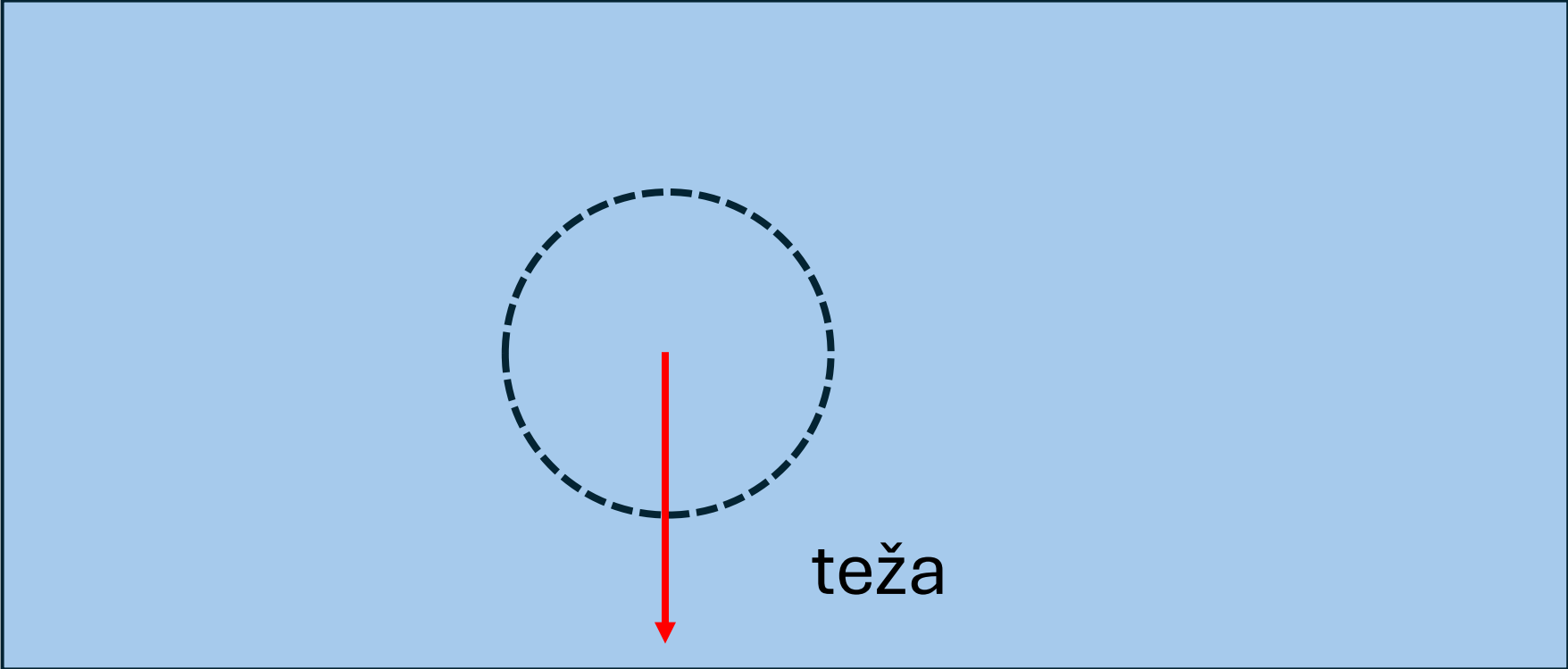
zrak



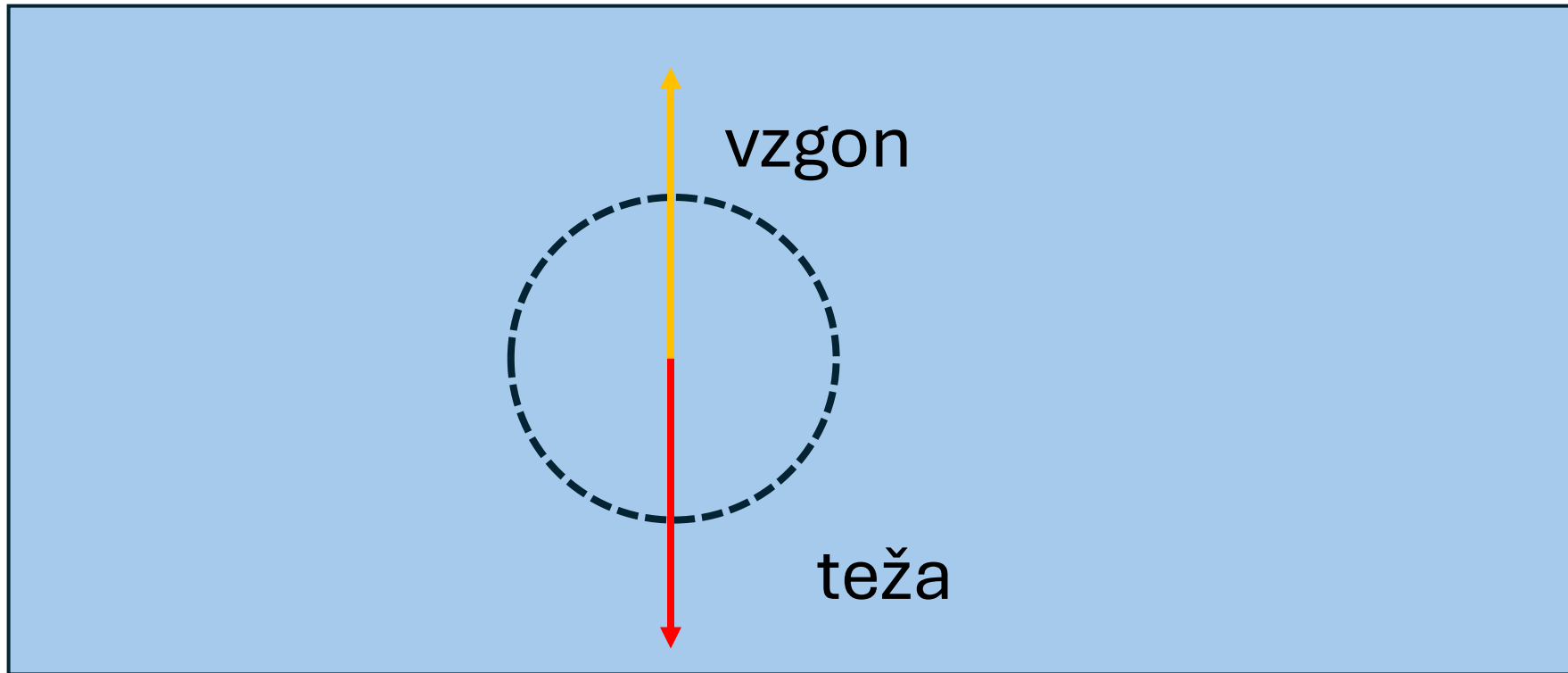
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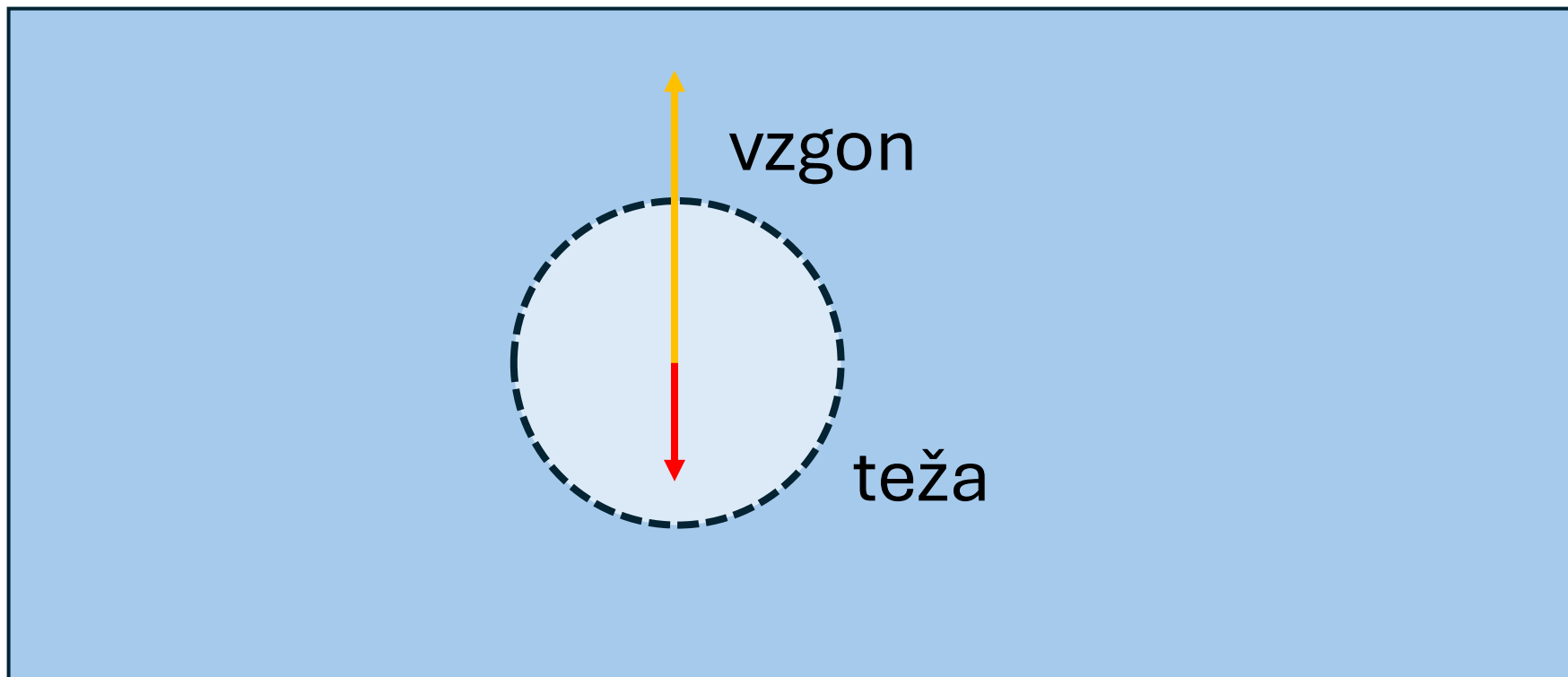
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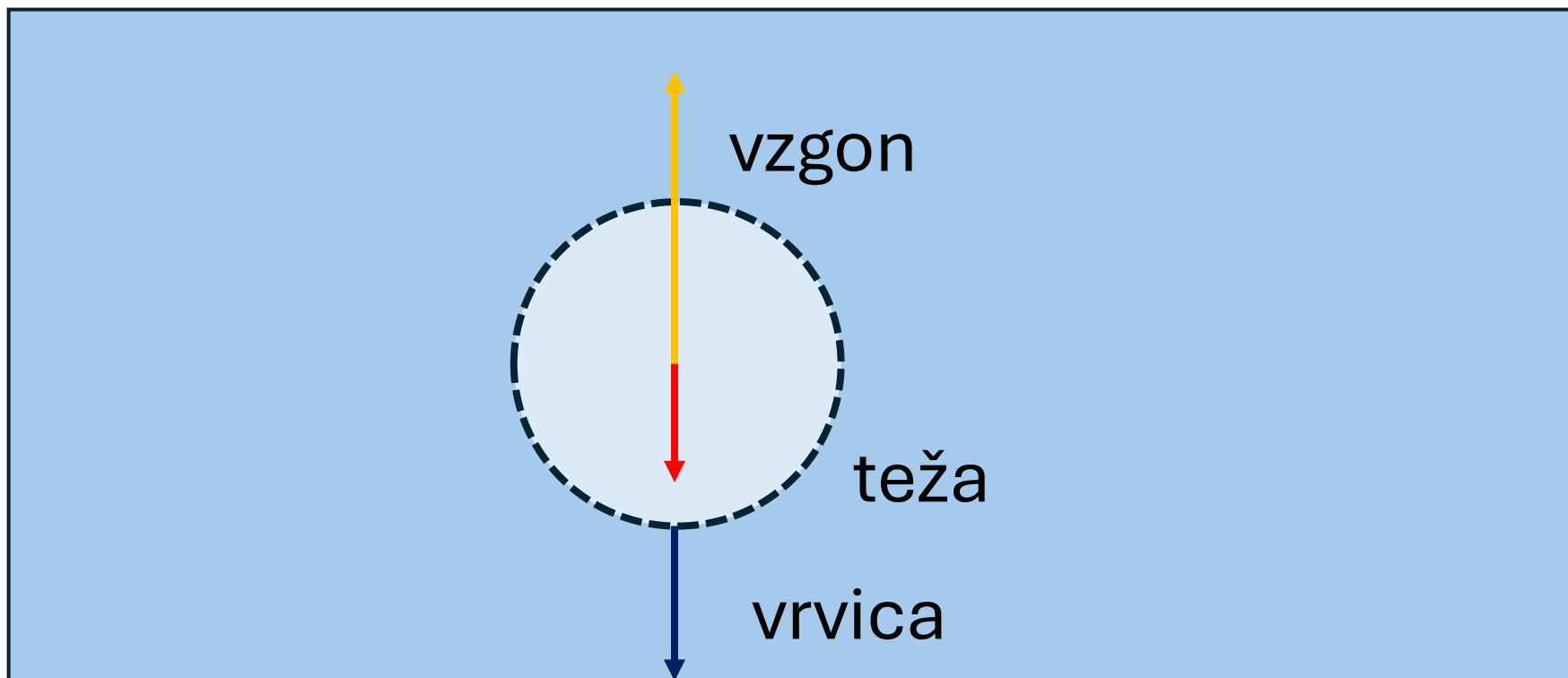
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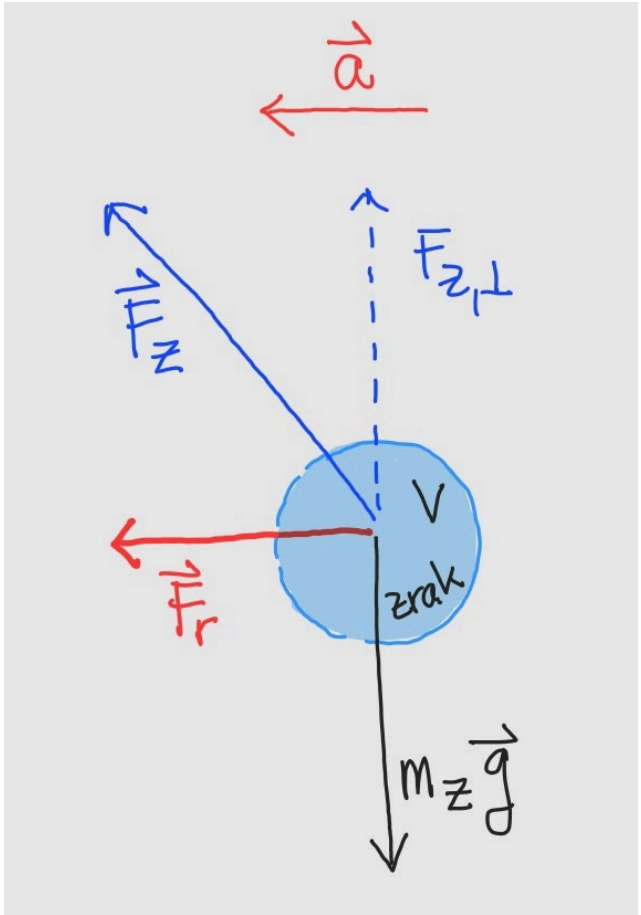


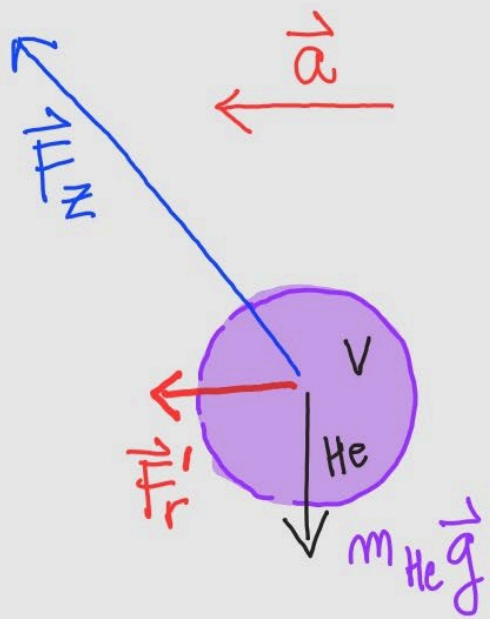
helijev balon



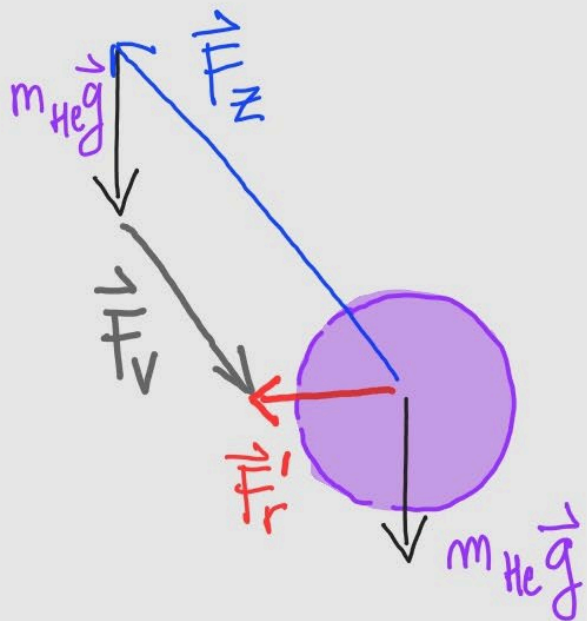
helijev balon



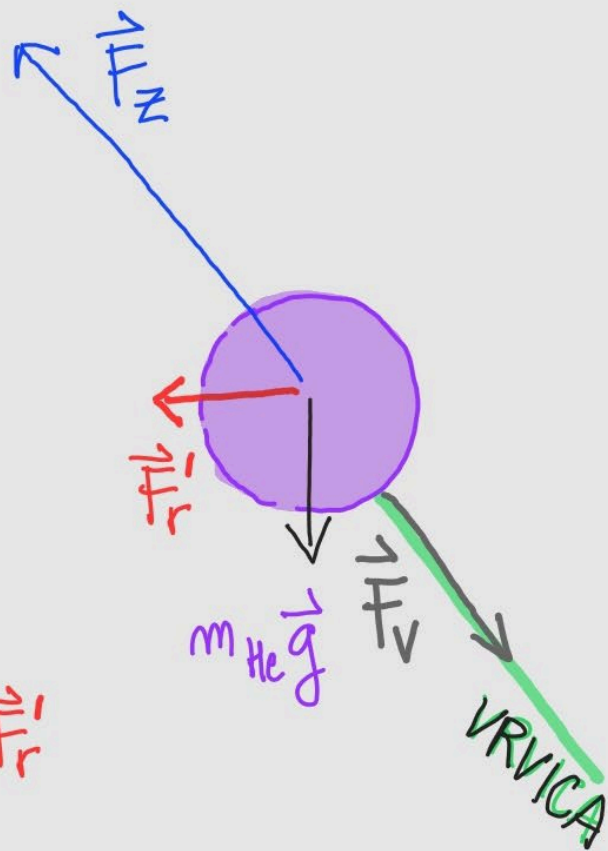




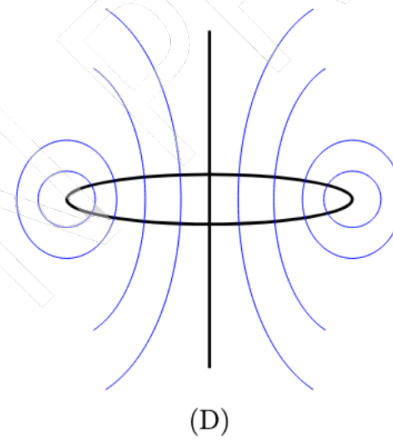
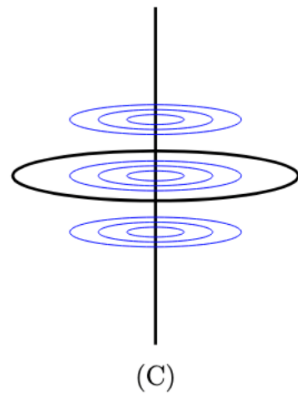
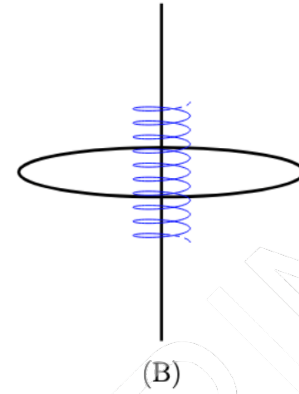
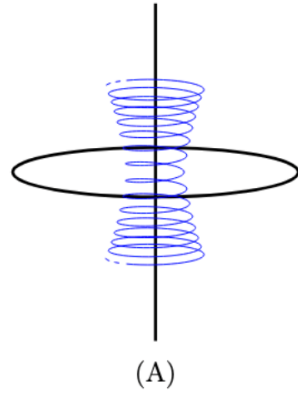
$$F_r' < F_r$$

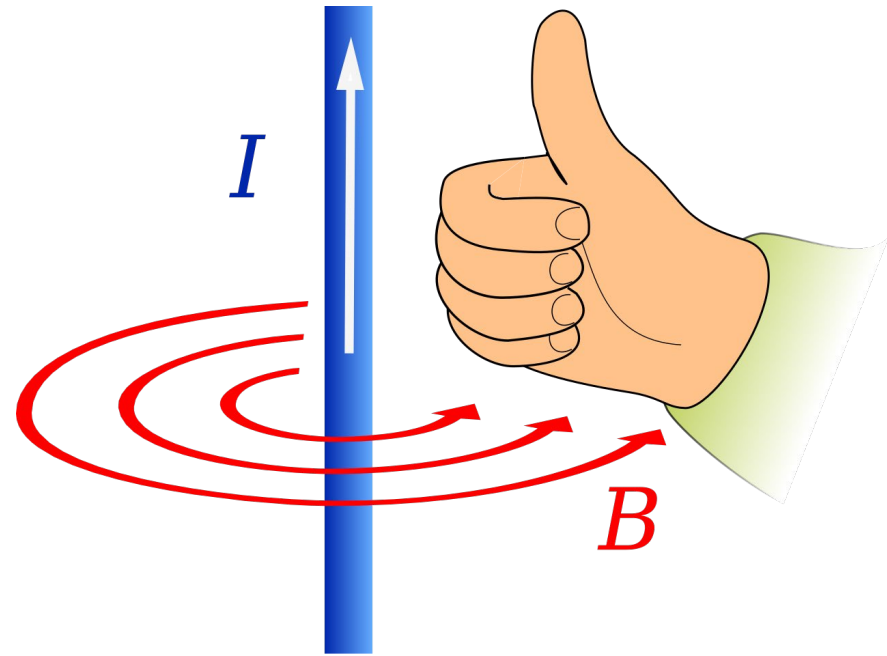
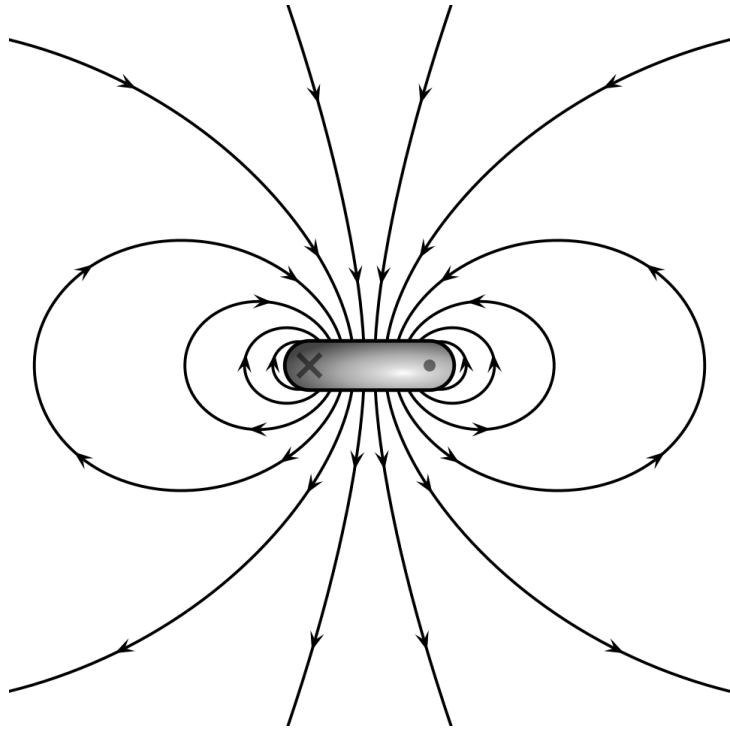


$$m_{He} \vec{g} + \vec{F}_N + \vec{F}_V = \vec{F}_r$$



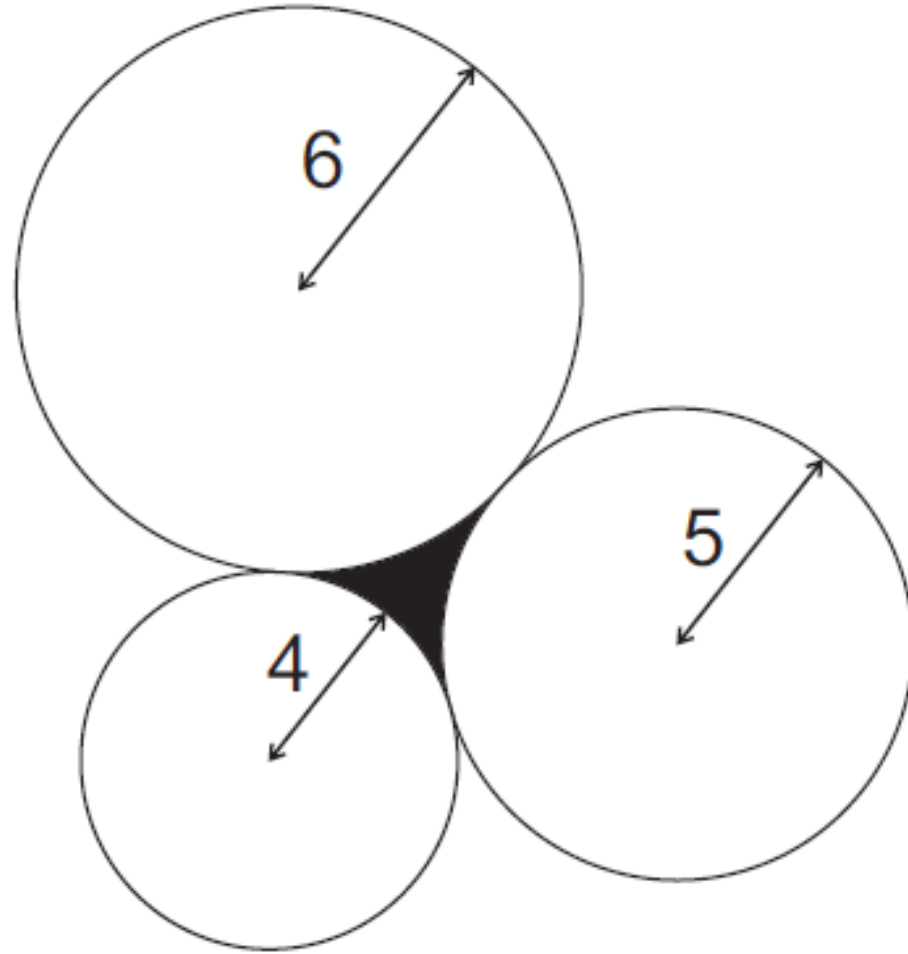
Magnetno polje okoli vodnikov





https://en.wikipedia.org/wiki/Magnetic_field

Ploščina?



→ Janez in Micka sta naročila eno pizzo s premerom 36 cm, Francelj in Francka pa dve s premerom po 24 cm. Kateri par je dobil več pizze?



→ Stenska ura je padla na tla in pri tem so odpadle vse številke s številčnice. Kako bi jih pravilno razporedili nazaj, če minutni in urni kazalec kažeta pravilno?



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