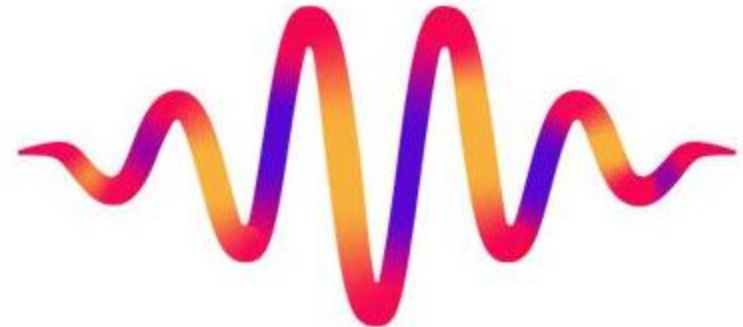
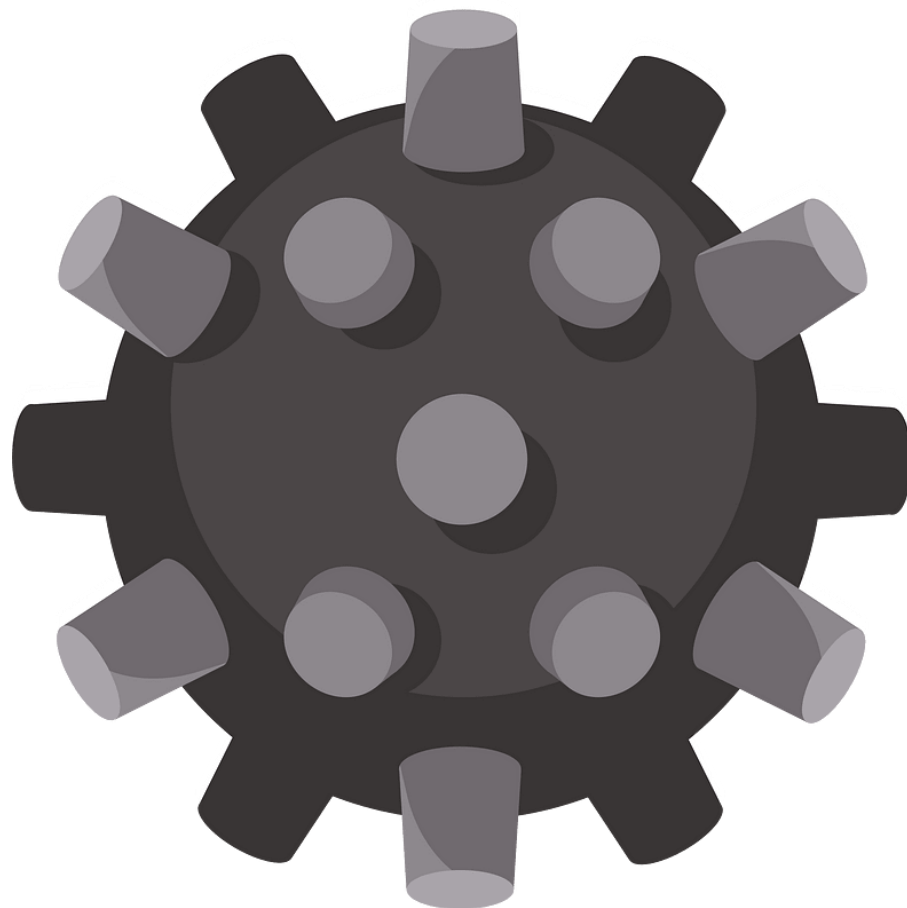


# Testování bomby pomocí kvantové mechaniky

F. Švarc, J. Filip, J. Hladíková, J. Olejárová



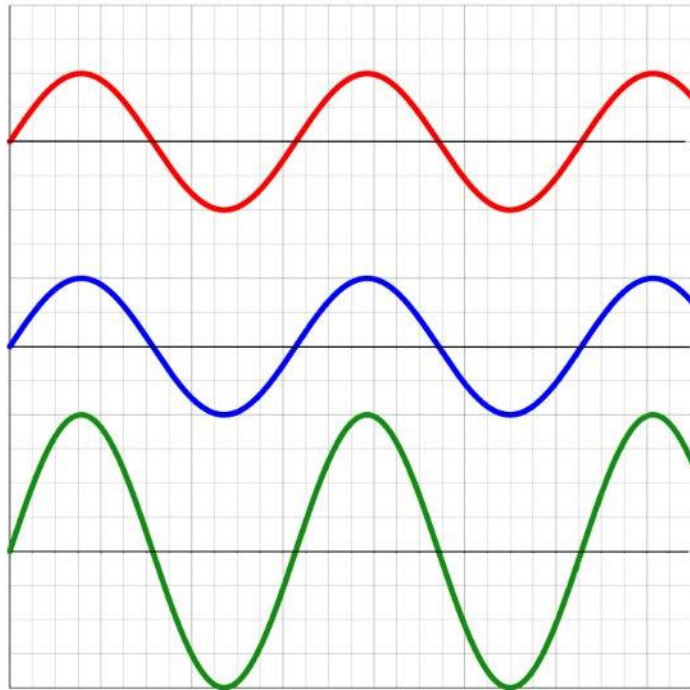
Co to vlastně děláme?



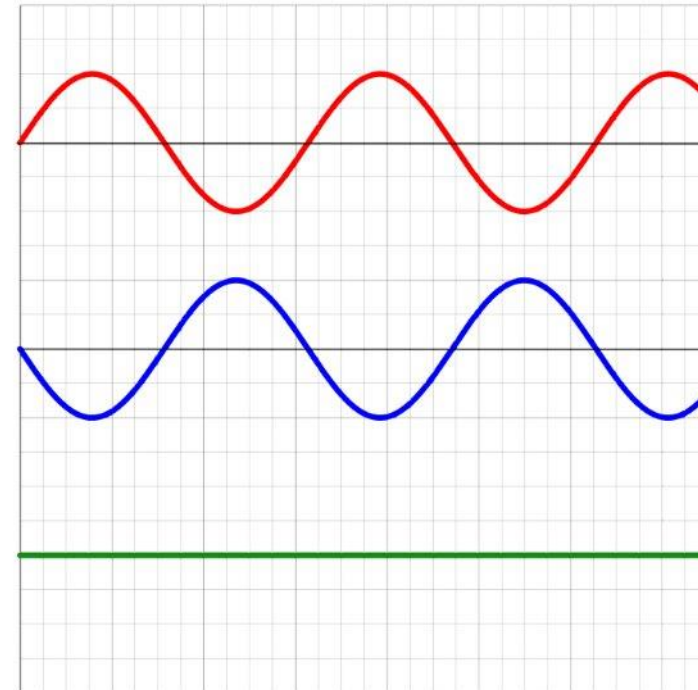
# Mach Zehnderův Interferometr

- Interference:
- Interferometr a intenzita

Constructive



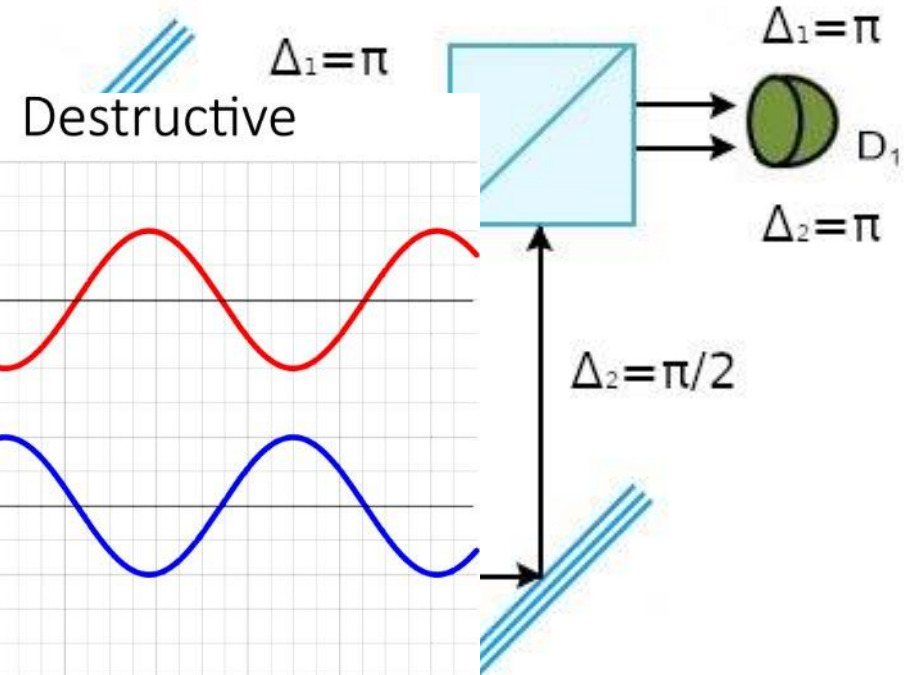
Destructive



$$\Delta_1 = 3\pi/2$$

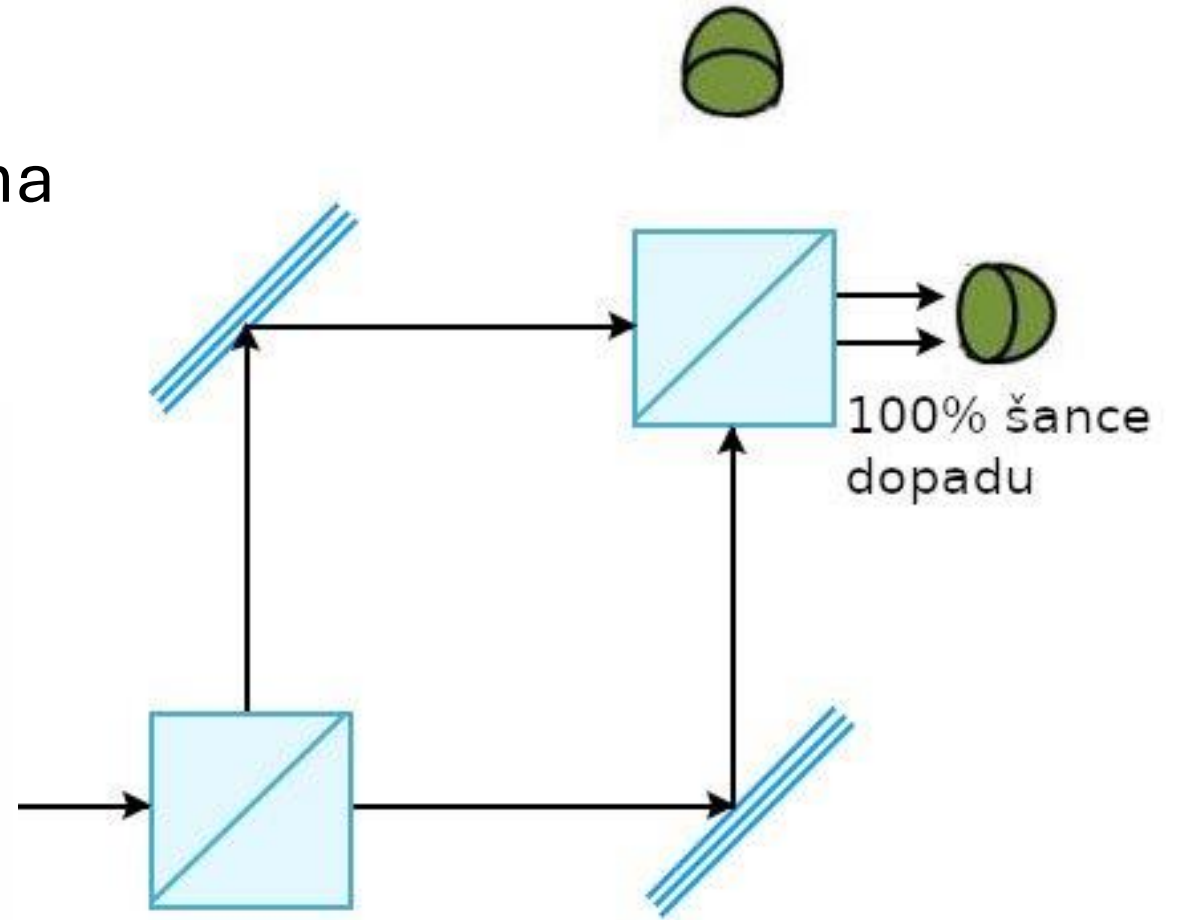
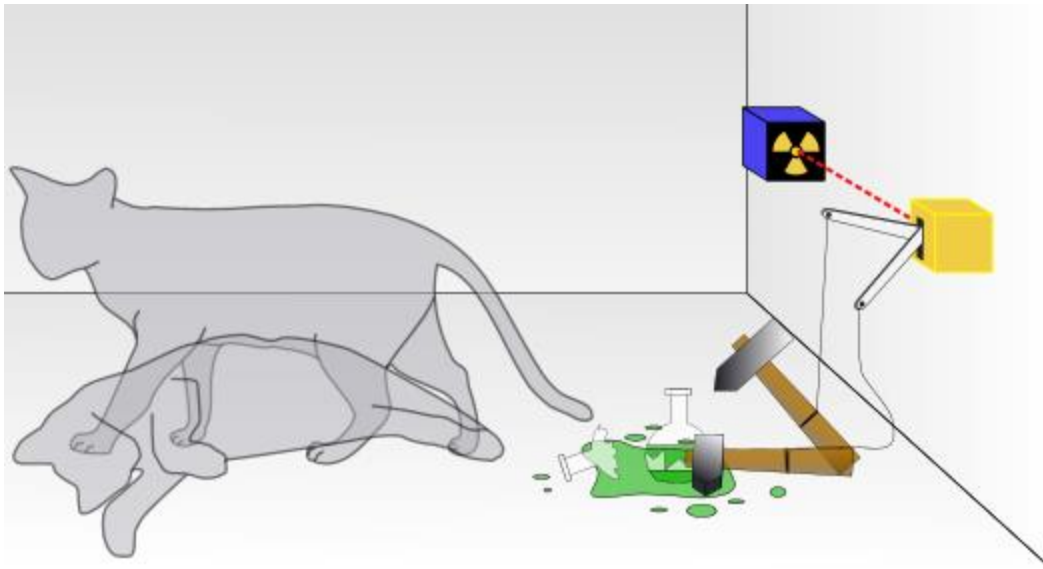


$$D_2 \quad \Delta_2 = \pi/2$$

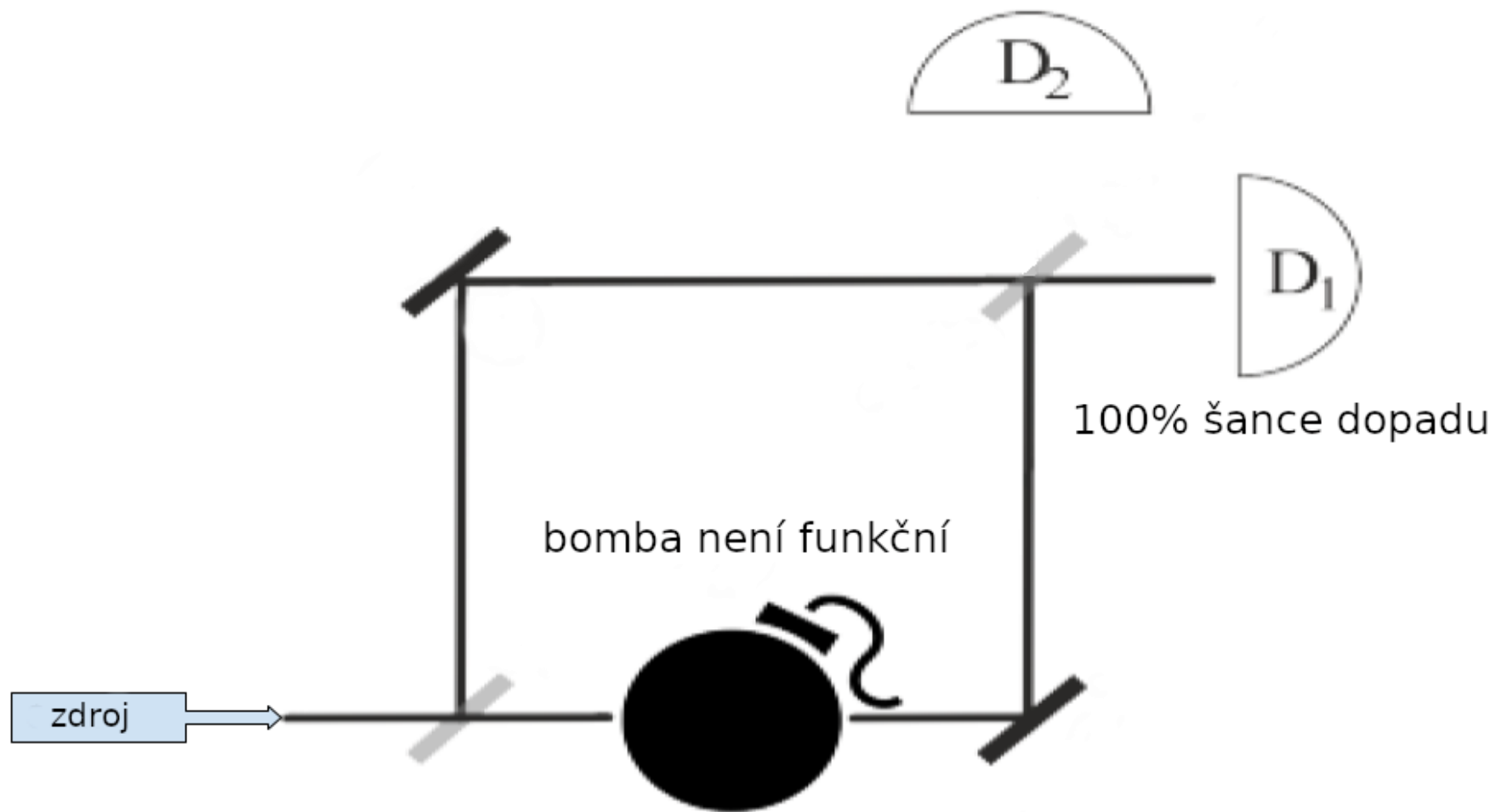


# Kvantový popis

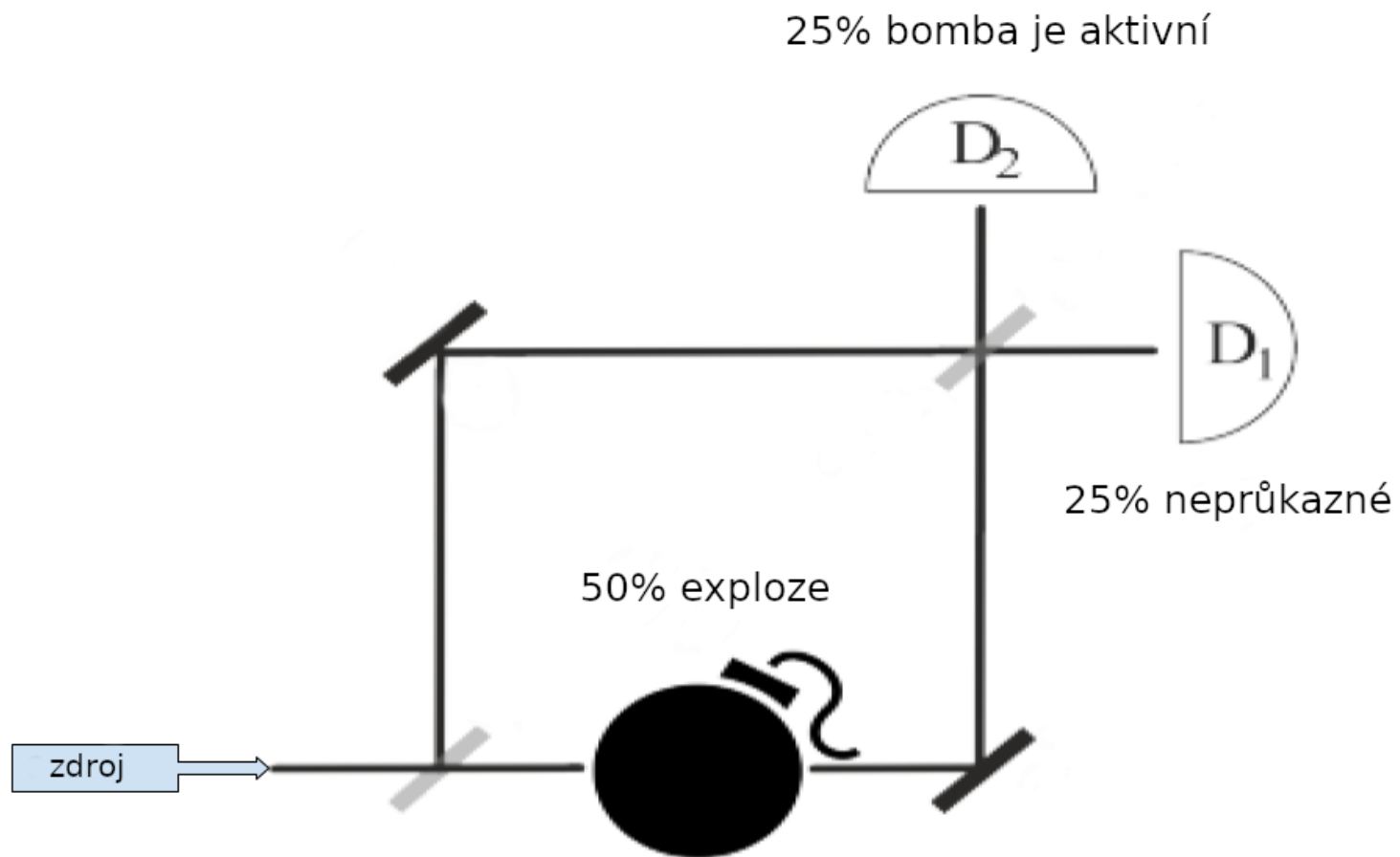
- 1 foton
- Intenzita – pravděpodobnostní vlna
- Superpozice



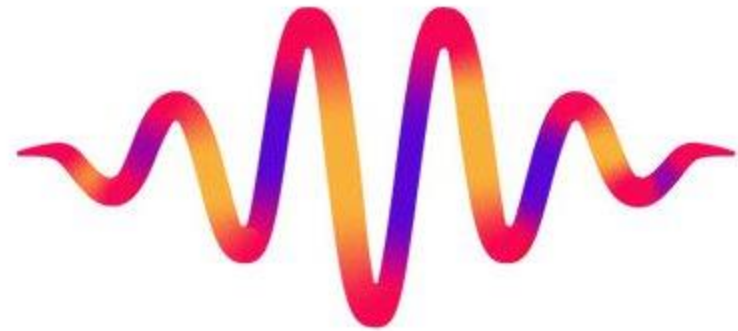
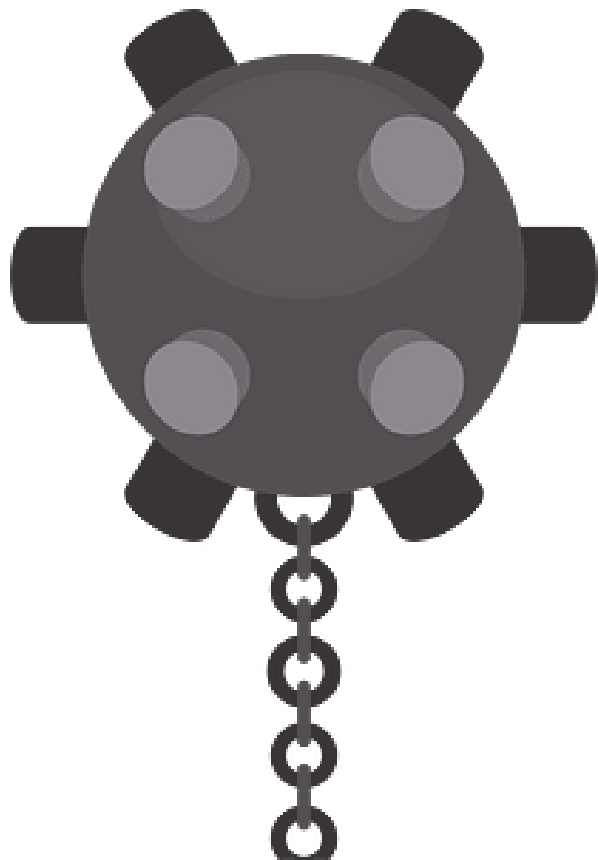
# Co když bomba nefunguje?



# Co když bomba funguje



Simulace



**QUANTUM  
FLYTRAP**

# Otázky?

Otázky?

Otázky?

Otázky?

Otázky?

Otázky?

Otázky?

Otázky?

Otázky?

Otázky?

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Otázky?

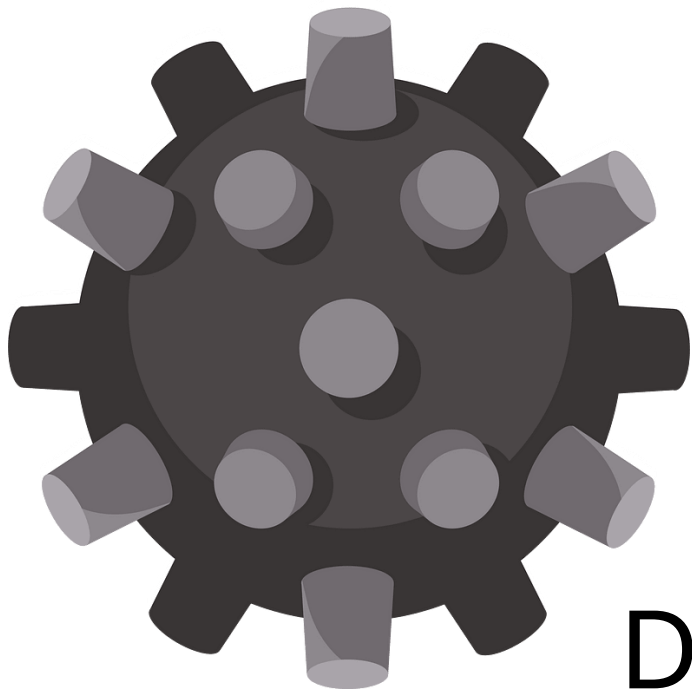
Otázky?

Otázky?

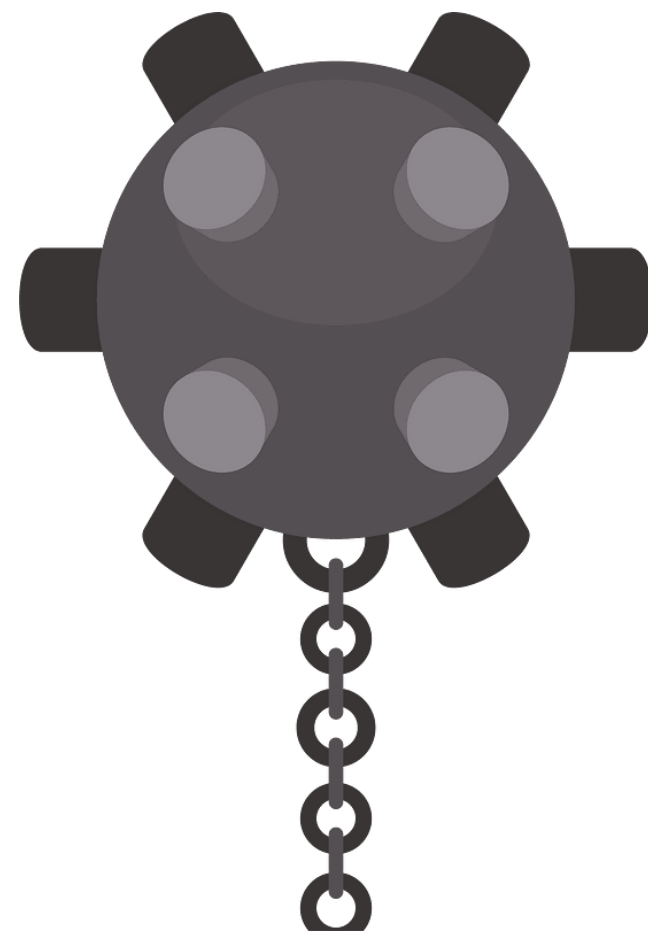
Otázky?

Otázky?





Děkujeme za pozornost



# Zdroje:

- quantumflytrap - oficiální webové stránky, URL: <https://lab.quantumflytrap.com> [cit. 2024-06-18]
- <https://physics.stackexchange.com/questions/770196/elitzur-vaidman-bomb-detector>
- [https://en.wikipedia.org/wiki/Schr%C3%B6dinger%27s\\_cat#/media/File:Schr%C3%B6dinger%27s\\_cat.svg](https://en.wikipedia.org/wiki/Schr%C3%B6dinger%27s_cat#/media/File:Schr%C3%B6dinger%27s_cat.svg)
- [https://phys.libretexts.org/Courses/University\\_of\\_California\\_Davis/UCD%3A\\_Physics\\_7C\\_-\\_General\\_Physics/8%3A\\_Waves/8.5%3A\\_Superposition\\_and\\_Interference](https://phys.libretexts.org/Courses/University_of_California_Davis/UCD%3A_Physics_7C_-_General_Physics/8%3A_Waves/8.5%3A_Superposition_and_Interference)
- <https://creazilla.com/media/clipart/7821343/naval-mine>
- <https://creazilla.com/media/clipart/7766195/underwater-mine>
- <https://www.future-of-computing.com/wp-content/uploads/2022/07/Frame-34.jpg>