

Captains' fight

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Estimate the radius of such vodka-composed black hole after their very first year of drinking.

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- ▶ Vodka drunk per habitant on average : 15,8 l/year
- ▶ The Schwarzschild radius can be found equating kinetic for $v = c$ and gravitational energy :

$$\frac{1}{2}mv^2 = G\frac{mM}{r}$$
$$r_s = 2GM/c^2$$

The diameter of the black hole is :

$$r = \frac{2 \times 6,67 \cdot 10^{-11} \times 15,8}{8,99 \cdot 10^{16}} \approx \boxed{2,34 \cdot 10^{-26} \text{ m}}$$