

nr. 1. v dzienniku Amanda Baran kl. 4c

Zad. 1.5

Dane:

$$\lambda_p = 632 \text{ nm} = 632 \cdot 10^{-9} \text{ m} = 6,32 \cdot 10^{-7} \text{ m}$$

$$c = 3 \cdot 10^8 \frac{\text{m}}{\text{s}}$$

$$v_{s2} = \frac{2}{3} c = \frac{2}{3} \cdot 3 \cdot 10^8 \frac{\text{m}}{\text{s}} = 2 \cdot 10^8 \frac{\text{m}}{\text{s}}$$

~~Wzrost: $v = \lambda \cdot f$~~

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a) $c = \lambda_p \cdot v$

$$v = \frac{c}{\lambda_p}$$

$$v = \frac{3 \cdot 10^8 \frac{\text{m}}{\text{s}}}{6,32 \cdot 10^{-7} \text{ m}} = 0,475 \cdot 10^{15} \frac{1}{\text{s}} =$$

$$4,75 \cdot 10^{14} \text{ Hz}$$

b)

$$v = \frac{v_{s2}}{\lambda_{s2}}$$

$$\lambda_{s2} = \frac{v_{s2}}{v}$$

$$\lambda_{s2} = \frac{2 \cdot 10^8 \frac{\text{m}}{\text{s}}}{4,75 \cdot 10^{14} \text{ Hz}} = 0,421 \cdot 10^{-6} =$$

$$421 \cdot 10^{-9} = 421 \text{ nm}$$