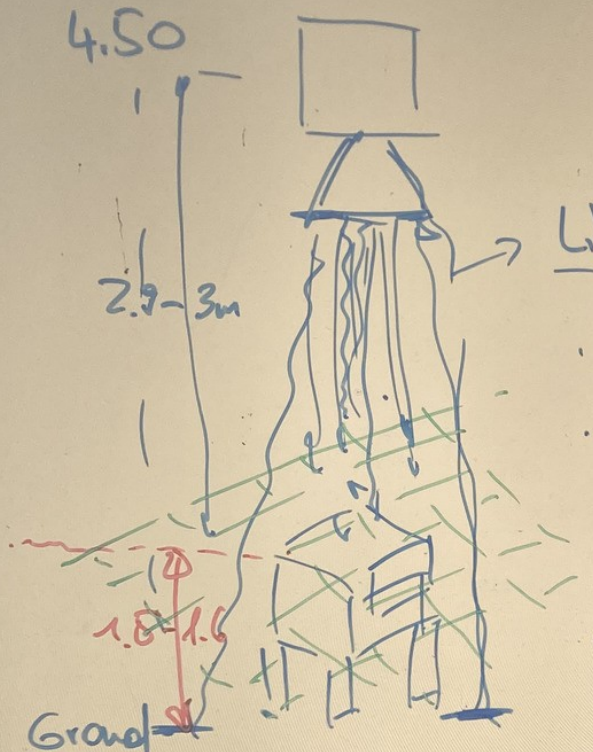
Time of Flight (ToF)



Light hitting the ground:

- Distance : 9 m
- Receiver in camera measure time of flight for light beam: t_1
- Speed of light : $3 \cdot 10^5 \frac{km}{s}$ $\hat{=} 3 \cdot 10^8 \frac{m}{s}$

For waves hitting the ground:

$$t_1 = \frac{9\,m}{3 \cdot 10^8 \frac{m}{s}} = 3 \cdot 10^{-8}\,s = 30\,ns$$

(9 m → distance; 30 ns → measured)

$$t_2 = \frac{6\,m}{3 \cdot 10^8 \frac{m}{s}} = 2 \cdot 10^{-8}\,s = 20\,ns$$

(6 m → distance; 20 ns → measured)