

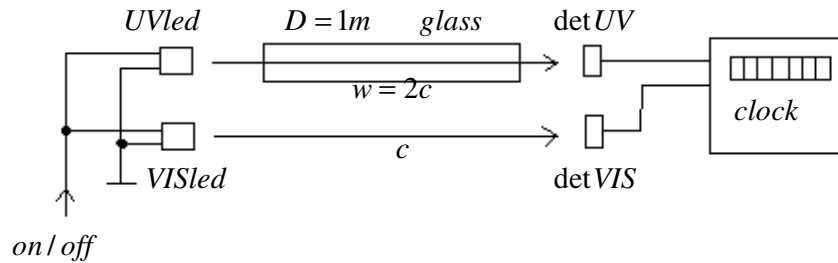
### Faster than Light Experiment

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See Unified Absolute Relativity Theory at:

<http://www.wbabin.net/saraiva/saraiva105.pdf>  
<http://www.wbabin.net/saraiva/saraiva223.pdf>

Ultraviolet light in the air change to high frequency longitudinal waves in the glass with speed greater than light speed.



We use two led emitters, one UV and one visible and also two detectors. The detectors are connected to a clock for time difference measurement.

Frequency of the UV led in the air:

$$f_0 = 1.25 \times 10^{15} \text{ Hz}; \quad \lambda_0 = 239.5 \text{ nm}$$

$$\Delta\nu = 4 \times 10^{-13}$$

$$f = f_0 \sqrt{\frac{2c}{\Delta\nu}} \quad \Leftrightarrow \quad f = 4.846 \times 10^{25} \text{ Hz} > \frac{c}{\sqrt{k}}$$

Speed in the glass:

$$w = \sqrt{kf^2 - c^2} = 2c$$

Time difference:

$$\Delta t = \frac{D}{c} \left( 1 - \frac{1}{2} \right) = \frac{D}{2c} = 1.6 \text{ ns}$$

First, with the measurement, we prove that are speeds greater than light speed and that Unified Absolute Relativity Theory is correct.

Second, by on/off modulation we transmit Morse code to the UV detector and see the signal in a oscilloscope, proving that information can travel faster than c.

The circuit is calibrated by measuring zero time for zero distance. The clock has an oscillator working at 10 GHz with  $t = 100$  ps.

The experiment can be done with x-rays.

### Cut-off wavelength for BK7 glass

$$\Delta v = 1.276 \times 10^{-12}$$

$$f = \frac{c}{\sqrt{k}} = 2.1672 \times 10^{25} \text{ Hz} \quad \Leftrightarrow \quad f_0 = 1 \times 10^{15} \text{ Hz}$$

$$x_0 = \frac{c}{f_0} = 300 \text{ nm}$$

### Wavelength/Transmittance

