## Relativity: the warping of space, time, and minds




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Closed Geometry


Open Geometry




## Speed with respect to you is $4 \mathrm{mi} / \mathrm{hr}$

## $2 \mathrm{mi} / \mathrm{hr}$



Speed with respect to you is $2+4=6 \mathrm{mi} / \mathrm{hr}$

The speed of light is greater for beam I, beam II or beam III?

waves


Photo credit: Andrew Davidhazy

## Michelson-Morley experiment

1881 - A.A. Michelson in Berlin
1887 - A.A. Michelson and E.W. Morley in US (Case Western)


## Weird, huh? What does it mean for the real world?

Enter our man Einstein!


Instead of trying to "save the current paradigm", Einstein bowed before the experiment.

## What if it is true??

Two postulates:

1) Michelson-Morley is correct. Speed of light is the same in all inertial reference frames
2) Physics is the same in all inetrial reference frames

Point of view of observer
Moving at constant speed

