Precision measurement of the speed of light

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Abstract

We have performed a precision measurement of the speed of light in air. We used a stopwatch and two well trained monkeys to record the time of flight of a light pulse over many miles through a crazy bouncing path with many mirrors. Our results are a provide a new standard with an order of magnitude better precision than ever claimed before: $c = 4.278656782 \pm 0.00000001$

1 Introduction

The speed of light has been measured many times since Galileo first measured the speed as $c = \text{BigNum} \pm \text{EvenBiggerNum}$. Blah, Blah, Blah, ...

2 Theory

The speed of light can be calculated from the equation:

$$c = \sum_{i=7}^{N} \gamma x_i \frac{\partial \alpha}{\partial x_i} \tag{1}$$

where γ is nonsense.

3 Experimental Apparatus

The equipment used is shown in Figure **??**.

3.1 The LED

What is an LED, anyway?

3.2 The mirror

Mirror, mirror, on the wall.

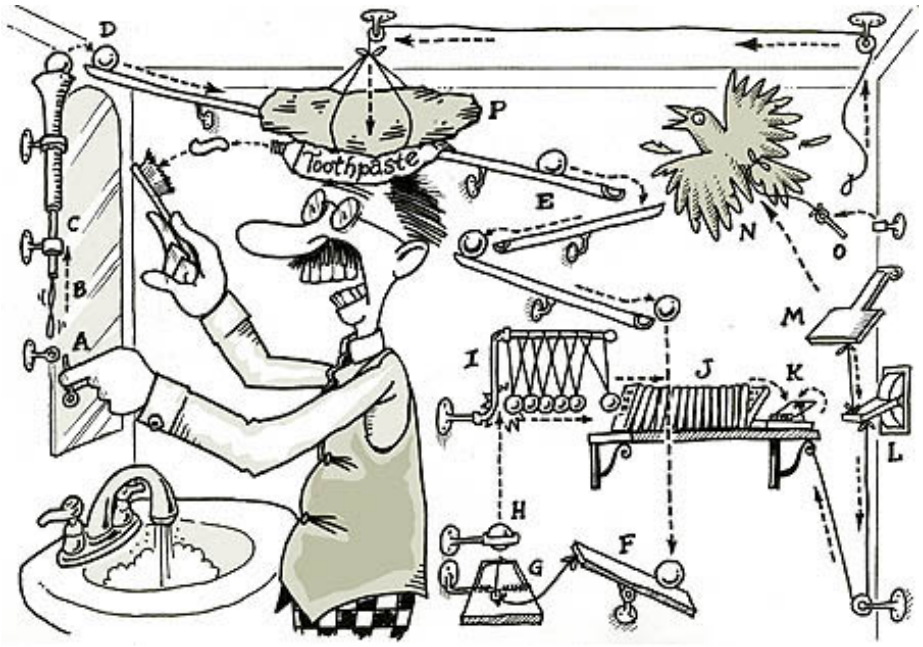

Figure 1: Schematic view of apparatus used.

3.3 The rest of the stuff

There was some other stuff, too.

4 Analysis

In this experiment we just guessed at most of the values. This made the error analysis easy, but not very reliable. Perhaps the monkeys were making fun of us. One team member did notice them laughing when they thought no one was looking.

we did pretend we were using the traditional propogation of error formalism:

$$\begin{aligned} \sigma_c &= \sqrt{\sum_i \left(\frac{\partial c}{\partial x_i}\right)^2 \sigma_i^2} \\ &= \sqrt{\left(\frac{\partial c}{\partial d}\right)^2 \sigma_d^2 + \left(\frac{\partial c}{\partial t}\right)^2 \sigma_t^2} \end{aligned} \tag{2}$$

5 Results

In spite of difficulties in interpretation, we claim a ridiculus precision in our result: $c = 4.278656782 \pm 0.00000001$. If we had any scientific integrity at all we would not publish this paper.

6 Acknowledgements

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