

Abstract Submitted
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A One-Way Light Beam Experiment CHARLES ROGERS, AAPT,
RICHARD SELVAGGI, HAO-LIANG CHEN — A one-way light experiment has
been recently designed and implemented to determine the displacement of a light
beam after traveling a straight path of sixty meters as a function of time. The
primary goal of this experiment is to determine the affect of the earth's motion on
the propagation of light from a source to a sensor both of which are stationary in
the laboratory frame of reference. Progressive improvements to the initial design
over the past three months have resulted in angular measurements with nanoradian
resolution. Beam position data and environmental data along the path are being
collected over time periods of several days. Additional improvements to the appara-
tus are being considered. A detailed description of the experiment and its operation
is given. Also presented are (1) the data collected during the development phase
and (2) the results from a preliminary analysis of these data.

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