

PHYSICS COLLOQUIUM

Tuesday, February 16, 2010 4:00 PM

1412 Physics

Daniel Kleppner

MIT

The Fabulous Life of Albert A. Michelson

~*

ABSTRACT

Although A.A. Michelson is remembered primarily for the Michelson-Morley experiment, he, himself, regarded his attempt to observe the ether as a profound failure. Raised in a California mining camp, Michelson was a prodigy in experimental physics. Self educated in research, and working in the age of iron and steam, he founded the field of precision measurements by measuring the meter in terms of the wavelength of an atomic spectral line, thus creating the first natural physical standard. Michelson also invented Fourier transform spectroscopy, discovered the fine structure of hydrogen, provided the first experimental confirmation of Maxwell's kinetic theory, made the first measurement of the diameter of a star, and became the United States' first Nobel Laureate in science. In spite of these successes, Michelson was never reconciled to his failure to find the effect of the ether.