NEW EVIDENCE HELD TO SUPPORT TOPOGRAPHY OF OPTICS. (With Diagrams.)

Formula Based on Overlooked Law Offered Here

By Prof. Cartmell.

EXISTENCE OF EIGHT-SIRED DIFFERENCE IN SPEED OF LIGHT OBSERVED FROM EARTH URGED AS RELATIVITY CHALLENGE.

By WILLIAM L. LAURENCE.

New evidence that it is possible to detect the motion of the Earth in space by purely terrestrial experiments which, if corroborated by further experiments, would knock out one of the two main pillars upon which rests Einstein's special theory of relativity, was presented yesterday at Columbia University before the joint meeting of the American Physical Society and the Optical Society of America.

The evidence, which, if it should result in a great upheaval in scientific thought, consists of a mathe
dematical formulé and its "proof," it was asserted, "on a very simple principle in optics that has heretof
ero been neglected by physicists." It was presented by Dr. William B. Cartmell of the University of Montreal.

The key feature of the special theory of relativity, from which, in turn, the general theory of relativity is gained, is the concept that no purely terrestrial experiment can be used to detect the motion of the Earth in space; and, too, that the speed of light is independent of the motion of its source.

By knocki

ng out the first prop the whole structure of relativity must fail, Mr. Cartmell declared to the assembly of eminent physicists present, including the general theory.

Correspondes Professor Miller.

Dr. Cartmell's findings furnish, he says, definite corroboration to the assertions of Professor David C. Miller of the Case School of Applied Science, Cleveland, that the motion of the Earth in space can be detected by measuring its effect on the direction in the speed of a ray of light.

Professor Miller's findings are re
garded by him as definitely more exact, and he claimed actually to have measured the Earth's motion with a standard of light as his measuring rod.

Challenges Michelson-Morley Experiment.

Dr. Miller's earlier findings, he said, were"entailed so much physical labor and were otherwise so complex, that very few, if any, have attempted to repeat them. Dr. Cartmell himself has never had the opportunity of repeating them, however, that by "taking into account the simple principle in optics

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