

Abstract Submitted
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Interpreting Figure 1 of the Michelson-Morley Experiment¹

RICHARD SELVAGGI, Texas A&M University-Commerce — Figure 1 of the 1887 Michelson-Morley experiment is utilized to understand the theoretical directional status of the light beam. The velocity of the experimental apparatus' reference frame relative to the unobserved reference frame is designated and used to draw four theoretical paths of the light beam. Isaac Newton's definition of inertia is used to describe the inertial reference frame and Tocaci and Kilmister's definition of the non-inertial reference frame is used. This presentation shows that the Figure 1 light beam's directional motion remains in the same inertial reference frame as the experimental apparatus. The time and distance concepts of Figure 1 change relative to the experimental apparatus defining this drawing of the light beam's motion as a mixed reference frame. The final question is "How can a non-inertial reference frame be drawn or described?"

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