

Observations on Teaching Relative Velocity in Engineering Dynamics

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This paper takes a fresh look at methods for teaching relative velocity in the sophomore level engineering dynamics class. A historical perspective is given, and several leading dynamics textbooks are compared in terms of approaches, diagrams drawn, mechanics principles elucidated, and examples used to teach relative velocity. The authors come from the perspective that so-called “scalar methods” are a useful approach for teaching planar kinematics and for providing needed intuition for learning the cross-product approach in both planar and 3-D dynamics. This paper gives a broad overview of the different points of view on this essential subject, providing a fresh starting point for discussion among the dynamics instruction community.