

CHAPTER OVERVIEW

4: Vector Analysis

A *vector* is a mathematical object that has both a scalar part (i.e., a magnitude and possibly a phase), as well as a direction. Many physical quantities are best described as vectors. For example, the rate of movement through space can be described as *speed*; i.e., as a scalar having SI base units of m/s. However, this quantity is more completely described as *velocity*; i.e., as a vector whose scalar part is speed and direction indicates the direction of movement. Similarly, force is a vector whose scalar part indicates magnitude (SI base units of N), and direction indicates the direction in which the force is applied. Electric and magnetic fields are also best described as vectors.

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Contributors and Attributions

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