

Relativistic Law of Addition of Multiple Collinear Velocities

Adel F. Antippa
European Journal of Physics
vol. 19, no. 5, pp. 413-417 (1998)

Abstract

We derive, using mathematical induction, the relativistic law of superposition of multiple collinear velocities. The resultant velocity takes the simple form of the sum of the odd products of distinct velocities divided by the sum of the even products of distinct velocities. In the limit of an infinite number of identical infinitesimal boosts, the resultant velocity is the hyperbolic tangent of the Galilean sum of the velocities.