DEPARTAMENTO DE FÍSICA

UNIVERSIDAD DE SANTIAGO DE CHILE

SEMINARIO ONLINE

Mi 01
DICIEMBRE
15:30 Hrs.

BLAST WAVE KINEMATICS: THEORY, EXPERIMENTS, AND APPLICATIONS

Dr. Jorge S. Díaz

Physics Department, Indiana University, Bloomington, IN 47405, U.S.A

ABSTRACT

Measurements of the time of arrival of shock waves from explosions can serve as powerful markers of the evolution of the shock front for determining crucial parameters driving the blast. Using standard theoretical tools and a simple ansatz for solving the hydrodynamics equations, a general expression for the Mach number of the shock front is derived. Dimensionless coordinates are introduced allowing a straightforward visualization and direct comparison of blast waves produced by a variety of explosions, including chemical, nuclear, and laser-induced plasmas. The results are validated by determining the yield of a wide range of explosions, using data from gram-size charges to thermonuclear tests.

Meeting ID: 831 4646 4471

Passcode: 327958

Más información:

fisica.usach.cl

@FisicaUsach

@FisicaUSACH