

Numerical Study of Detonation Propagation in a Tube With Obstacles

Ciheng Zhang

Abstract

The numerical simulation is conducted for the stoichiometric hydrogen-oxygen mixture filled in a rectangular tube along which six pairs of semicircular cylinders are set. According to the result we find that the initial adiabatic flamelet develops quickly to form a detonation. In present paper the phenomena of detonation propagation is investigated when flowing in the convergent-divergent channel consisted of a pair of semicircular cylinders.