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**Study on the deflagration-to-detonation transition course of porous energetic material** LAN WEI, PENGCHENG HAO, HEFEI DONG, XIAOMIAN HU, JIANSHI ZHU, Institute of Applied Physics and Computational Mathematics — The deflagration-to-detonation transition (DDT) course of energetic material with different porosity ratio was studied utilizing a one-dimensional two-phase flow code. The equations were numerically solved by space-time conservation element and solution element (CE/SE) method. The distribution of physical quantities such as pressure and temperature were obtained together with their evolution history. The physical rules before detonation were mainly analyzed and the effect of convection on the chemical reaction of energetic material was emphasized on.

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