

Abstract Submitted  
for the SHOCK07 Meeting of  
The American Physical Society

**Research for Two-dimensional Critical Initiating State of Pressed TNT**<sup>1</sup> HUAN SHI, Guangzhou University, HUANG FENGLI, Beijing Institute of Technology, TAN XIANGQIAN, Guangzhou University — For two-dimensional(2-D) axial-symmetric non-steady detonation process, there is a considerable difference between an initiating and a failure process. The critical condition for both processes depends on the kind of explosive, the charge diameter, density and confinement, the initiating fashion, the inert additions and so on. In this paper, we have studied the 2-D critical initiating and failure conditions of pressed TNT charge. The critical initiating 2-D experiments have carried out for general granule, gross granule, casting and watered pressed TNT. The critical gap thickness has been used to compare with the relative shock initiating sensitivity. The pressure waves are got by manganin-constantane composite 2-D Lagrange sensor. The process of initiation and extinction has been calculated near the critical point by 2-D Lagrangian analysis method, and discussed the reason why exists the discrepancy. The results show that initiation and extinction are the entirely different dynamic process, which has little difference in original condition. It causes the pressure increase of the combustion peak's rapid reaction behind precursor shock wave.

<sup>1</sup>Sponsored by the National Science Foundation of China -NSAF (10276015)

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Date submitted: 09 Mar 2007

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