Abstract Submitted
for the SHOCK15 Meeting of
The American Physical Society

The Study on spall and damage in convergent geometry PEI XIAOYANG, PENG XUI, HE HONGLIANG, LI PING, Institute of Fluid Physics, China Academy of Engineering Physics, Mianyang 621900, China — Spallation damage in ductile materials is the process of void nucleation, growth and coalescence due to states of high tensile stress. Typical experiments are conducted in a planar, uniaxial stress configuration. Here, the effect of convergent geometry on the properties of dynamic damage evolution of OFHC are investigated. The spall fracture experiments are conducted using explosive generators. The damage evolution process are studied using the time-resolved free-surface velocity interferometry, post-experiment metallurgical analysis of the soft recovered samples. It indicated that, the convergent effect is a very important factors for the spallation damage, and the distinct differences are observed in the damage pattern between planar and convergent experiment.

Pei Xiaoyang
Institute of Fluid Physics, China Academy of Engineering Physics,
Mianyang 621900, China

Date submitted: 30 Jan 2015 Electronic form version 1.4