

contributions to target deformation and penetration during reactive projectile hypervelocity impact [D]. Monterey California: Naval Postgraduate School, 2011.

[14] XING Shi-long, HUANG Xiang-ke. Simulation study on high-powered shaped warhead penetration into target with water layer [J]. *Applied Mechanics and Materials*, 2014, 532: 342–245.

Numerical Simulation and Experimental Study on the Cratering Stage of Shaped Charge Jet Penetrating into Target

SHI Jin-wei¹, LUO Xing-bai¹, JIANG Jian-wei², LI Mei², ZHEN Jian-wei¹

(1. *Mechanical Engineering College, Shijiazhuang 050003, China*; 2. *State Key Laboratory of Explosion Science and Technology, Beijing Institute of Technology, Beijing 100081, China*)

Abstract: To obtain the rules of jet penetrating spaced target with water interlayer, theoretical and experimental research were performed selecting the penetrating process of 50 mm caliber shaped charge penetrating spaced target with water interlayer (2 mm×4 mm steel plates +100 mm water interlayer). The theoretical model of jet penetrating spaced target with water interlayer was established by quasi-steady penetration theory and mathematical induction, the relationship of jet tip velocity and penetration distance was got. To validate the theoretical model, jet tip velocities of multiple stages were obtained by X-ray pulsed and timing device. The influence of spaced target with water interlayer to the remaining jet tip velocity was analyzed through theoretical model. The results show that the theoretical model is correct, after penetrating spaced target with water interlayer, the average error of remaining jet tip velocity between theoretical and experimental values is 4.6%. The attenuation efficiency of jet tip velocity by spaced target with water interlayer is higher when the target thickness is less than 20 mm and water separation distance is less than 150 mm.

Key words: shaped charge jet; spaced target with water interlayer; penetration model; jet tip velocity

CLC number: TJ55 ; O385

Document code: A

DOI: 10.11943/j.issn.1006-9941.2016.03.001

读者·作者·编者

更正

因本人疏忽,致使发表在《含能材料》2016年第1期的《一种新的炸药感度判据:键 & 非键耦合分子刚柔度》一文中,图2~图5的图题有误。图2的图题应为图3的图题,图3的图题应为图5的图题,图4的图题应为图2的图题,图5的图题应为图4的图题。特此更正,对读者带来的不便深感歉意。

中国工程物理研究院化工材料研究所 谭碧生