Research on Conversion Conditions of JPC and JET

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Abstraction: This paper studied the problem of forming two modes penetrator, such as Jetting Projectile Charge (JPC) and Jet, with the same shaped charge structure, using center point initiation and annular initiation to achieve conversion. It studied the effect of annular initiation position on the formation of penetrator by LS-DYNA software, and found the best matching position of the jet formation. Optimized the Structure of arc-cone liner by orthogonal methods, analyzed the effect law of the configuration parameter of arc-cone liner on the formation of Penetrator. The result shows that achieving conversion of two penetrator modes (JPC and JET) on the same shaped charge, an optimal value is existed including arc radius of curvature, cone angle and wall thickness, but the value also needs optimized within intersection range. A structure of shaped charge was optimized, and JPC and JET was got by experiment, the results of simulation are in agreement with the experimental data.

Key words: Jet; Jetting Projectile Charge (JPC); Conversion Conditions; Arc-Cone Liner; Numerical Simulation