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定向驱动预制破片战斗部数值模拟与试验(PDF)

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Title: Numerical Simulation and Experiment of Directional Driving Preformed Fragment Warhead

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关键词: [定向战斗部](#); [钨球](#); [数值模拟](#); [试验](#)

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摘要: 为研究预制破片在炸药驱动下的飞散情况,使毁伤单元朝指定方向集中飞散,形成毁伤元素增益区,以提高预定区域的杀伤威力。以某火箭战斗部为平台,设计了炸药柱与钨球结合的定向战斗部结构。利用LS-DYNA软件对爆炸驱动预制破片战斗部威力进行了数值模拟,获得了钨球的速度和空间分布规律。设计了试验方案并进行了靶场试验。通过与模拟结果比较,证明二者基本一致,可为定向战斗部的设计和模拟计算提供参考。

Abstract: In order to research flying situation of preformed fragment by explosive drive,damage elements were made concentratedly fly towards the given direction and form gain partition of damage elements,to enhance lethal power in presumptive area. On the platform of a certain type of rocket warhead,the directional warhead structure with combination of explosive column and tungsten ball was designed.Numerical simulations of the power of explosion driving preformed fragment warhead were made by LS-DYNA,and the speed and spatial distribution law of tungsten ball was got.Testing program was designed and range test was conducted. Compared with the simulation results,the proof is basically the same and provides reference for directioal warhead design and simulation.

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