

[1]陈阳,田晓丽,纪彩华,等.应力集中在攻坚战斗部中应用的可行性分析[J].弹箭与制导学报,2011,6:85-88.

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## 应力集中在攻坚战斗部中应用的可行性分析(PDF)

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Title: The Feasibility Analysis of Application of Stress Concentration to Penetrating Warhead

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关键词: [应力集中](#); [弹头形状](#); [侵彻](#); [过载](#); [数值模拟](#)

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摘要: 为了使攻坚战斗部在侵彻过程中能有效降低侵彻过载且提高侵彻深度,在卵形弹头部增加具有应力集中特性的结构体;利用ANSYS/LS DYNA有限元软件数值模拟弹体对钢靶板的侵彻过程,得到穿透残余速度和侵彻过载,并与常规锥形和卵形弹体相比较。结果分析表明,应力集中弹体较常规弹体能有效提高侵彻深度并能更好的降低过载,为装药安定性等提供保障,验证了应力集中在攻坚战斗部中应用的可行性。

Abstract: In order to reduce penetration overload and increase penetration depth during the process of penetration, a structure with stress concentration characteristics was added on the nose of oval penetrator; A numerical simulation was conducted for simulating the process of penetrating steel target by using a finite element software ANSYS / LS DYNA ,then residual velocity and penetration overload were obtained and compared with tapered and oval warheads; The results showed that compared with conventional warhead, warhead with stress concentration characteristics can improve the depth of penetration and better reduce overload, so that provide a safeguard for the stability of something inside the penetrator, such as dynamite and so on. The feasibility of using stress concentration for penetrating was validated.

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备注/Memo: 收稿日期: 2010-12-21 作者简介: 陈阳 (1987-), 河南许昌人, 硕士研究生, 研究方向: 武器系统动力学与仿真。

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