

复合量程加速度计抗过载技术的研究

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摘要:

本文介绍了复合量程加速度计的设计原理, 对加速度计的抗高过载能力进行理论分析和实践证明。从复合量程加速度计的内部结构设计到外部封装设计两个方面提高抗高过载能力。应用ANSYS软件对结构进行仿真, 并应用到实际的过载试验。试验中, 复合量程加速度计在经过高过载之后, 能有效的测得炮弹膛内初过载和外弹道轴向过载, 而且加速度计没有被损坏。结果证明, 这种抗过载设计方案具有很高的可靠性。

关键词: 复合量程加速度计, 抗高过载, ANSYS仿真, 存储测试

Study on anti-top over-loaded technology of multirange micro-accelerometer

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Abstract:

In this paper, introduces the design theory of multirange micro-accelerometer, Theoretic analyzing and experiment proved that the anti-top over-loaded power of accelerometer. Improved the anti-top over-loaded power by considering the internal structure design and the external package design. It made more safety by ANSYS simulation and applied to the actual load test. In experiment, the multirange micro-accelerometer could effective measured the initial load in shells bore and axial load in external ballistics after a high overload. And the accelerometer has not been damaged. Experimental results demonstrate that the anti-overload design with high reliability

Keywords: multirange micro-accelerometer, anti-top over-loaded, ANSYS simulation, storage testing

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