

## 复合射孔及爆燃压裂动态测试数据分析

作者: 雷霄, 裴东兴, 张红艳, 崔春生

单位: 中北大学仪器科学与动态测试教育部重点实验室

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摘要:

为了深入研究复合射孔器工作机理, 利用高速井下测试仪全面获取了常规、内置式、外套式、爆燃压裂四类射孔/压裂参数对这些数据进行了分析。数据分析显示, 四类复合射孔测试的峰值压力在30MPa~140MPa之间; 压力脉冲持续时间为305ms, 常规射孔最短为0.272ms, 井下动压作用特性主要取决于复合火药装药量和起爆方式。这些实测数据为建立性能提供了重要的参考依据。

关键词: 动态压力; 数据分析; 爆燃; 压裂; 石油井下

## Data Analysis of Dynamic Testing of Downhole Hybrid Perforating and Deflagration Fracturing

**Author's Name:**

**Institution:**

**Abstract:**

To deeply study the working mechanism of hybrid perforator, the downhole dynamic data of 4 perforation/fracturing complete type hybrid perforating, stingun type perforating, and deflagration fracturing was obtained by using high-speed downhole test operational process parameters. Data analysis show that the peak pressure of four kinds composite perforation is between 30MPa~140MPa, varied widely because of different working mechanism: deflagration fracturing has the longest event time 305ms, conventional downhole dynamic pressure effect of composite perforator mainly depends on the composite powder charge and blasting method. These measured data provide an important reference for the establishment of the underground complex dynamic process model and enhancement of composite perforator performance.

**Keywords:** dynamic pressure ; data analysis ; deflagration ; fracturing ; oil downhole

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