Research to Q Value of Some Materials of Gravitational Wave Antenna in Low Temperature

Chen Shuhong Tang Mengxi

Abstract

Selecting materials which have high value of $\rho v_s^2 \sqrt{Q}$ in low temperature is one of important ways to improve the sensitivity of gravitational wave detector. A set of experimental equipment has been designed and manufactured in order to measure Q value of material in low temperature. From theoretical and experimental research it has been shown that the amplitude of exciting signal could be dropped remarkably by means of adding a D.C. bias to the sample. As another result, the values of $\rho v_s^2 \sqrt{Q}$ of Be-Cu and P-Cu alloys are larger than that of 5056 aluminum alloy. They are possible candidates of materials for gravitational wave antenna.

·新产品·

彩色闪光芳香炮竹

中山大学化学系钟增培、英柏宁和南海红旗炮竹厂刘建中等，继获得无硫磺芳香炮竹的国家发明专利后，最近又完成了彩色闪光芳香炮竹的研制，并于七月八日通过了技术鉴定。

彩色闪光芳香炮竹燃放时不单具有一般电光炮竹的声响效果，而且在爆炸时会闪烁出红、绿、白的彩色光芒，光亮夺目，色彩缤纷，并放出怡人的芳香气味，声、色、香俱全。这种炮竹的火药配方，由于取消了氯酸钾成份，经差热分析、火焰感度、撞击感度、摩擦感度、高温贮存、吸湿性试验表明，具有较好的安全稳定性能，符合我国有关部门关于烟花、炮竹管理的新规定要求，配方原料符合西欧及日本等国家的规定。彩色闪光芳香炮竹各项质量指标经广州市产品质量监督检验所检验，符合轻工部SG237—81标准。此项成果具有新颖性和独创性，今年四、五月份已向中国专利局申报发明专利，被选送参加十月在武汉举行的第二届全国发明展览。目前这项成果已在南海红旗炮竹厂批量生产投放市场，受到用户和外商的一致好评，国内许多工厂纷纷来人来函，要求转让此项技术。　　（钟增培）