微陀螺静电力调频的快速收敛算法研究

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摘　要：

针对电容式微陀螺谐振结构，研究了静电力对谐振频率的影响规律，提出了一种快速收敛的静电力调频算法，建立了微陀螺调频实验系统，该系统采用扫频方法测量谐振频率，利用计算机控制调频收敛过程，并对微陀螺进行了调频实验，调频过程用时少于5分钟，实验结果表明该调频算法具有较快的收敛速度。

关键词：微陀螺　静电力　调频　快速收敛

A Rapid Convergent Algorithm for the Tuning of Microgyroscopes

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Abstract:

The relation between the static force and the resonance frequency is studied for the capacitive microgyroscopes, and then a rapid convergent algorithm is presented for the tuning of the capacitive microgyroscopes based on this relation. The configuration of the tuning system is introduced, and the tuning process is controlled by computer. Finally, tuning experiment is carried out for a microgyroscope, and the tuning process is completed in less than 5 minutes. This result shows the high efficiency of this algorithm.

Keywords: Microgyroscope, Tuning, Resonance, Algorithm

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