

## 水平轴硅微机械陀螺仪机电接口模型的电容分析

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摘要：

以水平轴硅微机械陀螺仪结构为对象，建立了陀螺仪机电接口的理论模型，分析了模型中杂散电容对输出信号的影响，并用电路分析软件对模型进行仿真。结果表明，陀螺仪活动结构与衬底、引线间的电容对输出信号的影响很大，最后提出了减小杂散电容，提高信噪比的方法。

关键词：硅微机械陀螺仪，机电接口模型，杂散电容，仿真

## Capacitance Analyses on Electromechanical Interface Model of Horizontal-Axis Silicon Micromachined Gyroscope

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**Abstract:**

The electromechanical interface model of the structure of the horizontal-axis silicon micromachined gyroscope is established. The impacts of the stray capacitance on output signal are analyzed and simulated with the simulation software of circuit. The results indicate that the capacitances between mass and the substrate, disposal wires have great impact on output signal. At last, some methods are put forward to decrease the stray capacitance and increase the signal noise ratio.

**Keywords:** silicon micromachined gyroscopes; electromechanical interface model; stray capacitance; simulation.

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