

عنوان مقاله:

Fundamentals and Detailed Modeling of the 2-DOFMEMS Vibratory Gyroscope

محل انتشار:

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خلاصه مقاله:

On this paper, an overview of fundamentals of functionality of a 2-DOF MEMSvibratory gyroscope is presented. Then, the more detailed and accurate dynamics is ruled upand a practical model is suggested for low accuracy applications. In what follows, reductionof performance level due to fabrication imperfections is discussed and consequently a muchmore detailed accurate model is put forward. Maybe it is worth imparting that a complete zaxis 2-DOF gyroscope model is demonstrated and then step by step the model is simplified.Ultimately, a state space model is recommended for control applications which has the benefitof being controllable and the defects of the open loop system specially due to quadrature error are demonstrated through simulations

کلمات کلیدی:

vibratory gyroscope; modelling; angular velocity, functionality

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