

## Estimation of the amplitudes of parametric oscillations of a hemispherical solid-wave gyroscope

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**Abstract:** This work presents the parametric oscillations excitation research for hemispherical shell by application a harmonic electrostatic force from drive electrodes. The electrodes structure and its mathematical description were derived. The Hill equations for the hemispherical shell are obtained. The nonlinear equation of vibrations of a hemispherical shell in the regions of increasing vibrations of the Ains-Strett is investigated.

**Keywords:** Solid-wave gyroscope, parametric oscillations, Ains-Strett diagrams