1. Record Nr. UNINA9910698652403321 Autore Cao Huiliang Titolo Dual-Mass Linear Vibration Silicon-Based MEMS Gyroscope / / by **Huiliang Cao** Singapore:,: Springer Nature Singapore:,: Imprint: Springer., 2023 Pubbl/distr/stampa 981-19-9247-9 **ISBN** Edizione [1st ed. 2023.] 1 online resource (X, 224 p. 200 illus., 137 illus. in color.) Descrizione fisica Disciplina 681.753 Soggetti Aerospace engineering **Astronautics** Automatic control Robotics Automation Aerospace Technology and Astronautics Control, Robotics, Automation Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Nota di bibliografia Includes bibliographical references. Nota di contenuto Chapter 1 Introduction -- Chapter 2 Silicon-based MEMS gyroscope structure and working principle -- Chapter 3 Silicon-based MEMS gyroscope structure noise analysis and system model -- Chapter 4 Silicon-based MEMS gyroscope quadrature error correction technology and optimization -- Chapter 5 Silicon-based MEMS gyroscope sense closed loop and frequency tuning technology -- Chapter 6 Temperature influence on MEMS gyroscope and suppression method --Chapter 7 Silicon-based MEMS gyroscope monitoring circuit design and test technology -- References. This book introduces the key technologies in the manufacture of Sommario/riassunto double-mass line vibrating silicon micromechanical gyroscope, respectively. The design of gyrostructure, detection technology, orthogonal correction technology, the influence of temperature and the design of measurement and control system framework are introduced in detail, with illustrations for easy understanding. It presents the

principle, structure and related technology of silicon-based MEMS gyroscope. The content enlightens the researchers of silicon-based

MEMS gyroscopes and gives readers a new understanding of the structural design of silicon-based gyroscopes and the design of dual-mass gyroscopes.