1. Record Nr. UNINA9910688306203321 Gyroscopes: principles and applications / / edited by Xuye Zhuang, Titolo Liangun Zhou Pubbl/distr/stampa London, England:,: IntechOpen,, 2020 Descrizione fisica 1 online resource (114 pages) Disciplina 681.753 Soggetti Gyroscopes Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Sommario/riassunto This book covers recent topics on gyroscopes. It briefly introduces the history of gyroscopes, and presents a concise analysis of the main types. The classical structure and main performance parameters of an interferometric fiber-optic gyroscope and an integrated optics passiveresonator gyroscope are analyzed. The developmental progress of a fiber optic gyroscope and its research situation in the United States. Japan, France, and other major developing countries are also presented. An effective autoregressive moving average model was invented to reduce MEMS gyroscope noise behavior. A discrete-time nonlinear attitude tracking control system was verified to achieve the agility and large-angle attitude maneuvers of spacecraft by numerical simulations. MEMS gyroscopes were experimentally demonstrated to be effective tools for gait analysis and to reduce the cost of revealing

underlying pathologies.