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Sommario/riassunto

"Coriolis Vibratory Gyroscopes (CVGs) can be divided into two broad categories based on the gyroscope's mechanical element: (Type 1) degenerate mode gyroscopes, which have x-y symmetry, and (Type 2) non-degenerate mode gyroscopes, which are designed intentionally to be asymmetric in x and y modes. Currently, non-degenerate mode gyroscopes fulfill the needs of a variety of commercial applications, such as tilt detection, activity tracking, and gaming. However, when it comes to inertial navigation, where sensitivity and stability of the sensors are very important, commercially available MEMS sensors fall short by three orders of magnitude. Degenerate mode gyroscopes on the other hand, have a number of unique advantages compared to non-degenerate vibratory rate gyroscopes, including higher rate sensitivity, ability to implement whole-angle mechanization with mechanically unlimited dynamic range, exceptional scale factor stability, and a potential for self-calibration. For this reason, as the MEMS gyroscope development is reaching maturity, the Research and Development focus is shifting from high-volume production of low-cost non-degenerate mode gyroscopes to high performance degenerate mode gyroscopes. This paradigm shift in MEMS gyroscope research and development creates a need for a reference book to serve both as a guide and an entry point to the world of degenerate mode gyroscopes"--
