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RingLaser as gyroscope

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Ring-Lasers are commonly employed as gyroscope, since they measure angular velocity for the Sagnac Effect. The range of applicability is very wide: from aircraft guidance, to geodesy and geophysics. The large ring G in the Laser Ranging station of Wettzell (Baviera) has obtained the accuracy of fractions of $\mu\text{rad/s}$, close to the one required to provide a tool for general relativity test. In particular an underground experiment has been proposed, G-GranSasso, which can measure the gravitomagnetic effect of the Earth (Lense-Thirring effect) with 1% accuracy in few years of data taking. The ringlaser will be described in details, reporting the most recent progresses obtained with the large ring G in Wettzell (16m perimeter) and with our middle size prototype G-Pisa (5.4 m perimeter).

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