



## Improved data analysis for ring laser gyroscope

Angela D. V. Di Virgilio

INFN, PISA-ITALY, Pisa, Italy (angela.divirgilio@pi.infn.it)

Inertial sensors have a very large area of interest, and ring laser gyros, which measure angular rotation rate, are certainly

one of the main one in term of sensitivity, dynamic range and bandwidth.

Large area ring laser gyros routinely are able to measure fractions of  $\text{prad/s}$ , with high duty cycle and bandwidth, providing fast, direct and local measurement of relevant geodetic signals as daily polar motion and Chandler Wobbler.

However, it is well known that the dynamic of the laser induces non-linearities, and those effects are more evident in small scale instruments.

Sensitivity and accuracy improvements are always worthwhile, and in general there is demand for high sensitivity environmental study and development of inertial platforms, were small scale transportable instruments should be used.

We discuss a novel technique to analyse the data, aiming at studying and removing those not-linearities. The aresult of the nalysis applied to the data of the RLG GINGERINO will be shown