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TITLE: Precision ellipsometry with the PVLAS apparatus

ABSTRACT:

The PVLAS experiment is based on a sensitive ellipsometer able to detect light polarization changes at a level better than one part in $1e-8$. The instrument exploits a high-finesse Fabry-Pérot resonator to increase the optical path length, and uses heterodyne detection to extract small signals from the background. The principle of the measurement and the technique will be discussed, along with test measurements with gases.