

Raising The Science

Materials Science Spectroscopy Cryogenics Optics Nanoscience

Sample Synthesis Biotechnology & Chemistry **Industries** Microscopy

Quantum Technology

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Interest in Ferromagnetic Resonance (FMR) spectroscopy at room temperature and cryogenic temperatures is rapidly increasing. This is to a large part due to novel phenomena such as spin pumping, the spin Hall effect, and the inverse spin Hall effect (ISHE). NanOsc Instruments has launched a family of FMR greatly facilitate spectrometers to experimental study of FMR and ISHE in magnetic thin films and multilayers.

The FMR spectrometers working in three frequency ranges, from 2 to 40 GHz, for both room temperature and cryogenic applications. Each instrument comes with its easy-to-use software and analysis utilities to get your measurements up and running in a very short time. The sensitivity and signal-to-noise ratio surpasses VNA based set-ups allowing for direct characterization of ultrathin films and patterned structures. The instruments are used by both industrial and academic customers, in many cases around the clock for routine characterization and statistical process magnetodynamical control of critical properties.

Key features:

- Turn-key FMR spectrometer with easy to use software interface
- Broadband FMR using a coplanar waveguide
- Measures effective magnetization (Meff), anisotro py (Κ), gyromagnetic ratio (γ), damping (α), inhomo geneous broadening (Δ Ho), exchange stiffness (A), inverse spin Hall effect (ISHE) voltage
- Revolutionary variable temperature turn-key FMR spectrometer
- Extracts the temperature dependent MS, damping, inhomogeneous broadening and gyromagnetic ratio
- Avaliable for Montana Instruments Cryostation and Quantum Design PPMS
 - Frequency 2 17 GHz
 - Temperature from 10 K to 350 K
 - Easy to use LabView interface

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