

The research in my group started with the pursuit of room-temperature diluted magnetic semiconductor based on zinc oxide (ZnO) and rare earth elements, and it broadened to study the interplay of different properties of oxide thin films, e.g., semiconducting, magnetism, etc., in hetero-junctions, multilayer heterostructures. We are looking into the effects and mechanism for oxide electronic and spintronic applications.

Techniques used in study

Pulsed-laser deposition, x-ray diffraction, Raman-scattering spectroscopy, atomic force microscopy, photoluminescence spectroscopy, optical transmission spectroscopy, spectroscopic ellipsometry, SQUID magnetometry, spectroscopic magneto-optical Faraday effect, I-V and Hall effect measurement

Fang-Yuh Lo, Associate Professor

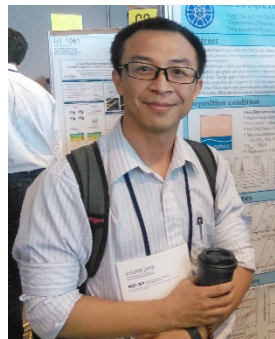
Department of Physics
fangyuhlo@ntnu.edu.tw

Background:

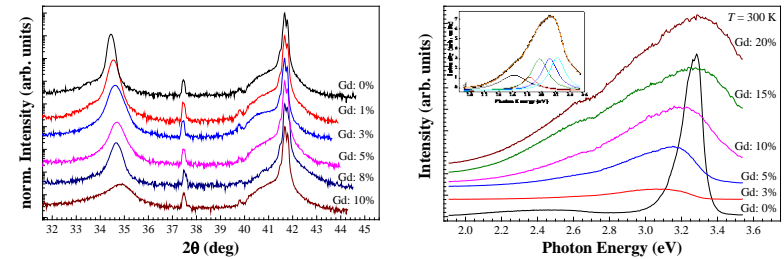
Dr. rer. nat., Fakultät für Physik und Astronomie, Ruhr-Universität Bochum, Germany

Funding:

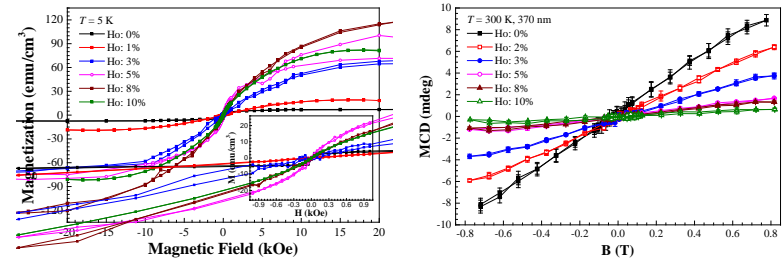
Ministry of Science and Technology
Ministry of Education
National Taiwan Normal University



Thin film crystalline quality and defect identification



Magnetism and magneto-optical effect



Publications

- *Paramagnetic dysprosium-doped zinc oxide thin films grown by pulsed-laser deposition*, **Fang-Yuh Lo***, Yi-Chieh Ting, Kai-Chieh Chou, Tsung-Chun Hsieh, Cin-Wei Ye, Yung-Yuan Hsu, Ming-Yau Chern and Hsiang-Lin Liu, *J. Appl. Phys.* **117**, 213911 (2015).
- *Voltage induced reversible and irreversible change of magnetic coercivity in Co/ZnO heterostructure*, Chuan-Che Hsu, Po-Chun Chang, Venkata Ramana Mudinepalli, Tsung-Chun Hsieh, **Fang-Yuh Lo***, and Wen-Chin Lin*, *J. Appl. Phys.* **119**, 093905 (2016).

