

# Magnetically-induced electric polarization in organo-metallic magnets

Vivien S. Zapf<sup>1</sup>, F. Wolff-Fabris<sup>1,†</sup>, M. Kenzelmann<sup>2</sup>, F. Nasreen<sup>1,3</sup>, F. Balakirev<sup>1</sup>, Y. Chen<sup>4</sup>, and A. Paduan-Filho<sup>5</sup>

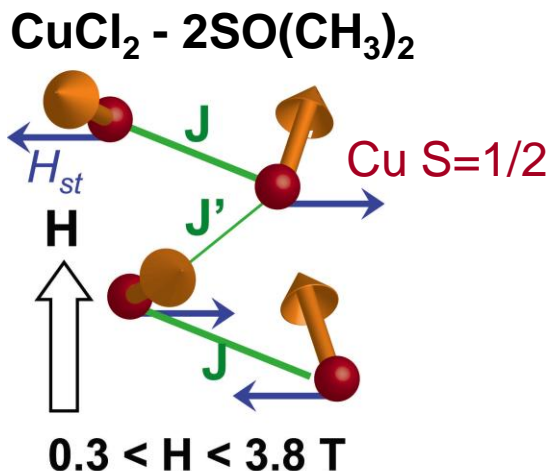
<sup>1</sup>National High Magnetic Field Laboratory (NHMFL), Los Alamos National Lab, NM

<sup>2</sup>Laboratory for Developments and Methods, Paul Scherrer Institute, Switzerland

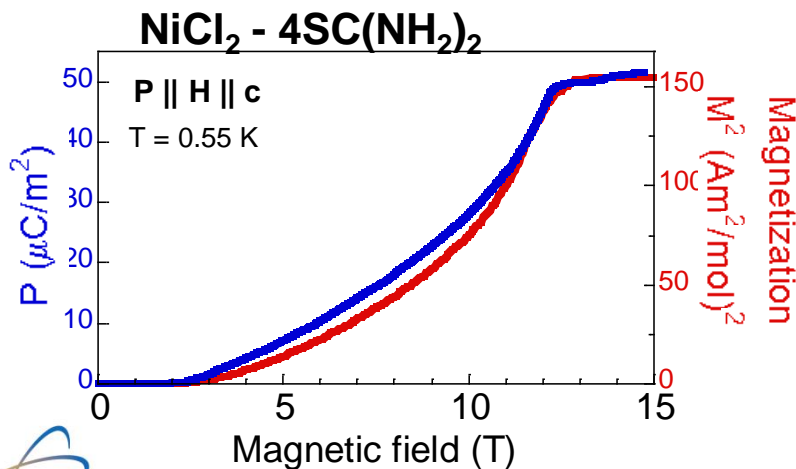
<sup>3</sup>New Mexico State University, Las Cruces, NM;

<sup>4</sup>NIST Center for Neutron Research, Gaithersburg, MD

<sup>5</sup>Instituto de Física, Universidade de Sao Paulo, Brazil; <sup>†</sup>Now at Dresden Hochfeld Labor, Dresden, Germany



- Magnetoelectric and multiferroics combine and couple magnetism and electricity in an insulating material. Fundamental physics and wide-ranging applications to new devices, ultra-precise sensors, and energy-efficient circuits.
- Organo-metallics are a new field to search for complex spin structures that can lead to magnetoelectric effects. These are single crystals that incorporate magnetic transition-metal ions such as Cu or Ni in an insulating organic matrix.
- Measurements in fast pulsed magnetic fields provide unprecedented sensitivity to magnetoelectric effects.



a) *Phys. Rev. B* **82**, 060402(R), 2010,  
*Editor's Suggestion.*  
b) *arXiv*: 1006.4122.