

The Fohtung Research Group

Major Research Projects:

Project 1: Emergent magnetoelectric phases in complex oxides (Binod paudel, Ph.D.,).

Project 2: Strain maps of emergent topological properties in nanoparticles (Postdoc, Dr. Anastasios Patera. Collaborators Dr. Kiefer, NMSU).

Project 3: Nanoscale Mapping of low dimensional systems (Elijah Schold, Ph.D., Postdoc, Dr. Anastasios).

Project 4: Neutron scattering from interface magnetism (Binod paudel, Ph.D.,). Collaborator M. Fitzsimmons, ORNL)

Research funding

- DoD AFOSR Award#: FA9550-18-1-0196; single PI grant, \$165,000/year. May 2018 – May 2021.
- LANL LDRD, Triad National security grant: \$15,000, September 2018
- LANL, Triad National security, Ultrafast Dynamics of Magnetic Materials (ID: 25857), \$23,175.00. December 2017- 2020.

Present/pending/recent research, instrumentation and other grants

Pending Research Grants:

“NSF Early Career”, role: PI, NSF, \$652,846.00, 5 years, proposal submitted, 06/10/2018, under review.

“MRI proposal for US Department of Defense”, AFOSR; role: PI; submitted 10/2018. “

Acquisition of a 9-Tesla Cryogen-Free Physical Property Measurement System for Materials Research at New Mexico State University; pending; \$407,692.00

Research Personnel

Postdoctoral Fellow: Dr. Anastasios Pateras (NMSU)

Grad students: Elijah Schold, A. (Ph.D. student, NMSU, Physics).
Binod Paudel. (Ph.D. student, NMSU, Physics).
Rodion shishko, (M.S. student, NMSU, Electrical Engineering)

Collaborators

Lookman, T. (LANL); Kiefer, B. (NMSU); Harder, R. (ANL); Sandberg, R. (LANL); Nakotte, H. (NMSU); Mikkelsen, A. (Lund Univ, MAX-IV, Sweden), Vasiliev, I. (NMSU); D, karpov. (PSI, Switzerland); Kunka, D. (KIT, Germany); Plech, A. (KIT, Germany); M. Fitzsimmons (ORNL); J. de La Venta (CSU)

Major research accomplishments (in the past year)

Since the last Physics PEAB Meeting my group published 3 peer-reviewed manuscripts, 1 book chapter, 2 manuscripts are in review, 2 manuscripts are in preparation, and 1 patent under review.

Service

Society of Physics students co-mentor; Capstone Mentor (Mechanical and Aerospace Engineering Department, NMSU);