



THURSDAY, NOVEMBER 5 2:00-2:50 PM

ME Research Seminar



Magnetomechanics Modeling of Magneto-Active Polymers

DR. KRISHNENDU HALDAR

Indian Institute of Technology Bombay

Dr. Krishnendu Haldar is currently (2017-) an assistant professor in the Department of Aerospace Engineering at the Indian Institute of Technology Bombay, India. Before joining IITB, he was a postdoc at Ecole Polytechnique [LMS], France (2016-2017). From 2013-2016, he was a researcher at the Institute of Mechanics at TU Dortmund, Germany. Dr. Haldar graduated from the Department of Aerospace Engineering, Texas A&M, USA (2012), and received his Master's degree from IIT-Kanpur (2006).

Talk abstract

Magneto-active polymers are polymer-based composites consisting of magnetizable microparticles embedded in an elastomeric matrix material. The presence of magnetic particles provides strong tunability to the stiffness and damping properties of the polymeric composites under the magnetic field. In the talk, I'll present a novel free energy-based phenomenological modeling for magneto-active polymers. The model calibration takes into account the demagnetization effect, which depends on the specimen size, shape, and its own magnetization. Finally, some model predictions will be presented.

THURSDAY 11/5 2-2:50 PM

Live *Zoom!* LINK: tiny.cc/MinesF20

Info & past videos : me.sdsmt.edu > seminars