



## MAGNETIC BEARINGS

Basic courses in magnetic bearings and controls is vital for manufacturers and operators of machinery that use magnetic bearings. Knowledge of the causes and cures of magnetic bearing failures is vital to all personnel that come in contact with rotating machinery that use mag bearings. Specific courses are tailored to the interest and depth requested by the participants.

### TRAINING TOPICS

- Actuators
- Sensors
- Power Amplifiers
- Fault Tolerance
- Controllers
- Auxiliary Bearings
- Magnetic Materials
- Thrust & Radial Actuators
- Finite Element Analysis
- Alternate Topologies: Homopolar, Semi-Passive, Passive
- Standards and Diagnostics
- Case Studies

### BASIC LEVEL COURSE OBJECTIVES

- Understand the basic operation of magnetic bearings and their key components.
- Be familiar with magnetic bearing standards and operational limits for a variety of machines.
- Do preliminary assessment of the suitability of a given bearing design to a given application.
- Understand common bearing faults and means of diagnosis.
- Troubleshoot basic magnetic bearing problems.

### ADVANCED LEVEL COURSE OBJECTIVES

- Audit the design of magnetic bearing systems.
- Design or redesign magnetic bearings for a variety of applications.
- Troubleshoot complex magnetic bearing problems.

### WHO SHOULD ATTEND

Basic courses in magnetic bearings are intended for electrical or mechanical engineers with no prior exposure to magnetic bearings. Advanced courses are intended for engineers with experience in rotating machinery dynamics and design.