

Application of PCB and FDM Technologies for Magnetic Measurement Probe Development

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Accurate rotating coil measurements require stiff probes, with highly accurate knowledge of the placement of windings, and an ability to buck the fundamental fields well in order to suppress the effects of vibrations. Ideally, for an R&D test environment, probes should also be easy to fabricate so that probe parameters can be customized to the magnet requiring test. Such facility allows measurement optimization for magnets of various multi-polarity, strength, aperture size, cable twist pitch, etc. The accuracy and construction flexibility aspects of probe development, however, are typically at odds with each other. This talk reports on application of printed-circuit board (PCB) and fused-deposition modeling (FDM) technologies, and what these offer to the fabrication of magnetic measurement probe systems.