

## Magnetic Characterization of Coated Conductors

Michael Eisterer

Atominstitut, Vienna University of Technology, Stadionallee 2,  
1020 Vienna, Austria

Email: [eisterer@ati.ac.at](mailto:eisterer@ati.ac.at)

**Abstract** - Magnetic characterization techniques for coated conductors offer considerable advantages over resistive methods, since they do not rely on high current contacts, thus avoiding the resulting heating effects and simplifying the sample handling. In this contribution, we will focus on Hall scanning techniques for the investigation of the local critical current densities to detect magnetic granularity or inhomogeneities resulting from the production process. Results from high-resolution, low temperature, in-field scans will be presented. Prospects and pitfalls of continuous (reel-to-reel) mapping as a quality control tool will be discussed. Magnetic substrates complicate the magnetic characterization of coated conductors, because the signals of sample and substrate have to be separated from each other. An iterative, quantitative approach will be presented.

**Keywords (Index Terms)** – Coated conductors, magnetic characterization, Hall scanning technique, granularity, tape inhomogeneities.