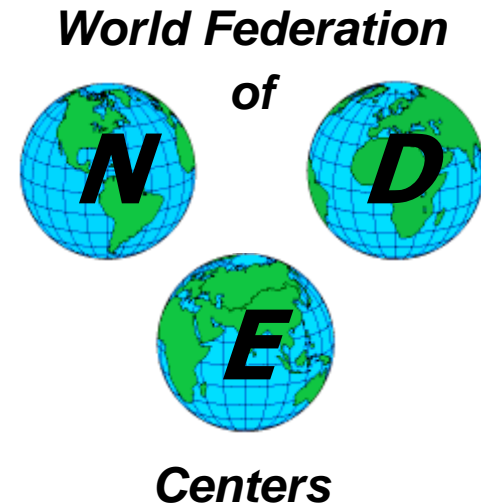


# 2011 MAGNETIC FLUX LEAKAGE BENCHMARK



## **Benchmark Overview**

*The magnetic flux leakage generated by an EDM notch in a steel plate was studied for two different steels (AISI 1010 and AISI 1045). The measurements were performed for different field intensities, liftoffs, and from both sides, simultaneously recording the three components of the magnetic field. Attention was paid to the accurate measurement of the liftoff, and to make the magnetic history of the material as predictable as possible. This was achieved by measuring for decreasing magnetic excitations, starting from saturation. The descending branch of the major loop is measured and reported, to allow for a detailed comparison of models against numerical experiments.*

*Detailed descriptions of the benchmark and the experimental data are available on the Center for NDE ftp site (<ftp.cnde.iastate.edu>) in the pub directory in the folder named 2011 MFL Benchmark. Please contact Prof. Schmerr ([lschmerr@cnde.iastate.edu](mailto:lschmerr@cnde.iastate.edu)) for the user name and password for this site.*

*The experimental data for these studies was obtained by Javier Etcheverry and colleagues at the Applied Physics Dept., TenarisSiderca REDE-AR, Campana, Argentina, B2804MHA. For any questions on the parameters and data please contact Dr. J.L. Etcheverry ([jetcheverry@tenaris.com](mailto:jetcheverry@tenaris.com)).*