CAS course on "Normal- and Superconducting Magnets", 19 November - 02 December 2023, St. Pölten, Austria



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## Hysteresis and dynamic effects in SC magnets

Monday 27 November 2023 09:30 (1 hour)

After a short digression about the physics of magnetisation in ferromagnetic materials as iron, we will discuss the magnetisation in the superconductors, and its relation to the stability of the superconductor and to the strand architecture. We then discuss the impact of the magnetisation on field quality; we then outline the ramp rate effects, and its impact on the cable design. We conclude on how to estimate the losses due to all these phenomena.

Presenter: Dr TODESCO, Ezio (CERN)