CAS course on Basics of Accelerator Physics and Technology, 10-14 March 2025, Ferney-Voltaire, France



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Normal-Conducting & Permanent Magnets

Monday 10 March 2025 16:30 (1 hour)

This lecture will focus on normal-conducting iron-dominated electro-magnets, and on permanent magnets for accelerators.

We will start with the electro-magnets, explaining the basic principles and technologies, the main features of their design, and what is their primary function in a modern particle accelerator.

In the second part, we will have a look at permanent magnet materials, and how they can be used in accelerator magnets. We will also compare electro-magnets and permanent magnets, and explain how we can partially overcome the permanent magnet limitations.

Presenter: BAUCHE, Jeremie (CERN)