

FTEC Project: Studies for the LHC Injection Kicker Magnets

Department:

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Description:

An LHC Injection Kicker Magnet is being upgraded to be compatible with HL-LHC beam. You will support these upgrade through theoretical work (e.g. simulations of magnetic field, electric field and beam coupling impedance) in addition to practical work (e.g. participate in high voltage testing as well as assisting with the design and setup of partial discharge tests).

Functions and training value:

- As a trainee in the pulsed power section of the accelerator beam transfer group you will join the multidisciplinary LHC injection kicker upgrade team
- You will become proficient in the use of finite element electromagnetic codes
- You will have the opportunity to learn about unique high voltage challenges and participate in high voltage testing and qualification
- The project offers a wide portfolio of knowledge transfer possibilities in the field of pulsed power, electrical engineering and magnet design and construction and will be supervised by a CERN senior engineer

Qualification / skills required:

- Master's Degree in Electrical Engineering
- An interest in electromagnetics
- Knowledge in use of electromagnetic codes, e.g. Opera or CST is beneficial but not mandatory
- Participation in both theoretical and practical work is required