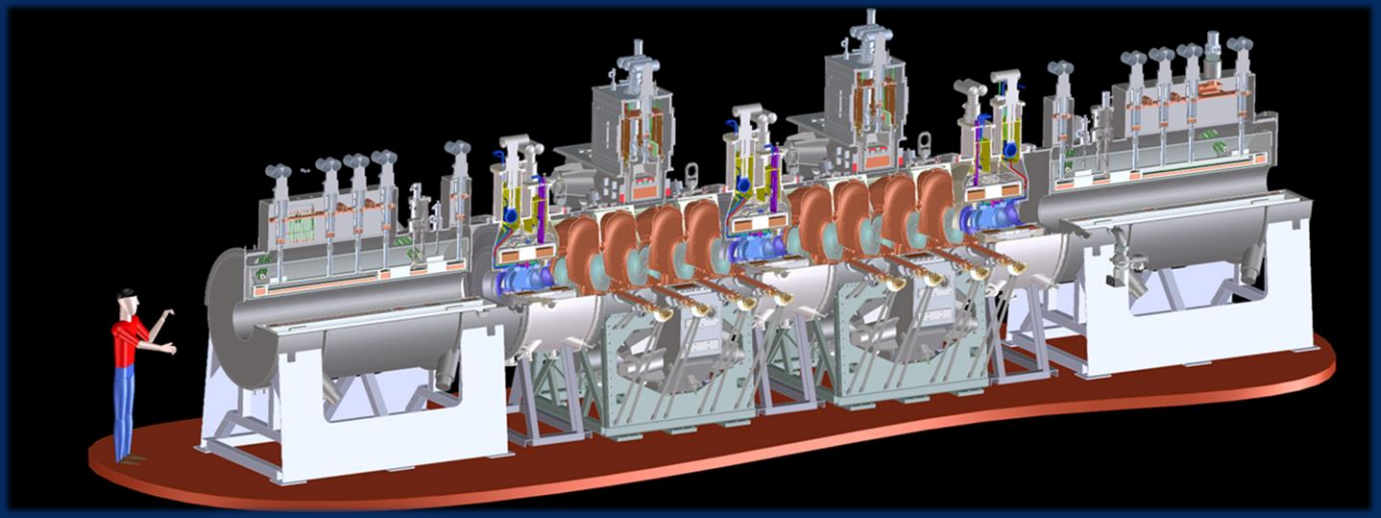
MICE Magnet Commissioning



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For the MICE Magnet Team
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Toward an Ultimate Plan

- Start with Step IV (Spectrometer Solenoids and Focus Coil)
  - Opportunity to gain experience on less complex system
  - Will inform procedures for Coupling Coil integration into MICE
  - Quench/Training performance of Coupling Coils will also influence process
  - Ideally we would like to operate/train the system simultaneously
    - Potentially reduce overall training time
    - At least one quench per magnet per day

Concerns and Considerations

- Know that Spectrometer Solenoids need to be retrained
- Don't know about Focus Coils yet
- Will magnets interact such that training is affected?
  - Forces between magnets much less than inter-coil forces
  - Spectrometer Solenoid did not retrain when switched from flip mode to solenoid mode
- Will quench in one magnet induce quench in others?
  - Spectrometer Solenoids operate well below short sample
  - Focus coil effect on Spectrometer Solenoids very small

Implementation

- Use established procures for retraining
- Lesson learned from last Spectrometer Solenoid test
  - Need a fully exercised, robust controls system
  - Should be as close as possible to final configuration used in MICE Hall
    - Will save considerable time in start up and execution of commissioning
- Some form of high level integration
  - Integrated logging system covering all magnet sub-systems

Extent of what we want/need still under discussion

Operating Modes for 240 MeV/c

Coil	Target (A)	Peak (A)
M1	265	270
M2	280	285
E1	234	239
C	278	283
E2	249	254

Flip Mode

Coil	Target (A)
M1	281
M2	256
E1	234
C	274
E2	253

Solenoid Mode