Contribution ID: **29** Contribution code: **WEP058** Type: **Poster Presentation**

Magnetic field and force calculation of the new SCU prototypes

Wednesday 13 August 2025 16:00 (2 hours)

New 0.5m long SCU prototypes were designed based on lessons learned from the previous full length (1.5 m) core experiences. The original monolithic cores have all steel poles. The new cores have plastic back poles to avoid electrical shorts of superconducting wires to cores. Magnetostatic calculation was made for one period model for each of two designs under consideration. Then, magnetostatic, and mechanical analysis was also conducted for the prototype SCUs with the lengths of 29.5 and 23.5 periods. The software used for this simulation is ANSYS Maxwell and Mechanical. Both the magnetostatic and the mechanical analyses confirm the validity of the new design.

Please consider my poster for contributed oral presentation

Yes

Would you like to submit this poster in student poster session on Sunday (August 10th)

No

Footnotes

Funding Agency

Work supported by the U.S. Department of Energy, Office of Science, under Contract No. DE-AC02-06CH11357.

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Yes

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Session Classification: WEP: Wednesday Poster Session

Track Classification: MC7 –Accelerator Technology and Sustainability