



Contribution ID: 20

Type: **not specified**

SC magnet design - mechanical I

Wednesday 22 November 2023 12:00 (1 hour)

Superconducting magnets create very high magnetic fields thanks to their intrinsically large current densities. As a consequence, large electromagnetic forces are created. Obviously, support structures are needed to hold these forces without degradation. Furthermore, as a specific feature of superconductors, proper support of the coils is necessary to avoid premature quenches. This lecture starts with a review of the basic concepts for mechanics applied on superconducting magnets, to review later the recommended support structures depending on the field level and type of magnets.

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