BROOKHAVEN NATIONAL LABORATORY

Superconducting Magnet Division

HTS/LTS High Field R&D Dipole

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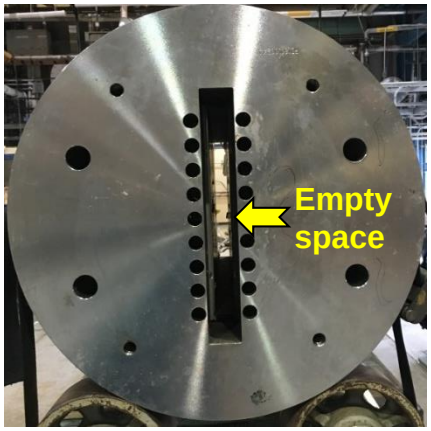
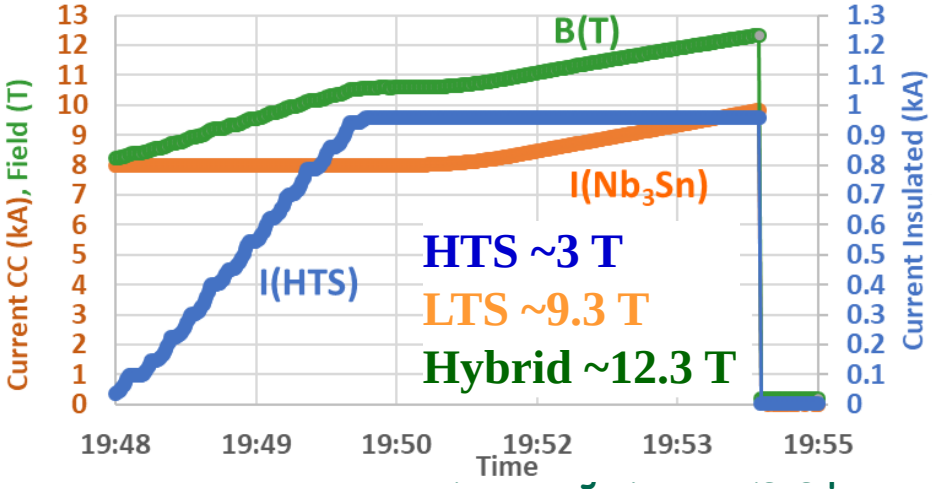
Highlights: (a) Record 12.3 T HTS/LTS hybrid field, (b) Quench protection of HTS coils, (c) Magnetization studies

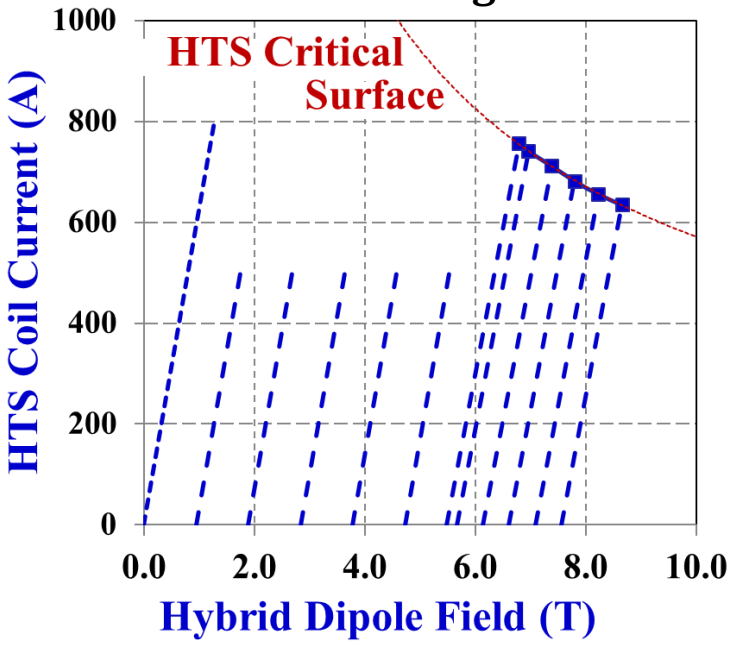
Easily insert HTS coils in 10 T Nb_3Sn dipole
HTS coils become integral part of the magnet



Record 12.3 T HTS/LTS hybrid field created!
Several quenches in LTS coils; both coils OK



Several quenches in HTS coil (NO training)
Coils survived. HTS deenergized before LTS



HTS coils ramped up and down in 2 T field
Much lower magnetization for field parallel