

Curved Fast Ramping Dipole Prototype



MAGNETS
FOR FUSION



MAGNETS FOR HIGH
ENERGY PHYSICS



MAGNETS FOR
MEDICAL
APPLICATIONS

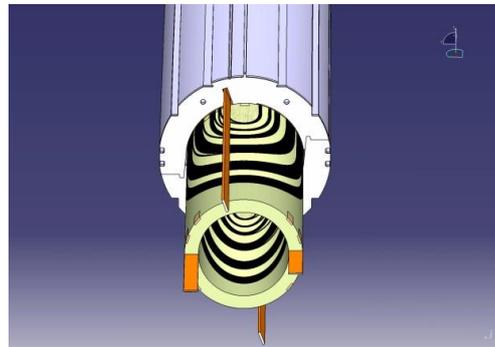


SYSTEMS
FOR ENERGY

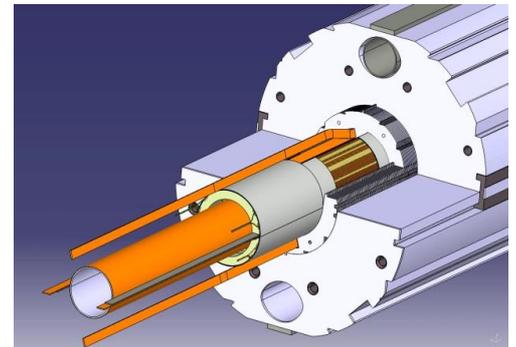


SERVICES & REPAIRS

ASG has contributed to the design, and carried out the industrialization and the manufacturing of a prototype of the curved fast ramped dipole magnets that shall constitute the SIS 300 collider ring for protons and ions. The main peculiarities of this magnet reside in the ramping rate of 1 T/s and in their geometrical shape which is curved over a radius of 66m. The prototype consists at present of a set of dipole coils, wound and cured. It is important to notice that for preserving the mechanical robustness of the system, the coils are directly wound on a bent mandrel (differently from the LHC dipoles that were wound on a straight mandrel). The nominal field generated is 4.5T, the magnet aperture diameter measures 100 mm and the coils are 4000 mm long.



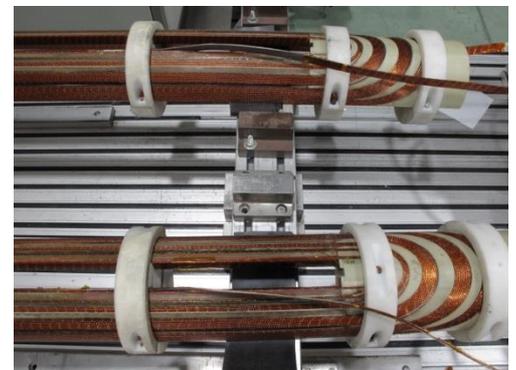
3D CATIA collared dipole model



3D CATIA collared dipole model inserted in yokes



Curved superconducting layers



Heads detail