

Performance Testing of Low-Resistance Demountable HTS Joints for Large Segmented Magnets

Topic Area:
Enabling
technology

Partner	Company
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Project Summary:

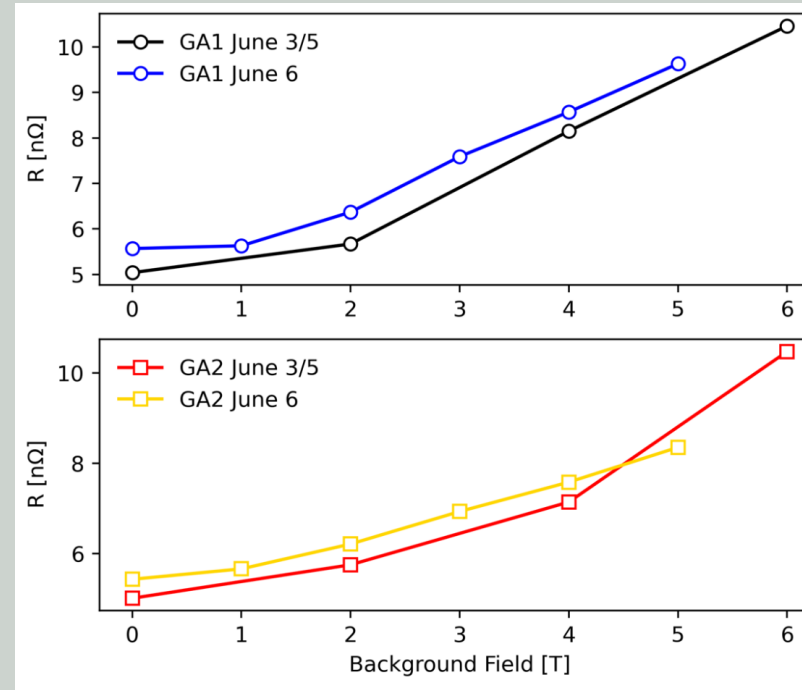
We measured the electrical resistance of demountable high-temperature superconducting CORC[®] cable terminations in a background magnetic field up to 6 T at 4.2 K. The resistance increased from 5 nΩ at self-field to 10 nΩ at 6 T.

Fusion Impact:

The measured electrical resistance value of the termination concept can provide important technical guidelines for developing the superconducting magnet system for future fusion devices.

Business/Market Impact:

Provided first validation to a critical technical component of future commercial fusion plant.



Measured joint resistance as function of background magnetic fields at 4.2 K.

Period of Performance:	Federal Share:	Cost Share:
11/14/2022 – 11/30/2024	\$259,070	\$155,000



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