SRF2025 TOKYO

22ND INTERNATIONAL CONFERENCE ON RF SUPERCONDUCTIVITY

September 21-26, 2025

Contribution ID: **51** Contribution code: **WEB04** Type: **Invited Oral Presentation**

Direct measurement of magnetic fields generated in Nb3Sn samples during cooldown

Wednesday 24 September 2025 12:00 (20 minutes)

We present trapped flux data of Nb3Sn samples prepared with sputtering and via bronze route. The data shows that during cooldown magnetic fields with magnitudes several times that of the earth's magnetic field can be generated. As the sample becomes superconducting the fields are trapped and can be directly measured by our setup. In the data a correlation between field magnitude and the temperature gradient during cooldown is evident, where higher gradients lead to more generated magnetic field. These results can have an important impact on the production and operation of Nb3Sn cavities.

I have read and accept the Privacy Policy Statement

Yes

Footnotes

Funding Agency

Author: KRAMER, Felix (Helmholtz-Zentrum Berlin für Materialien und Energie)

Co-authors: KNOBLOCH, Jens (Helmholtz-Zentrum Berlin für Materialien und Energie; University of Siegen); KUGELER, Oliver (Helmholtz-Zentrum Berlin für Materialien und Energie)

Presenter: KRAMER, Felix (Helmholtz-Zentrum Berlin für Materialien und Energie)

Session Classification: Wednesday Oral Session: B

Track Classification: MC2: Fundamental SRF research and development