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First results of the sXmap cavity field emission detection system from inside a cryomodule

Monday 11 August 2025 16:00 (2 hours)

Field emission (FE) has been one of the limiting factors in achieving high gradients in superconducting RF cavities. While the causes for FE are mostly known (contaminants on the inner cavity surface, dust, gases adsorbed···), identifying the exact location of field emitters has been a challenge. A detection system developed by Kyoto University has been developed to address this task, the sXmap system. This diagnostic device is made of inexpensive sensor strips that wrap around the iris of a multi cell SRF cavity that sense x-rays generated by FE. In this paper we will present the results obtained from a naked 6 cell SRF cavity in a vertical test configuration, and –for the first time –the results obtained from applying the sensor strips to an SRF cavity already installed inside a cryomodule in our test cave at ORNL –SNS.

Please consider my poster for contributed oral presentation

No

Would you like to submit this poster in student poster session on Sunday (August 10th)

No

Footnotes

Funding Agency

I have read and accept the Privacy Policy Statement

Yes

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