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## Plasma cleaning efforts at Fermilab

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Plasma processing can be used to mitigate hydrocarbon-related field emission in SRF cavities in situ in cryomodules. At Fermilab we developed plasma cleaning for LCLS-II 1.3GHz N-doped cavities and we successfully applied to the LCLS-II High Energy verification cryomodule (vCM). This test demonstrated that plasma processing can be a valuable tool to mitigate both field emission and multipacting in situ in cryomodules. This would result in a significant decrease of the CM testing time, of the linac commissioning time and cost, and in an increase in the accelerator reliability.

Building upon this successful experience, we are now working on developing plasma processing for different cavity geometries, focusing both on the ignition method and on the gas mixture recipe.

### Funding Agency

### Footnotes

### I have read and accept the Privacy Policy Statement

Yes

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