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Plasma processing of ESS elliptical cavities

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Plasma treatment has proven effective in recovering and reducing field emission in the affected superconducting radiofrequency (SRF) cavities. A joint effort is underway between CEA, ESS and INFN to apply this technique to the treatment of elliptical cavities in the ESS linac. This paper presents the work done so far, which aims at both the development of the plasma process for cavities in the cryomodule and the treatment of cavities in the vertical test configuration. The peculiarity of ESS cavities compared with typical cavities at 1.3 GHz is the absence of couplers for higher orders.

Footnotes

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