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High Q –high G study on single cell medium grain niobium cavities

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Medium Grain Niobium (MG Nb) is a cost-effective material compared to Fine grain Nb (FG Nb) that has isotropic mechanical properties, and can clear the high-pressure gas safety criteria for a 1.3 GHz 9-Cell jacketed Tesla cavity. At KEK, various high Q –high G surface treatments have been applied to the 1-Cell MG Nb cavities and its performance has been measured via vertical tests, with and without trapped flux. It has been observed that the performance of these cavities are on par with FG Nb cavities for standard, 2-step and Mid-T furnace baking. Moreover, the flux expulsion of the single cell MG Nb cavity has been studied at 800 and 900 ℃ annealing.

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Yes

Footnotes

Funding Agency

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