

Potential performance of N doping and Nb₃Sn

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Plans for FCC call for 11 GV of RF voltage for ee-tt, corresponding to ~2600 SRF cells. In this contribution, we examine recent developments in state-of-the-art SRF technology that can reduce the cost burden of this significant infrastructure. Topics of discussion include new nitrogen infusion processing for bulk niobium, progress in Nb₃Sn coatings, and preparation techniques that promote flux expulsion. For each, we estimate the impact on the cost of the SRF infrastructure as well as the technical challenges with their implementation.

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