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Status of PIP-II HB650 cavities production

Wednesday 4 June 2025 16:00 (2 hours)

STFC is responsible for delivering 20 high-beta 650 MHz cavities for the PIP-II project, with industry partners now producing series cavities. Both pre-series cavities have set world records in performance and cleanliness, meeting the project's stringent requirement for field emission-free operation, accelerating gradient, and Quality factor. Achieving this milestone required an industrialization of advanced processing techniques, including cold electropolishing and nitrogen doping, and a major effort to optimize cleanroom operations at the vendor's facility.
We will present the journey from prototyping to industrial production, highlighting the technology transfer, cleanroom upgrades, and QA/QC procedures that enabled these record-breaking results. Early performance data from the first series cavities will also be shared, demonstrating progress toward full-scale production.

Footnotes

Paper preparation format

Word

Region represented

Europe

Funding Agency

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