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Recent advances in normal conducting radiofrequency linac structures

Monday 26 August 2024 10:00 (30 minutes)

Normal conducting radiofrequency (NCRF) technology plays a crucial role in the development of more compact and cost-effective linear accelerators with increased energy reach and intensity. Over the past few years, NCRF structures have seen remarkable progress in accelerating gradient, RF-to-beam efficiency and overall performance that could lead to compact linacs for a multitude of applications. These advances are driven by new understanding of RF breakdown physics, innovative structure topologies and coupling schemes, advanced materials and fabrication techniques, and new operating regimes including operation at cryogenic temperatures, at various frequencies, and with nanosecond-scale RF pulses. In this talk, I will review some recent progress in NCRF structures and discuss their synergies with advanced accelerator concepts towards future colliders and compact light sources.

Footnotes

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