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Design and simulation of 975 MHz superconducting radio frequency cavity

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The superconducting linac is proposed for effective acceleration of proton beam in a new project of China Institute of Atomic Energy. A 975MHz superconducting radio frequency cavity is designed to accelerate the H+ ion beam in the energy range from 500 MeV to 1000 MeV. This paper will present the design and simulation, including the multi-parameter electromagnetic design and optimization, high-order modes analyses, multipacting simulations, mechanical and engineering analyses. A prototype cavities were fabricated and vertical tested to verify the electromagnetic properties, the fabrication and post-processing technologies.

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Yes

Footnotes

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Author: FAN, Yuxuan (China Institute of Atomic Energy)

Co-authors: YANG, Jinghe (China Institute of Atomic Energy); Mr WANG, Bo (China Institute of Atomic Energy); Mr LEI, Han (China Institute of Atomic Energy)

Presenter: Mr WANG, Bo (China Institute of Atomic Energy)

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