Iranian Journal of Physics Research, Vol. 17, No. 2, 2017
Proceedings of the 2nd National Conference on Particle Accelerators & Their Application, November 2015

Design, fabrication and comparison of two power combiners: cylindrical and coaxial cavities

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Abstract
Resonant structure is one of the proposed methods in combining power in RF systems of RF accelerators. In this structure, fabrication of RF power divider or combiner using coaxial and cylindrical cavity is important. In this study, two combiners, in the same frequency band, are designed and fabricated; and their results are compared. The experimental results confirmed the simulation results and showed that compared with cyclical cavity, the power combiner with coaxial cavity is smaller, more easily adjustable, and is more suitable for use in RF systems of RF accelerators.

Keywords: RF power combiner, coaxial cavity, cylindrical cavity, RF accelerator

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