

Abstract Submitted  
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**Design & Testing of Magnetic Field for 2.45 GHz Compact ECR Ion Source** SHANKAR NAIR, Embry-Riddle Univ — This paper describes the theory, design and 3D simulation of the magnetic field for a 2.45 GHz ECR ion source to be fabricated at the Bhabha Atomic Research Center (BARC), India. One Tesla NdFeB permanent sector magnets are to be used in ring configuration to achieve the desired axial field for resonance condition. A verification of the software used for finite element analysis (CST particle studio) was done by comparing the experimental results with that of the software for a 12- sided polygonal structure embedded with 0.6 Tesla NdFeB permanent magnets. The axial magnetic field results ( $B_z$ ) of both methods follow the same general trend with a percentage error of 3.55% in the  $B_{peak}$  value.

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