

Abstract Submitted
for the DPP09 Meeting of
The American Physical Society

3D-MAPTOR Code for computation of magnetic fields in tokamaks¹ ESTEBAN CHÁVEZ-ALARCÓN, Instituto Nacional de Investigaciones Nucleares, JULIO HERRERA-VELÁZQUEZ², Universidad Nacional Autónoma de México — A 3dimensional code has been developed in order to determine the magnetic field in tokamaks, starting from the assumption that the toroidal and vertical field coils are all circular, as well as the cross section of the plasma current distribution. It was earlier used to study the stochastization of the outer magnetic surfaces [1] and to reconstruct the evolution of the plasma column, using the experimental signals of tokamak discharges. These results were compared with tomographic reconstructions of the ISTTOK tokamak [2]. We present an upgrade of the code, in which rectangular toroidal field coils and D shaped plasma current cross sections can be included. The code is particularly useful to study the effect of the ripple along the toroidal coordinate.

[1] E. Chávez, et al., “Stochastization of Magnetic Field Surfaces in Tokamaks by an Inner Coil” in Plasma and Fusion Science, AIP Conference Proceedings Series 875 (2006) pp.347-349.

[2] B.B. Carvalho, et al., “Real-time plasma control based on the ISTTOK tomography diagnostic”, Rev. Sci. Instrum. 79 (2008)10F329.

¹This work is partially supported by CONACyT projects 44324-F and U47899-E.

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Date submitted: 16 Jul 2009

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