

Abstract Submitted
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Application of VMEC to RFX Equilibria and Data Analysis¹ S.P. HIRSHMAN, ORNL, N. POMPHREY, PPPL, D. TERRANOVA, RFX Padova, ITALY, L. MARRELLI, M. GOBBIN, I. PREDEBON, P. MARTIN, E. MARTINES, B. MOMO, RFX — Recent experimental data in RFX (Reversed Field Experiment) indicate the formation of long-lived helical structures. The modification of VMEC (Variational Moments Equilibrium Code) to compute these three-dimensional equilibria is described. Previous applications of VMEC relied on the presence of a strong (non-reversing) background toroidal magnetic field. The reversal point in RFX, where the toroidal field changes sign inside the plasma, requires a new internal magnetic field representation in VMEC. A rich suite of codes for computing transport (DKES) and stability (COBRA and TERPSICHORE) has been developed around VMEC and can now be applied to RFX as well. VMEC equilibria for RFX are compared with ones computed with the SHEq code, which is based on a perturbative approach.

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S. P. Hirshman
Oak Ridge National Laboratory

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