

Numerical Solutions of The Grad-Shafranov Equation for Damavand Tokamak Geometries

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The MHD equilibria with non-circular cross section in axisymmetric toroidal plasma has been studied. These equilibria are characterized by three parameters, viz. elongation, triangularity, and magnetic axis shift. The Grad-Shafranov equation is solved using flux coordinate system numerically. And the surface of the constant poloidal magnetic flux, $\psi(R, Z)$, are obtained. Damavand tokamak geometries has been applied to calculate the flux surfaces and a sample of these results is given.

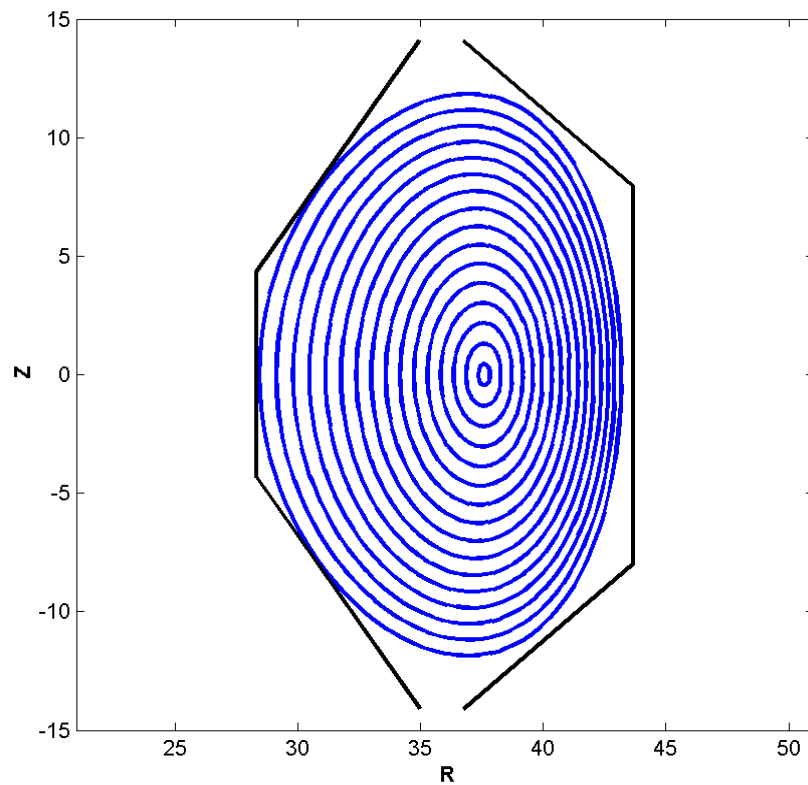


Figure 1. flux surface contours of Damavand tokamak equilibrium

References

- [1] L. L. Lao, S. P. Hirshman, and R. M. Weland. *Phys. Fluids* **24**(8), (1981)