



Plasma shape and finite β effects on stability thresholds of the ion temperature gradient modes

B. Jhowry and S. Dastgeer

Department of Electromagnetics
and Euratom/VR Association
Chalmers University of Technology
S - 41296 Göteborg, Sweden

Abstract

The stability of electromagnetic Ion Temperature Gradient (ITG) driven modes with emphasis on the lower and upper stability thresholds is investigated by a collisionless magnetised plasma in both circular and noncircular geometry. The stability properties are discussed and the results are compared for finite beta effects, arbitrary elongation and Shafranov shift rate parameters. It has been found that the lower stability thresholds are weakly dependent on the (combined) effects of Shafranov shift rate, finite beta and elongation whereas the second (upper) stability regime shows substantial dependence depending on parameter regimes.