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Kinetic Effects on Resistive Tearing Mode and Drift Tearing mode HAO SHI, University of Science and Technology of China, WENLU ZHANG, Institute of Physics, Chinese Academy of Sciences — The kinetic effects on stability of resistive tearing mode are investigated by global simulations in cylindrical geometry using Gyrokinetic Toroidal Code(GTC). The fluid simulation of resistive tearing mode agrees well with theory prediction. Kinetic effects are found to reduce the growth rate of the tearing mode and the radial width of mode structure. The drift-tearing mode is obtained when considering density gradient, which has the frequency of the diamagnetic drift frequency. The decrease of growth rate due to the diamagnetic drift motion is observed, which agrees well with the derivation of theory. Besides, the radial mode width of the drift tearing mode is wider.

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