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Neoclassical Conductivity and Fraction of Trapped Particles for Damavand Tokamak. FATEMEH DINI, Amirkabir University of Technology, SINA KHORASANI, Sharif University of Technology, AMIRKABIR UNIVERSITY OF TECHNOLOGY COLLABORATION, SHARIF UNIVERSITY OF TECHNOLOGY COLLABORATION — The Spitzer or classical conductivity is the conductivity of cylindrical plasma column**.** The neoclassical theory, taking into account the toroidal geometry of the plasma, predicts under certain conditions the existence of so–called banana particles, which are trapped in the magnetic field and do not contribute to the plasma conductivity. Here, the best proposed expression for the neoclassical conductivity in terms of fraction trapped particle has been used. A standard model for the Damavand Tokamak plasma equilibrium, with large-aspect-ratio and elongation (A$\sim$5.1, k$\sim$1.2), is considered for evaluating averaged magnetic field in flux coordinates. Analytical and numerical calculations have been obtained using integration of ellipticity function within the approximation of large aspect ratio and zero-shift of flux surfaces for Damavand Tokamak.

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