

Abstract Submitted
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Application of the Finite Orbit Width Version of the CQL3D Code to Transport of Fast Ions.¹ YU.V. PETROV, R.W. HARVEY, CompX — The CQL3D bounce-averaged Fokker-Planck (FP) code [1] now includes the "fully" neoclassical version in which the diffusion and advection processes are averaged over actual drift orbits, rather than using a 1st-order expansion. Incorporation of Finite-Orbit-Width (FOW) effects results in neoclassical radial transport caused by collisions, RF wave heating and by toroidal electric field (radial pinch). We apply the CQL3D-full-FOW code to study the thermalization and radial transport of high-energy particles, such as alpha-particles produced by fusion in ITER or deuterons from NBI in NSTX, under effect of their interaction with auxiliary RF waves. A particular attention is given to visualization of transport in 3D space of velocity+major-radius coordinates. [1] R.W. Harvey and M. McCoy, "The CQL3D Fokker Planck Code", www.compenco.com/cql3d

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