

Abstract Submitted
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The temporal evolution of the resistive pressure-gradient-driven turbulence and anomalous transport in shear flow across the magnetic field HAE JUNE LEE, VLADMIR MIKHAILENKO, Pusan National Univeristy, VLADIMIR MIKHAILENKO, Pusan National University — The temporal evolution of the resistive pressure-gradient-driven mode in the sheared flow is investigated by employing the shearing modes approach. It reveals an essential difference in the processes, which occur in the case of the flows with velocity shearing rate less than the growth rate of the instability in the steady plasmas, and in the case of the flows with velocity shear larger than the instability growth rate in steady plasmas. It displays the physical content of the empirical quench rule which predicts the suppression of the turbulence in the sheared flows when the velocity shearing rate becomes larger than the maximum growth rate of the possible instability. We found that the distortion of the perturbations by the sheared flow with such velocity shear introduces the time dependencies into the governing equations, which prohibits the application of the eigenmodes formalism and requires the solution of the initial value problem.

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