

Abstract Submitted  
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**Dynamics of plasma parameters during high pressure gas injection in tokamaks** ELENA BARONOVA, VICTOR VIKHREV, RRC Kurchatov Institute, DMITRII MOROZOV, RRC KURCHATOV INSTITUTE TEAM — We propose two-fluid model, based on energy balance equations to describe plasma dynamics during high pressure gas injection in tokamaks. Model includes energy exchange between electrons and ions, Joule heating, radiation losses, generation of high energy electron beam (run away ‘seed’ and avalanche effect are taken into account). Special attention is given to the calculation of radiation losses in unstable plasma. Density effect and opacity effects are analyzed in detail. Calculations are made for argon, neon, xenon gases. Dynamics of radiation losses is compared with that, measured in experiments. The results of calculations are in good agreement with experimental results on DIII-D machine.

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