# Equilibrium solutions of MHD equations for GAMs in the edge tokamak plasma

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Two-field $\{\varphi, p_e\}$ set of reduced two-fluid Braginskii equations, describing behavior of GAMs with $n$=0, $m$=0,±1 was used:

$$\frac{n_0 mc^2}{B^2}\left(\frac{\partial w}{\partial t}+\mathbf{V_E}\cdot\nabla w\right)=\nabla_{\|} j_{\|}+e\mathbf{Y}\cdot\nabla(p_e+p_i)+\frac{n_0 mc^2}{B^2}\left(\mu\Delta_{\perp} w-\frac{1}{r}\frac{d}{dr}rF_{NEO}\right),$$

$$\frac{\partial p_e}{\partial t}+\mathbf{V_E}\cdot\nabla p_e-\frac{j_{\|}}{en_0}\nabla_{\|} p_e=\frac{5}{3}p_e\nabla_{\|}\frac{j_{\|}}{en_0}+\frac{5}{3}\mathbf{Y}\cdot\{\nabla(p_e T_e)-ep_e\nabla\varphi\}+\chi_{\|e}\cdot\nabla_{\|}^2 p_e+\chi_{e\perp}\Delta_{\perp} p_e$$

The steady-state equilibrium solutions for GAM with account of longitudinal dissipation ($\sigma_{||}$) was found. The poloidal rotation velocity, and the electric potential similar to the Pfirsch-Schlüter potential were calculated for the edge plasma of T-10 tokamak.