



IAEA FEC 201

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## Numerical calculations of plasma response to external magnetic perturbations

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We investigate the effect of resistivity, mainly on pitch resonant responses induced by plasma rotation. As a confirmation of the newly developed code, we report that the detailed physics may not be important since the pitch resonant response is relatively weak at high resistivity and the penetration is strongly dependent on plasma rotation at low resistivity. At low resistivity, ion collisionality can affect the penetration of RMPs through poloidal flow. The preliminary quasilinear results with  $n = 0$  parallel flow and radial electric field show that the torque induced by RMP may modify parallel flow significantly  $t10^4 t_A \sim 1ms$  after RMP application.

The detailed quasilinear responses will be presented with the possible implication on ELM suppression.

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Republic of Korea

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