Abstract Submitted
for the DPP19 Meeting of
The American Physical Society

Pedestal parameter dependences of $n = 1$, RMP-driven, ELM-crash control on KSTAR[1] M. KIM, W.H. KO, Y.M. JEON, J. LEE, S.-H. HAHN, G.Y. PARK, National Fusion Research Institute, Y. IN, Ulsan National Institute of Science and Technology, W. SUTTROP, Max Planck Institute for Plasma Physics, KSTAR TEAM — RMP ELM-crash control is expected to be unified soon in terms of the accessibility conditions among multiple devices, helping us to predict the performance in ITER and beyond. Utilizing the improved Thomson scattering profiles in KSTAR, we have launched a rigorous edge parameter scan, focusing on a few key edge parameters, such as edge plasma rotation and collisionality (ν_e^*). Based on a typical n=1 RMP-driven, ELM-crash-suppression condition at q_{95} ∼5, both parameters have been explored using a controlled divertor gas puff under P_{NBI}=2.85 MW, where ν_e^* varied from ∼0.2 to ∼1.0 (at Z_{eff}=2). The ELM-crash-suppression was observed at $0.4 < \nu_e^* < 0.7$ with I_{RMP}=1.7 kA/turn. Interestingly the ELM-suppression window was slightly expanded to $0.3 < \nu_e^* < 0.8$ by applying more I_{RMP} of 2.1 kA/turn. To quantify the uncertainties of the prior estimates, a set of qualified data in previous run-campaigns are reprocessed. So far, both parameters remain in a similar range, despite more diversified conditions; $P_{NBI} = 2.8 - 3.4$, and $q_{95} \sim 5.1 - 5.5$. But, to ascertain whether the limits of ν_e^* exist, along with an edge rotation threshold for ITER-like low-torque plasma, additional scans are planned in KSTAR as ITPA-PEP activity.

[1]This research is supported by Korea Ministry of Science and ICT under NFRI RD programs (NFRI-EN1901-10).

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Date submitted: 03 Jul 2019 Electronic form version 1.4