

Abstract Submitted
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**Kinetic dynamics simulation of
the detached plasma** THEERASARN PIANPANIT, The Graduate University
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Oroshi-cho, Toki 509-5292, Japan — The detached plasma has been proposed to
reduce the heat flux to the divertor. Fluid code has been widely used to investigate
the detached plasma but the cooling of plasma, trapped particle effects, and other
kinetic dynamics in the detached plasma has not been well understood. Particle-in-
Cell (PIC) simulation with the Monte Carlo collisions and the cumulative scattering
angle coulomb collision are carried out to study dynamical kinetic behavior of the
plasma. The constant pressure and temperature of neutral gas box in front of the
divertor target model has been used in the simulation. The results show the decrease
in electron temperature in front of the divertor plate strongly relate to the Coulomb
collision frequency.

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