Abstract Submitted
for the DPP14 Meeting of
The American Physical Society

**Simulations of particle and heat fluxes to divertor targets of ELMy H-mode in DIIID and EAST**[1] T.Y. XIA, Institute of Plasma Physics, CAS, X.Q. XU, M.E. FENSTERMACHER, Lawrence Livermore National Laboratory, G.Q. LI, H.Y. GUO, Institute of Plasma Physics, CAS — The BOUT++ simulations for the evolution of the particle and heat fluxes during ELM bursts on DIIID and EAST will be presented. The profiles of DIIID H-mode discharge 144382 with fast target heat flux measurements are used as the initial conditions. This ELM is found to be driven by the resistive-ballooning mode. A flux-limited parallel thermal conduction is used with three model values of the flux-limiting coefficient $\alpha_{\mathrm{j}}$. A larger $\alpha_{\mathrm{j}}$ leads to a larger radial heat flux, which can enlarge the total energy loss and also the heat fluxes to targets. The sheath-limit value is the most appropriate one here which shows ELM sizes very close to the measurements. The evolution of the spreading widths and amplitudes of the heat flux profiles on targets due to ELMs is well reproduced. Magnetic flutter combined with parallel thermal conduction can enhance the radial transport and enlarge the total energy loss by 33%, and is able to generate longer and wider lobe structures near the X-point at LFS. The EAST ELMy H-mode driven by ideal peeling-ballooning modes is used to validate the influence of the $\mathrm{B_T}$ direction. The results show consistent asymmetric distributions of the particle flux on lower and upper targets.

[1]This work was performed under the auspices of the U.S. DoE by LLNL under Contract DE-AC52-07NA27344 and is supported by the NMCFSP of China under Contracts No. 2011GB107001 and National ITER plans Program of China No. 2011GB105003.

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Date submitted: 11 Jul 2014 Electronic form version 1.4