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Experimental and modeling study of divertor particle flux width on EAST and DIII-D[1] GUOZHONG DENG, XUEQIAO XU, LLNL, LIANG WANG, XIAOJU LIU, JICHAN XU, WEI FENG, JIANBIN LIU, XIANG GAO, ASIPP — The study of divertor particle flux width is carried out for different types of H-mode plasmas with neutral beam (NB) and low hybrid wave (LHW) heating schemes on EAST. For the experimental part, the particle flux width decays with the increase of plasma current. The amount of the heating power seems to have no effect on the particle flux width in pure NB or LHW heated plasmas. However, the heating scheme is found to have enormous influence on the particle flux width, the width tends to be larger in plasmas with higher ratio of LHW heating power. Comparisons among the particle flux width in type-I ELMy plasmas, inter type-I ELMy plasmas and grassy ELM-averaged plasmas show that the width for type-I ELMy plasmas is much larger than those of the other two types of plasmas while the width for the grassy ELM-averaged plasmas is a little larger than those of the inter type-I ELMy plasmas, which is probably due to the different intensities of background turbulence in these three types of plasmas. Simulation work with BOUT++ code is on going to figure out the potential causes of the differences of particle flux width among these three types of plasmas on EAST. For the DIII-D part, a L-mode discharge is employed for the simulation with BOUT++ code. The detailed analysis of the experimental and modeling results for both DIII-D and EAST discharges will be presented.

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