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Electron-impact total cross sections for plasma processing gases using magnetized beam formation method DAE-CHUL KIM, YOUNG-ROCK CHOI, YONGHYUN KIM, YOUNG-WOO KIM, JUNG-SIK YOON¹, National Fusion Research Institute, HYCK CHO, Chungnam National University — As interest has increased in the interaction between low-temperature plasmas and materials, the role of modeling and simulation of processing plasmas has become important in understanding the effects of charged particles and radicals in plasma applications. However, we suffer from lack of theoretical and experimental electron-impact cross section data for plasma processing gas, such as plasma etching and deposition processes. Thus, in this work, the total cross sections for electron scattering from plasma processing gases has been developed using magnetized beam formation in the low- and intermediate-energy region. Also, here the work conducted at the Data Center for Plasma Properties (DCPP) over last 5 years on the systematic synthesis and assessment of fundamental knowledge on low-energy electron interactions with plasma processing gases is briefly summarized and discussed.

¹Corresponding author

Jung-Sik Yoon
National Fusion Research Institute

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