

**Data Evaluation for Atomic, Molecular and Plasma-Material Interaction Processes in Fusion****Evaluation of the electron impact excitation of  $n=2,3$  states in Helium****M. Y. Song, H. C. Chor, D. C. Kwon, S. Y. Jung, S. H. Hwang, J. H. Park, W. S. Chang, H. U. Chang**<sup>a</sup> National Fusion Research Institute, Deajeon, Republic of Korea<sup>b</sup>*E-mail address of main author: mysong@nfri.re.kr*

A collision processes involving helium by electron impact are fundamental to the investigation of few electron interactions in atom and molecule. Knowledge of such collision processes is important not only for the understanding of the collision dynamics but also for laboratory and astrophysical plasma and fusion plasma. There are huge amounts of cross section data of helium by electron impact excitation. Evaluation of helium data already had done by de Heer et. al and Y. Ralchenko et. al, But they didn't show uncertainty of recommended data. We would like to decide appropriate evaluation method through the available electron impact processes. This work will be started to understand a previous evaluation studies. First step to start, we collected published collision data until 2010 using NIFS database, KISTI database, and AMBDASD Bibliography. And we reviewed these articles and evaluated the electron impact excitation cross sections for the transition of the  $n=2, 3$  states in Helium atoms and calculated uncertainty. Finally we compered our evaluated data and pervious evaluated data

[1] de Heer et. al, Suppl. Nuclear Fusion, **3** (1992) p19

[2] Y. Ralchenko et. al, At. Data Nucl. Data Tables **94** (2008) 603