Abstract Submitted
for the GEC05 Meeting of
The American Physical Society

Excitation of H_2 by electron impact[1] YONG-KI KIM, NIST, Gaithersburg, MD, M. ASGAR ALI, Howard Univ., Wash. DC — Cross sections for the excitation of H_2 by electron impact from its ground electronic state to the first two dipole- and spin-allowed electronic states (B and C) have been calculated by modifying plane-wave Born cross sections (BE scaling) as was done successfully for neutral atoms.[2] The scaled cross sections are in good agreement with the experimental data by Khakoo and coworkers.[3,4] Calcualtion of BE scaled excitation cross sections for other molecules is in progress, and the results will be presented at the conference.

[1]Work at NIST was supported in part by the Office of Fusion Energy Sciences, USDOE.
[2]Y.-K. Kim, Phys. Rev. A **64**, 032713 (2001).
[3]M.A. Khakoo and S. Trajmar, Phys. Rev. A **34**, 146 (1986)
[4]J. Wrkich et al. J. Phys. B **35**, 4695 (2002).

Yong-Ki Kim
NIST, Gaithersburg, MD

Date submitted: 09 Jun 2005 Electronic form version 1.4