

Abstract Submitted  
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**Excitation of the  $2S$  state of atomic Hydrogen by Electron Impact**

ANAND BHATIA, NASA/Goddard Space Flight Center — The excitation cross sections of the  $2S$  state of atomic hydrogen at low incident electron energies have been calculated using the variational polarized method for electron energy between the range 10.30 and 54.5 eV. Nine partial waves are used to get convergence of cross sections in the above energy range. The maximum of the cross section is  $0.137 \pi a_0^2$  at 11.14 eV which is close to the experimental result  $0.163 \pi a_0^2$  at 11.6 eV. The present results are compared with other calculations, many of them based on the close-coupling approximation. Differential and spin-flip cross sections have also been calculated.

Anand Bhatia  
NASA/Goddard Space Flight Center

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