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CCC calculated integrated cross sections of electron-H_2 scattering[1] MARK ZAMMIT, Theoretical Division, Los Alamos National Laboratory, DMITRY FURSA, JEREMY SAVAGE, IGOR BRAY, Curtin University — Recently we applied the molecular convergent close-coupling (CCC) method to electron scattering from molecular hydrogen H_2 [1]. Convergence of the major integrated cross sections has been explicitly demonstrated in the fixed-nuclei approximation by increasing the number of H_2 target states in the close-coupling expansion from 9 to 491. The calculations have been performed using a projectile partial wave expansion with maximum orbital angular momentum $L_{\max} = 8$ and total orbital angular momentum projections $|M| \leq 8$. Coupling to the ionization continuum is modeled via a large pseudo state expansion, which we found is required to obtain reliable elastic and excitation cross sections. Here we present benchmark elastic, single-ionization, electronic excitation and total integrated cross sections over a broad energy range (0.1 to 300 eV) and compare with available experiment and previous calculations. [1] M. C. Zammit *et al*. Phys. Rev. Lett. **116**, 233201 (2016).

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