

Abstract Submitted
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Electron Capture in Collisions between Protons and Hydrogen Atoms THOMAS WINTER, Penn State U., Wilkes-Barre Campus — Cross sections are being determined for electron transfer and other processes in intermediate (keV)- energy p -H collisions using a double-center Sturmian basis, substantially expanding pioneering Sturmian calculations carried out thirty years ago.¹ The computer code for arbitrary nuclear charges, recently applied to α -H collisions,² is being specialized to the homonuclear case to reduce the number of distinct matrix elements and the number of coupled channels. The results may be compared with large basis, double-center Gaussian results³; triple-center results⁴; double-center, even-tempered basis results⁵; other theoretical results; and numerous experimental results.⁶

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⁶See T. G. Winter, Adv. At., Mol., Opt. Phys. **52**, 391 (2005).

Thomas Winter
Penn State U., Wilkes-Barre Campus

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