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Antiproton-Impact Single and Double Ionization of He and H₂¹

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A time-dependent close-coupling (TDCC) method has been used to calculate total cross sections for the antiproton-impact single and double ionization of He and H₂ for incident energies up to 100 keV. One active electron TDCC-3D calculations for the single ionization of He and H₂ yield cross sections at low energies higher than CERN experiments. On the other hand, two active electron TDCC-6D calculations for the single ionization of He and H₂ yield cross sections at low energies in reasonable agreement with CERN experiments. The TDCC-6D calculations also yield double ionization cross sections for He and H₂. Work is in progress on the calculation of fully differential cross sections for antiproton-impact ionization of a variety of atoms and diatomic molecules.

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