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Electron capture cross sections for C(6+)+H collisions at low energies CHIEN-NAN LIU¹, Department of Physics, Fu-Jen Catholic University, Taipei, Taiwan, SHU CHUN CHENG, ANH-THU LE, CHII-DONG LIN², Kansas State University — The hyperspherical close-coupling method has been used to calculate electron capture cross sections for $C^{6+}+H$ collisions for energies from 1 keV/amu down to 0.1 eV/amu. Total electron capture cross sections and partial cross sections to $n=4$ and $n=5$ states of C^{5+} were obtained. For energies above 500 eV/amu our results agree with the semiclassical molecular orbital calculations but disagree with the more recent semiclassical atomic orbital calculations. For energies below 3 eV/amu the electron capture to $n=5$ becomes dominant and at energies below 3 eV/amu the electron capture cross sections show the Langevin $1/v$ dependence.

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