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Hyperspherical close-coupling calculations for electron capture cross sections in low energy $Ne^{10+} + H(1s)$ collisions¹ PATRICIA BARRA-GAN, Kansas State University and Departamento de Quimica, Facultad de Ciencias, Universidad Autonoma de Madrid, ANH-THU LE, C.D. LIN, Kansas State University — We present total and partial electron capture cross sections for $Ne^{10+} + H(1s)$ collisions at energies from 0.01 eV to 1 keV using the hyperspherical close-coupling method (HSCC). Good agreements with the previous calculations by the classical trajectory Monte-Carlo (CTMC) method are found for total capture cross section, but not for partial cross sections, especially below about 200 eV/amu. We found that the total cross section is mainly due to the population of the n=7 channels, and only at energies above 50 eV/amu n=5, 6 channels begin to contribute to the total cross section.

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