Reactive collision of low-energy electron with He_2^+ molecular cations : Dissociative recombination

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17 novembre 2017

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We present computed cross sections and rate coefficients for dissociative recombination induced by collision of He_2^+ molecular ion with electrons in the energy range $0.01meV - 1eV$.The new set of data for this system were obtained from electron scattering calculations using diatomic version of the UK molecular R-matrix codes[1,2]. The dissociation dynamics were studied using the Multichannel Quantum Defect Theory (MQDT) [6,8].Maxwell anisotropic rate coefficients, obtained from the cross sections have been presented in the same electronic energy range. Maxwell isotropic rate coefficients have been presented as well for electronic temperatures up to a few hundred Kelvins and compared to available theoretical computations and experiment.

References

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