

The phase interference phenomenon in the collision of H_e^+ ions with H_2, N_2, O_2 molecules.

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Excitation functions of the spectral lines $HI, HeI, NI, NII, OI, OII$ have been investigated in the visible and vacuum-ultraviolet region. Oscillatory structures were observed in the excitation functions of spectral lines, which are due to the phase interference of energetically close quasimolecular states of the three-particle system.

The absolute cross sections of the helium He atom and the dissociation products H, N, N^+, O, O^+ in the visible and vacuum-ultraviolet regions were measured. Oscillatory structures were observed in the excitation functions of spectral lines, which are due to the phase interference of energetically close quasimolecular states of the three-particle system

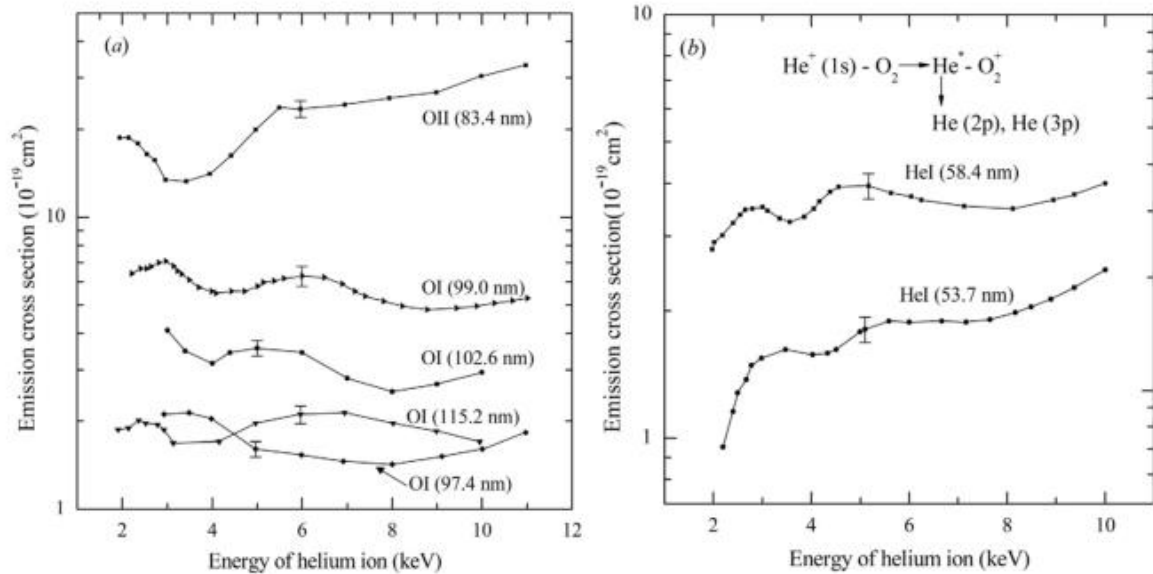


Fig. 1. Energy dependencies of excitation functions of spectral lines in $He^+ - O_2$ collisions for (a) oxygen ionic OII (83.4 nm) and atomic OI (99.0 nm, 102.6 nm, 115.2 nm, 97.4 nm) lines and (b) for HeI atomic (53.7, 58.4) lines.