



Collision-induced hyperpolarizability and hyper-Rayleigh spectra in the He-Ar heterodiatom

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Résumé en anglais	<p>The ab initio interatomic distance dependent collision induced dipole moment, polarizability and the vector b_1 (R) and an irreducible 3rd rank tensor b_3 (R) components of the first hyperpolarizability tensor b of He-Ar pair are obtained. The hyperpolarizability data are applied in order to calculate the collision induced He-Ar hyper-Rayleigh spectra both quantum-mechanically and semiclassically for the frequency shifts up to 1200 cm^{-1}. Computations were carried out for two temperature values - $T = 295$ K and $T = 95$ K. Spectral features of both vector and the irreducible 3rd rank tensor parts of CIHR spectra are analyzed. The frequency dependent behavior of the HR depolarization ratio is discussed.</p>
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