Erratum

Faint features of the rotational $S_0(0)$ and $S_0(1)$ transitions of H_2

A comparison of calculations and measurements at 77 K

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The summation over the wave function components in formulae (9), and (11)–(13) is wrong or at least misleading. When α'' denotes the (elastic or inelastic) components of the solution vector $|\alpha J\rangle$ of the Schrödinger equation, α''' denotes the (elastic or inelastic) components of the solution vector $|\alpha' J'\rangle$, and α_n denotes the (elastic or inelastic) components of the solution $|J_n\rangle$, the summation over these components must be applied to the dipole transition matrix elements, not to the squared dipole transition matrix elements.

e.g.

$$\sum_{J' \alpha'} \sum_{J \alpha} \left| \sum_{\alpha'', \alpha'''} \langle \alpha'' J | \mu | \alpha''' J' \rangle \right|^2,$$

or, alternatively

$$\sum_{J' \alpha'} \sum_{J \alpha} |\langle \alpha J | \mu | \alpha' J' \rangle|^2,$$

where the sums are over all solutions and the sum over the components is included by the definition of the bracket.