



## Isotropic collision-induced scattering by CF<sub>4</sub> in a Raman vibrational band

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Titre	Isotropic collision-induced scattering by CF <sub>4</sub> in a Raman vibrational band
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Auteur	Godet, Jean-Luc [1], Elliasmine, A. [2], Le Duff, Yves [3], Bancewicz, Tadeusz [4]
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Résumé en anglais	Light-scattering intensities and depolarization ratio data have been recorded at room temperature for gaseous tetrafluoromethane in the collision-induced band of the Raman vibrational line $\nu_1=908\text{cm}^{-1}$ . For the first time, binary isotropic intensities of the $\nu_1$ -Raman band are reported in absolute units for Stokes frequency shifts up to $110\text{cm}^{-1}$ . From comparison with theoretical semiclassical computations of the dipole-multipole spectrum contributions, evaluations of the first derivatives of the successive dipole-multipole polarizability tensors are provided. These results are coherent with those obtained from corresponding depolarized intensities. Moreover, the agreement with ab initio quantum-chemistry calculations of the CF <sub>4</sub> multipolar polarizabilities is satisfactory.
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Titre abrégé	J. Chem. Phys.

### Liens

- [1] <http://okina.univ-angers.fr/jl.godet/publications>
- [2] [http://okina.univ-angers.fr/publications?f\[author\]=23892](http://okina.univ-angers.fr/publications?f[author]=23892)
- [3] [http://okina.univ-angers.fr/publications?f\[author\]=23828](http://okina.univ-angers.fr/publications?f[author]=23828)
- [4] [http://okina.univ-angers.fr/publications?f\[author\]=8568](http://okina.univ-angers.fr/publications?f[author]=8568)
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