Beam deflection measurement of bound-electronic and rotational nonlinear refraction in molecular gases: erratum

MATTHEW REICHERT,1,3,5 PENG ZHAO,1,5 JENNIFER M. REED,1,4 TRENTON R. ENSLEY,1 DAVID J. HAGAN,1,2 AND ERIC W. VAN STRYLAND1,2,*

1CREOL, College of Optics and Photonics, University of Central Florida, Orlando, Florida 32816, USA
2Department of Physics, University of Central Florida, Orlando, Florida 32816, USA
3Current address: Department of Electrical Engineering, Princeton University, Princeton, New Jersey 08545, USA
4Current address: Air Force Research Laboratory/RXAP, Wright-Patterson Air Force Base, Ohio 45433, USA
5These authors contributed equally to this work
*ews@creol.ucf.edu

Abstract: We provide an updated comparison of second hyperpolazability of carbon disulfide reported in [Opt. Express, 23(17), 22224 (2015)] to local field corrected liquid phase measurements based on the recent erratum [Optica 3(6), 657 (2016)].

© 2016 Optical Society of America

OCIS codes: (190.7110) Ultrafast nonlinear optics; (190.3270) Kerr effect; (190.5650) Raman effect; (350.3250) Isotope separation; (300.6240) Spectroscopy, coherent transient.

References and Links

The liquid phase measurements of the bound-electronic nonlinear refractive index $n_{2,el}$ reported in [1] have been corrected by subtracting the cuvette contribution to the measurement [2]. Here we reproduce Table 4 (Table 1 here) from [3] with these corrected values, which further improves agreement between gas and liquid phase measurements of the second hyperpolarizability $\gamma$.

<table>
<thead>
<tr>
<th>$\gamma$ / (1017 $\text{m}^2/\text{V}^2$)</th>
<th>Gas Phase</th>
<th>Liquid Phase [2]</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\gamma$ (10-17 esu)</td>
<td>15 ± 3</td>
<td>14 ± 4</td>
</tr>
<tr>
<td>$\gamma$ (CS2) / $\gamma$(N2)</td>
<td>17 ± 4</td>
<td>15 ± 4</td>
</tr>
</tbody>
</table>

Funding

Funding was provided by the Air Force Office of Scientific Research (AFOSR) (FA9550-10-1-0558) and the National Science Foundation (NSF) (ECCS-1229563, ECCS-1202471).