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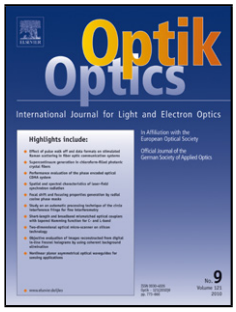

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Two-photon absorption cross-section results of three tri-branched derivatives: A comparison between open-aperture Z-scan and two-photon excited fluorescence method

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Abstract:

Femtosecond open-aperture Z-scan and two-photon excited fluorescence method, were performed to study the two-photon absorption cross-section of several tri-branched derivatives. The two-photon absorption cross-section values measured by the two different methods were compared. Our results indicate that, the absolute values of the two-photon absorption cross-section measured by different technique are obviously different. The absorption cross-sections measured by two-photon excited fluorescence method exhibited 2.1-2.3 times larger than that measured by open-aperture Z-scan method. And the difference is most likely caused by the system error of different measurements. Our results may provide scientific responsible reference as well as some useful information for the comparison of the two-photon absorption cross-section