



Third-order optical measurements of porphyrin compounds using Dark-field and D4 σ -Z scan imaging techniques

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Résumé en anglais	The newly introduced imaging techniques D4 σ and Dark-field Z-scan (DFZ-scan) are very much appropriate to measure the third-order nonlinear (NL) refractive index in the presence of high nonlinear absorption (NLA) in condensed matter. To demonstrate the large potential of both techniques we prepared and characterized porphyrins solutions in chlorobenzene and report here on the NL optical properties of 5,10,15,20-Tetraphenyl-21H,23H-porphyrin (TPP), 5,10,15,20-Tetraphenyl-21H,23H-zinc porphyrin (ZnTPP), 5,10,15,20-tetraphenyl-21H,23H-porphyrin cobalt(II) (CoTPP) and 5,10,15,20-tetrakis(4-methoxyphenyl)-21H,23H-porphyrin cobalt(II) (MCoTPP). The measurements were performed with a laser delivering low repetition rate linearly polarized single picosecond pulses at 1064 nm and 532 nm.
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[1] <http://okina.univ-angers.fr/g.bou/publications>

[2] <http://okina.univ-angers.fr/c.cassagne/publications>

[3] <http://okina.univ-angers.fr/publications?f%5Bauthor%5D=24253>

[4] <http://okina.univ-angers.fr/jl.godet/publications>

- [5] <http://okina.univ-angers.fr/publications?f%5Bauthor%5D=8609>
- [6] <http://okina.univ-angers.fr/publications?f%5Bkeyword%5D=24617>
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- [10] <http://okina.univ-angers.fr/publications/ua16979>
- [11] <http://dx.doi.org/10.1016/j.jlumin.2018.03.055>
- [12] <https://www.sciencedirect.com/science/article/pii/S0022231318300796?via%3Dihub>

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