

A1 publications

2010

1. "Electron nuclear double resonance study of phosphostimulated luminescence active centres in CsBr:Eu medical imaging plates", H. Vrielinck, F. Loncke, J.-P. Tahon, P. Leblans, P. Matthys and F. Callens, *Phys. Chem. Chem. Phys.*, submitted February 2010
2. "Oxidation and Reduction Products of X Irradiation at 10 K in Sucrose Single Crystals: Radical Identification by EPR, ENDOR, and DFT", H. De Cooman, E. Pauwels, H. Vrielinck, E. Sagstuen, M. Waroquier, and F. Callens, *J. Phys. Chem. B* 114, p. 666-674 (2010) (SCI : 4.189) (0 citations)
3. "EPR dosimetry using tooth enamel", P. Fattibene and F. Callens, *Appl. Radiat. Isot.*, Invited Review, in press (SCI : 0.924)
4. "Dosimetric characteristics of different types of saccharides: an EPR and UV spectrometric study", Y. Karakirova, N. D. Yordanov, H. De Cooman, H. Vrielinck and F. Callens, *Radiat. Phys. Chem.* 79, p. 654-659, (2010) (SCI : 0.882) (0 citations)

2009

5. "Transferred hyperfine interaction of Yb^{3+} in CsCaF_3 and Cs_2NaYF_6 single crystals : an experimental and theoretical (ab initio) study", M. L. Falin, O. A. Anikeenok, V. A. Latypov, N. M. Khaidukov, F. Callens, H. Vrielinck, and A. Hoefstaetter, *Phys. Rev. B* 80, article no. 174110 (11 pages) (2009) (SCI : 3.322) (0 citations)
6. "Structure of F_2^- centers in K_2YF_5 and their relation with thermoluminescence below room temperature", D.G Zverev, H. Vrielinck, P.F. Smet, D. Poelman and F. Callens, *Physical Review B* 79 (22), article n° 224110, (9 pages) (2009) (SCI : 3.322) (0 citations)
7. "Determination of the g tensors for the dominant stable radicals in X-irradiated β -D-fructose single crystals", M.A. Tarpan, H. De Cooman, H. Vrielinck and F. Callens, *The Journal of Physical Chemistry A* 113, 7994-8000 (2009) (SCI : 2.871) (0 citations)
8. "Early stage evolution of the EPR spectrum of crystalline sucrose at room temperature after high dose X-ray irradiation", H. Vrielinck, Y. Karakirova, H. De Cooman, N. Yordanov and F. Callens, *Radiat. Res.* 172, 226-233 (2009) (SCI : 3.043) (1 citation)
9. "Temperature dependence of Eu-related EPR spectra in CsBr:Eu medical image plates", F. Loncke, H. Vrielinck, P. Matthys, F. Callens, J.-P. Tahon, P. Leblans, I. Ahmad and E. Goovaerts, *Phys. Rev. B* 79, article n° 174102 (9 pages), 2009 (SCI : 3.322) (0 citations)
10. "ENDOR and HYSCORE analysis and DFT-assisted identification of the third major stable radical in sucrose single crystals X-irradiated at room temperature", H. De Cooman, E. Pauwels, H. Vrielinck, E. Sagstuen, S. Van Doorslaer, F. Callens, M. Waroquier, *Phys. Chem. Chem. Phys.* 11 (7), 1105-1114 (2009) (SCI : 4.064) (4 citations)

2008

11. "Radiation-Induced Radicals in Glucose-1-phosphate. I. Electron Paramagnetic Resonance and Electron Nuclear Double Resonance Analysis of in situ X-Irradiated

- Single Crystals at 77 K”, H. De Cooman, G. Vanhaelewyn, E. Pauwels, E. Sagstuen, M. Waroquier and F. Callens, *J. Phys. Chem. B* 112 (47), 15045-15053 (2008) (4 citations)
12. “Radiation-Induced Radicals in Glucose-1-phosphate. II. DFT Analysis of Structures and Possible Formation Mechanisms”, E. Pauwels, H. De Cooman, G. Vanhaelewyn, E. Sagstuen, F. Callens and M. Waroquier, *J. Phys. Chem. B* 112 (47), 15054-15063 (2008) (4 citations)
 13. “Schonland ambiguity in the analysis of hyperfine interactions using electron nuclear double resonance: principles and practice”, H. Vrielinck, H. De Cooman, M. A. Tarpan, E. Sagstuen, M. Waroquier and F. Callens, *J. Magn. Reson.* 195 (2), 196-205 (2008) (SCI : 2.253) (4 citations)
 14. “Identification and conformational study of stable radiation-induced defects in sucrose single crystals using density functional theory calculations of electron magnetic resonance parameters”, H. De Cooman, E. Pauwels, H. Vrielinck, E. Sagstuen, F. Callens and M. Waroquier, *J. Phys. Chem. B* 112 (24), 7298-7307 (2008) (SCI : 4.189) (8 citations)
 15. “Electron paramagnetic resonance study of a Eu^{2+} related defect in CsBr : Eu needle image plates for computed radiography”, F. Loncke, H. Vrielinck, P. Matthys, F. Callens, J.-P. Tahon, P. Leblans, *Spectrochim. Acta A* 69 (5), 1322-1326 (2008) (SCI : 1.510) (3 citations)
 16. “Radiation-induced defects in sucrose single crystals, revisited: A combined electron magnetic resonance and density functional theory study”, H. De Cooman, E. Pauwels, H. Vrielinck, A. Dimitrova, N. Yordanov, E. Sagstuen, M. Waroquier and F. Callens, *Spectrochim. Acta A* 69 (5), 1372-1383 (2008) (SCI : 1.510) (11 citations)
 17. “Paramagnetic Eu^{2+} center as a probe for the sensitivity of CsBr x-ray needle image plates”, F. Loncke, H. Vrielinck, P. Matthys, F. Callens, J.-P. Tahon, P. Leblans, *Appl. Phys. Lett.* 92 (20), 204102 (2008) (SCI : 3.726) (1 citatie)
 18. “Combined electron magnetic resonance and density functional theory study of 10 K x-irradiated beta-D-Fructose single crystals”, M. Tarpan, E. Sagstuen, E. Pauwels, H. Vrielinck, M. Waroquier and F. Callens, *J. Phys. Chem. A* 112 (17), 3898-3905 (2008) (SCI : 2.871)(5 citations)
 19. “EPR, ENDOR and HYSOCORE study of X-ray induced centres in K_2YF_5 thermoluminescent phosphors”, D. Zverev, H. Vrielinck, F. Callens, P. Matthys, S. Van Doorslaer, N.M. Khaidukov, *Phys. Chem. Chem. Phys.* 10 (13), 1789-1798 (2008) (SCI : 4.064) (2 citations)
 20. “An international intercomparison on "self-calibrated" alanine EPR dosimeters”, V. Gancheva, N.D. Yordanov, F. Callens, G. Vanhaelewyn, J. Raffi, E. Bortolin, S. Onori, E. Malinen, E. Sagstuen, S. Fabislak, Z. Peimel-Stuglik, *Rad. Phys. Chem.* 77 (3), 357-364 (2008) (SCI : 0.882) (1 citatie)
 21. “The growth of Co : ZnO/ZnO core/shell colloidal quantum dots: Changes in nanocrystal size, concentration and dopant coordination”, P. Lommens, K. Lambert, F. Loncke, D. De Muynck, T. Balkan, F. Vanhaecke, H. Vrielinck, F. Callens and Z. Hens, *Chem. Phys. Chem.* 9 (3), 484-491 (2008) (SCI : 3.636) (4 citations)
 22. “Electron paramagnetic resonance study of centres involved in storage processes in K_2YF_5 : RE thermoluminescent phosphors”, H. Vrielinck, D. Zverev, P. F. Smet, D. Poelman, T. Gregorkiewicz and F. Callens, *Mat. Sci. Eng. B* 146 (1-3), 16-21 (2008) (SCI : 1.577) (2 citations)

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23. "Multifrequency Electron Paramagnetic Resonance Study on Deproteinized Human Bone", G. Strzelczak, J. Sadlo, M. Danilczuk, W. Stachowicz, F. Callens, G. Vanhaelewyn, E. Goovaerts and J. Michalik, *Spectrochim. Acta A* 67(5), 1206-1209 (2007) (SCI : 1.511) (4 citations).
24. "Dopant Incorporation in Colloidal Quantum Dots : A Case Study on Co²⁺ Doped ZnO" P. Lommens, F. Loncke, P. Smet, F. Callens, D. Poelman, H. Vrielinck and Z. Hens, *Chem. Mater.* 19, 5576-5583 (2007) (SCI : 4.883) (9 citations).
25. "EPR and ENDOR analysis of Fe³⁺ impurity centres in fluoroelpasolite lattices" F. Loncke, H. De Cooman, N. M. Khaidukov, H. Vrielinck, E. Goovaerts, P. Matthys and F. Callens, *Phys. Chem. Chem. Phys.* 9, 5320-5329 (2007) (SCI : 3.343) (0 citations).
26. "K₂YF₅ crystal symmetry determined by using rare earth ions as paramagnetic probes", F. Loncke, D. G. Zverev, H. Vrielinck, N. M. Khaidukov, P. Matthys and F. Callens, *Phys. Rev. B* 75 (14) Art. N° 144427 (7p.) (2007) (SCI : 3.172) (9 citations).

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27. "Anomalous photoluminescence in BaS:Eu", P.F. Smet, J.E. Van Haecke, F. Loncke, H. Vrielinck, F. Callens and D. Poelman, *Phys. Rev. B* 74 (3), art. n° 035207, 9 pag. (2006) (SCI : 3.107) (8 citatie).
28. "Electron-trapping centers and interstitials in chlorinated SrCl₂:Fe single crystals", D. Ghica, S.V. Nistor, E. Goovaerts, D. Schoemaker, H. Vrielinck and F. Callens, *Phys. Rev. B* 73 (17), art. n° 174103, 8 pag. (2006) (SCI : 3.107) (1 citatie).
29. "X⁻ (X = O, S) ions in alkali halide lattices through Density Functional calculations. I. Substitutional defect models", F. Stevens, H. Vrielinck, V. Van Speybroeck, E. Pauwels, F. Callens and M. Waroquier, *J. Phys. Chem. B* 110 (16), 8204-8212 (2006) (SCI : 4.115) (3 citations).
30. "X⁻ (X = O, S, Se) ions in alkali halide lattices through Density Functional calculations. II. Interstitial defect models", V. Van Speybroeck, F. Stevens, E. Pauwels, H. Vrielinck, F. Callens and M. Waroquier, *J. Phys. Chem. B* 110 (16), 8213-8218 (2006) (SCI : 4.115) (2 citations).
31. "Density Functional investigation of high-spin XY (X=Cr, Mo, W and Y=C, N, O) molecules", F. Stevens, I. Carmichael, F. Callens and M. Waroquier, *J. Phys. Chem. A* 110 (14), 4846-4853 (2006) (SCI: 3.047) (7 citatie).
32. "The Rh-ligand bond: RhX (X = C, N, O, F, P and Cl) molecules", F. Stevens, V. Van Speybroeck, I. Carmichael, F. Callens and M. Waroquier, *Chem. Phys. Lett.* 421 (1-3), 281-286 (2006) (SCI : 2.462) (8 citations).
33. "Q-band EPR and ENDOR of low temperature X-irradiated β-D-fructose single crystals", G. Vanhaelewyn, E. Pauwels, F. Callens, M. Waroquier, E. Sagstuen and P. Matthys, *J. Phys. Chem. A* 110 (6), 2147-2156 (2006) (SCI : 3.047) (2 citations).