

## Refereed Publications:

1. D.J.Goossens, S.J.Kennedy and T.J.Hicks, 'Crystal field effects using polarised neutron spectroscopy', *Nuclear Instruments and Methods in Physics Research A*, **380** (1996) 572-575
2. D.J.Goossens, S.J.Kennedy and T.J.Hicks, 'Quasielastic scattering in PrAl<sub>3</sub>', *Physica B*, **241-243** (1998) 654-656
3. D.J.Goossens and T.J.Hicks, 'Investigation of the temperature/field/composition magnetic phase diagram of Mn<sub>1-x</sub>Mg<sub>x</sub>PS<sub>3</sub>', *Journal of Magnetism and Magnetic Materials*, **177-181** (1998) 721-722
4. D.J.Goossens and T.J.Hicks, 'The magnetic phase diagram of Mn<sub>x</sub>Zn<sub>1-x</sub>PS<sub>3</sub>', *Journal of Physics: Condensed Matter* **10** (1998) 7643-7652
5. D.J.Goossens and L.D.Cussen, 'Optimum thickness for <sup>3</sup>He neutron polarising filters', *Physica B*, **267-268** (1999) 348-351
6. L.D.Cussen, D.J.Goossens and T.J.Hicks, '<sup>3</sup>He neutron polarising filters — Theoretical comparison with supermirrors and Heusler alloy polarisers', *Nuclear Instruments and Methods in Physics Research A*, **440** (2000) 309-320
7. K.F.Wilson and D.J.Goossens, 'A neural network model of an Ising spin glass', *Acta Physica Polonica A*, **97(5)** (2000) 983-986.
8. D.J.Goossens, A.R.Wildes, C.Ritter and T.J.Hicks, 'Order and the nature of the spin flop phase transition in MnPS<sub>3</sub>', *Journal of Physics: Condensed Matter*, **12** (2000) 1845-1854.
9. D.J.Goossens, A.J.Studer, S.J.Kennedy and T.J.Hicks, 'The impact of magnetic dilution on magnetic order in MnPS<sub>3</sub>', *Journal of Physics: Condensed Matter*, **12** (2000) 4233-4242.
10. T.R.Welberry, D.J.Goossens, A.J.Edwards and W.I.F.David, 'Diffuse X-ray Scattering from Benzil, C<sub>14</sub>H<sub>10</sub>O<sub>2</sub>: Analysis via Automatic Refinement of a Monte Carlo Model', *Acta Crystallographica A*, **A57** (2001) 101-109.
11. D.J.Goossens and T.R.Welberry, 'Monte Carlo Study of Disorder in HMTA', *Computer Physics Communications*, **142** (2001) 387-390.
12. K.F.Wilson and D.J.Goossens, 'A computational model of gastro-intestinal motility', *Computer Physics Communications*, **142** (2001) 105-108.
13. D.J.Goossens and L.D.Cussen, 'Optimising Neutron Polarisers: Measuring the Flipping Ratio and Related Quantities', *Nuclear Instruments and Methods in Physics Research A*, **481** (2002) 475-492.
14. D.J.Goossens, L.D.Cussen, 'The influence of background on neutron polariser optimisation', *Applied Physics A*, **74[Suppl.]** (2002) S104-106. (DOI: 10.1007/s003390201751).
15. K.C.Rule, T.J.Hicks, S.J.Kennedy, D.J.Goossens and A.M.Mulders, 'Contrasting Antiferromagnetic Order Between FePS<sub>3</sub> and MnPS<sub>3</sub>', *Applied Physics A*, **74[Suppl.]** (2002) S811-813. (DOI: 10.1007/s003390201363).

16. D.J.Goossens and L.D.Cussen, 'Optimising Neutron Polarisers - Measuring a Single Cross Section', *Nuclear Instruments and Methods in Physics Research A*, **490** (2002) 316-333.
17. L.D.Cussen and D.J.Goossens, 'Optimising Neutron Scattering Measurements - XYZ and Polarimetry', *Nuclear Instruments and Methods in Physics Research A*, **491** (2002) 226-232.
18. A.M.Mulders, J.C.P.Klasse, D.J.Goossens, J.Chadwick and T.J.Hicks, 'High field magnetisation in the diluted quasi two dimensional Heisenberg antiferromagnet  $Mn_{1-x}Zn_xPS_3$ ', *Journal of Physics: Condensed Matter*, **14** (2002) 8697-8705.
19. T.R.Welberry, D.J.Goossens, D.R.Haefner, P.L.Lee and J.Almer, 'High-energy Diffuse Scattering on the 1-ID-C beamline at the APS', *Journal of Synchrotron Radiation*, **10** (2003) 284-286.
20. K.F.Wilson, D.J.Goossens, J.M.Cochrane and M.James, 'An AC susceptibility study of strontium cobaltates,  $Ln_{1-x}Sr_xCoO_{3-\delta}$  where  $Ln = Y, Ho$  and  $Dy$ ', *Proceedings of the 27th Annual AIP Condensed Matter and Materials Meeting, Wagga Wagga, Feb 2003*, <http://www.aip.org.au/wagga2003/>
21. R.L.Withers M.James and D.J.Goossens, 'Atomic Ordering in the Doped Rare Earth Cobaltates  $Ln_{1-x}Sr_xCoO_{3-\delta}$  ( $Ln = Y^{3+}, Ho^{3+}$  and  $Dy^{3+}$ )', *Journal of Solid State Chemistry*, **174** (2003) 198-208.
22. Frank J.Brink, Lasse Norén, D.J.Goossens, Ray L.Withers, Yun Liu and C.N.Xu, 'A combined diffraction (XRD, electron and neutron) and dielectric study of  $Na_3MoO_3F_3$ ', *Journal of Solid State Chemistry*, **174** (2003) 450-458.
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24. T.J.Hicks, D.J.Goossens, S.J.Harker, A.M.Mulders and S.J.Kennedy, 'Spin resolved neutron spectroscopy from the heavy Fermion compound  $CeCu_6$ ', *Physica B*, **345** (2004) 86-88.
25. M.James, D. Cassidy, D.J.Goossens and R.L.Withers, 'The phase diagram and tetragonal superstructures of the rare earth cobaltate phases  $Ln_{1-x}Sr_xCoO_{3-\delta}$  ( $Ln = La^{3+}, Pr^{3+}, Nd^{3+}, Sm^{3+}, Gd^{3+}, Y^{3+}, Ho^{3+}, Dy^{3+}, Er^{3+}, Tm^{3+}$  and  $Yb^{3+}$ )', *J. Solid State Chem.*, **177** (2004) 1886-1895.
26. D.J.Goossens, K.F.Wilson, M.James, A.J.Studer and X.L.Wang 'Structural and Magnetic Properties of  $Y_{0.33}Sr_{0.67}CoO_{2.79}$ ' *Phys. Rev. B*, **69** (2004) 134411.
27. D.J.Goossens, K.F.Wilson and M.James, 'Magnetic properties of  $Dy_{1-x}Sr_xCoO_{3-\delta}$  ( $x = 0.67$  to  $0.95$ )', *Proceedings of the 28th Annual AIP Condensed Matter and Materials Meeting, Wagga Wagga, Feb 2004*, <http://www.aip.org.au/wagga2004/>
28. D.J.Goossens, R.A.Robinson and M.T.F.Telling, 'The Antiferromagnetic Structure of  $BaPrO_3$ ', *Physica B*, **352** (2004) 105-110.
29. V.Ting, Y.Liu, L.Norén, R.L.Withers, D.J.Goossens, M.James and C.Ferraris, 'A structure, conductivity and dielectric properties investigation of  $A_3CoNb_2O_9$

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  31. K.F. Wilson, D.J.Goossens and M. James, 'Magnetic properties of Gd<sub>1-x</sub>Sr<sub>x</sub>CoO<sub>3-δ</sub> (x = 0.67, 0.90 and 0.95)', Australian Institute of Physics Congress, 2005, <http://aipcongress2005.anu.edu.au/pdf/PAPERS-3.pdf>. ISBN 0-9598064-8-2
  32. D.J.Goossens, T.R. Welberry and A.P. Heerdegen, 'Modelling dynamic disorder in 3,3'-dimethoxybenzil, C<sub>16</sub>H<sub>14</sub>O<sub>4</sub>', Australian Institute of Physics Congress, 2005, [http://aipcongress2005.anu.edu.au/Goossens\\_DJ\\_AIP\\_ASRP\\_CD1.pdf](http://aipcongress2005.anu.edu.au/Goossens_DJ_AIP_ASRP_CD1.pdf). ISBN 0-9598064-8-2
  33. M.James, K.S.Wallwork, R.L.Withers, D.J.Goossens, K.F.Wilson, J.Horvat, X.L.Wang and M.Collela, 'Structure and Magnetism in the Oxygen-Deficient Perovskites Ce<sub>1-x</sub>Sr<sub>x</sub>CoO<sub>3-δ</sub> (x ≥ 0.90)', *Mat. Res. Bull.*, **40(8)** (2005) 1415-1431.
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  36. T.R.Welberry, M.J.Gutmann, Hyungje Woo, D.J.Goossens, Guangyong Xuc and C.Stock, 'Neutron diffuse scattering and Monte Carlo study of the relaxor ferroelectric PbZn<sub>1/3</sub>Nb<sub>2/3</sub>O<sub>3</sub> (PZN)', *J. Appl. Cryst.*, **38** (2005) 639-647.
  37. D.J.Goossens, Xiaodong Wu and M. Prior, 'Structural Phase Transition in d-benzil Characterised by Capacitance Measurements and Neutron Powder Diffraction', *Solid State Commun.*, **136** (2005) 543-545.
  38. W.D.Hutchison, D.J.Goossens, K.Nishimura, K.Mori, Y.Isikawa and A.J.Studer, 'Magnetic Structure of TbNiAl<sub>4</sub>', *J. Magn. & Magn. Mat.*, **301** (2006) 352-358.
  39. Michael James, Liliana Morales, Kia Wallwork, Maxim Avdeev, Ray Withers and Darren Goossens, 'Structure and magnetism in rare-earth strontium-doped cobaltates', *Physica B*, **385-386** (2006) 199-201.
  40. R.A.Robinson, D.J.Goossens, M.S.Torikachvili, K.Kakuri and H.Okamura, 'A quantum multi-critical point in CeCu<sub>6-x</sub>Au<sub>x</sub>', *Physica B*, **385-386** (2006) 38-40.
  41. D.J.Goossens, A.P.Heerdegen, T.R.Welberry and M.J.Gutmann, 'Monte Carlo Analysis of Neutron Diffuse Scattering Data', *Physica B*, **385-386** (2006) 1352-1354.
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46. P.A.Altin and D.J.Goossens, 'Diffuse X-ray Scattering from Optically Pure Ibuprofen', *Proceedings of the 31st Annual AIP Condensed Matter and Materials Meeting, Wagga Wagga, Feb 2007*, ISSN-1037-1214, <http://www.aip.org.au/wagga2007/>.
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49. D.J.Goossens, A.P.Heerdegen, T.R.Welberry and A.G.Beasley, 'The Molecular Conformation of Ibuprofen,  $\text{C}_{13}\text{H}_{18}\text{O}_2$ , Through X-ray Diffuse Scattering', *International Journal of Pharmaceutics*, **343** (2007) 59-68.
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