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Publications

Synthesis of the ferroelectric solid solution, $\text{Pb}(\text{Zr}_{1-x}\text{Ti}_x)\text{O}_3$ on a single substrate using a modified molecular beam epitaxy technique

Anderson PS, Guerin S, Hayden BE, Khan MA, Bell AJ, Han Y, Pasha M, Whittle KR, Reaney IM APPLIED PHYSICS LETTERS 90 (20): Art. No. 202907 MAY 14 2007

Chemical solution deposited silver tantalate niobate, $\text{Ag-x}(\text{Ta}_{0.5}\text{Nb}_{0.5})\text{O}_{3-y}$, thin films on (111)Pt/Ti/SiO₂/(100)Si substrates

Telli MB, Trolrier-McKinstry S, Woodward DI, Reaney IM JOURNAL OF SOL-GEL SCIENCE AND TECHNOLOGY 42 (3): 407-414 JUN 2007

Sooksanen P, Reaney IM, Sinclair DC Engineered sintering aids for PbO-based electroceramics JOURNAL OF ELECTROCERAMICS 18 (1-2): 77-85 APR 2007

Thakur OP, Feteira A, Kundys B, Sinclair DC Influence of attrition milling on the electrical properties of undoped-BaTiO₃ JOURNAL OF THE EUROPEAN CERAMIC SOCIETY 27 (7): 2577-2589 2007

Feteira A, Sinclair DC, Lanagan MT "Structural and electrical characterization of CeAlO₃ ceramics" JOURNAL OF APPLIED PHYSICS 101 (6): Art. No. 064110 MAR 15 2007

Zhang L, Thakur OP, Feteira A, Keith GM, Mould AG, Sinclair DC, West AR "Comment on the use of calcium as a dopant in X8R BaTiO₃-based ceramics" APPLIED PHYSICS LETTERS 90 (14): Art. No. 142914 APR 2 2007

Hayes SA, Zhang W, Branthwaite M, Jones FR "Self-healing of damage in fibre-reinforced polymer-matrix composites" JOURNAL OF THE ROYAL SOCIETY INTERFACE 4 (13): 381-387 APR 22 2007

Hayes SA, Jones FR, Marshiya K, Zhang W "A self-healing thermosetting composite material" COMPOSITES PART A-APPLIED SCIENCE AND MANUFACTURING 38 (4): 1116-1120 2007

Lee WE, Arshad SE, James PF "Importance of crystallization hierarchies in microstructural evolution of silicate glass-ceramics" JOURNAL OF THE AMERICAN CERAMIC SOCIETY 90 (3): 727-737 MAR 2007

P. A. Bingham, J. M. Parker, T. M. Searle, I. Smith, Local structure and medium range ordering of tetrahedrally coordinated Fe³⁺ ions in alkali-alkaline earth-silica glasses, J. Non-Cryst. Solids 353 (2007) 2479-2494.

P. A. Bingham, R. J. Hand, Addition of P₂O₅ to SiO₂-Al₂O₃-B₂O₃-MgO-CaO-Na₂O glass: a study of its effects on glass properties, structure and melting behaviour, Glass Technology: European Journal of Glass Science and Technology A

48 (2007) 78-88.

P. A. Bingham, A. J. Connelly, R. J. Hand, N. C. Hyatt, P. A. Northrup, Solubility and speciation of sulphur in glasses for waste immobilization, Proc. XXI Int. Congr. Glass, Strasbourg, France, July 1-6, 2007. Electronic Proceedings.

M. I. Ojovan, R. J. Hand, K. P. Travis, Thermodynamics of viscous flow in glassy materials, Proc. XXI Int. Congr. Glass, Strasbourg, France, July 1-6, 2007. Electronic Proceedings.

R. J. Hand, C. Weeks, Re-use of vitreous waste materials, Proc. XXI Int. Congr. Glass, Strasbourg, France, July 1-6, 2007. Electronic Proceedings.

O. Hannant, P. A. Bingham, S. D. Forder, R. J. Hand, The structural role of iron in vitrified toxic wastes, Proc. XXI Int. Congr. Glass, Strasbourg, France, July 1-6, 2007. Electronic Proceedings.

Out and about

Dr Xiaoming Liu attended the 6th International Symposium on Silanes and Other Coupling Agents in Cincinnati, USA from 13-15 June. Xiaoming gave two talks entitled 'XPS and AFM study of the structure of hydrolysed aminosilane on E-glass surfaces' and 'The concentration of hydroxyl groups on glass surfaces and their effect on the structure of silane deposits'.

Tony West spent one week at the National Institute for Materials Science, NIMS, Tsukuba, Japan in his new role as NIMS International Advisor where he also gave two lectures, one on the Department and one in his research into oxygen non-stoichiometry in Electroceramics. He also attended, by invitation of NIMS, the inaugural meeting of the World Materials Research Institutes Forum, WMRIF, in Berlin. Sheffield was the only University, worldwide, invited to attend. All others were National Laboratory representatives.

Tony West attended the Electroceramica VIII conference in Aveiro, Portugal, where he gave an invited lecture on "Oxygen non-stoichiometry and its consequences in Electroceramics; Spinel, Perovskites and Rock Salt Structures". At the end of the meeting he was presented with the Golden Epsilon Award by the Spanish Society of Ceramics and Glass.

CCL members Russell Hand, Paul Bingham and Oliver Hannant attended the 21st International Congress on Glass in Strasbourg, France from 1st-6th July, presenting research entitled "Thermodynamics of viscous flow in glassy materials" (RJH), "Re-use of vitreous waste materials" (RJH), "Solubility and speciation of sulphur in glasses for waste immobilization" (PAB) and "The structural role of iron in vitrified toxic wastes" (OH).

Funding success

Congratulations to Ian Reaney, Derek Sinclair and Tony West who have been successful in a collaborative bid with Professor R Freer, Professor N Alford and Dr C Leach. A total of £151,216 has been awarded to support exchanges with international partners. The team expect a series of collaborative exchanges to be undertaken between the three UK universities (Manchester, Sheffield and Imperial College) and universities and industry in Europe (Austria, Germany, Russia, Czech Republic), the USA and Asia (Japan, Taiwan and Singapore). These exchanges will enable the UK researchers (particularly those at an early stage of their careers) to learn new experimental and theoretical techniques. This knowledge and expertise will be utilised in the first instance in new bilateral collaborative projects, and transferred to the UK user communities (UK universities and UK industry). A

number of seminars and a two day Workshop will be held to help the dissemination of knowledge.

Ian Reaney has also been part of a successful grant application with Southampton University (£4799 to Sheffield). The partnership have been awarded monies to work on High Throughput Synthesis of $\text{PbnNb}_2\text{O}_{5+n}$ ($1.5 = n = 3$) Pyrochlore-Structured Tunable Thin Films: Funding for Proof of Concept.

Mehdi Mirsaneh has been awarded \$5400 from the International Materials Institute for New Functionality in Glass to spend up to 3 months at the Materials Research Institute, Pennsylvania State University, USA. During this visit, Mehdi will be primarily working with Drs Carlo Pantano, Mike Lanagan and Eugene Furman on glass thin films for microwave sensor applications.

Best Wishes Helen Fletcher H.L.Fletcher@sheffield.ac.uk
