

New Materials and Compounds

Advanced Materials Research Group

Journals

- A. Fonseca, E. Alves J.P. Leitaó, N.A. Sobolev, M.C. Carmo, A.I. Nikiforov, Beam analysis of Ge/Si dots grown on ultra thin SiO₂ interlayers, *Adv. Mat. Forum III*, PTS 1 and 2 514-516: 1121-1124, Part 1-2, 2006.
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- A. Fonseca, N.A. Sobolev, J.P. Leitaó, E. Alves, M.C. Carmo, N.D. Zakharov, P. Werner, G.E. Cirilin, Influence of defects on the optical and structural properties of Ge dots embedded in an Si/Ge superlattice, *J. Luminescence* 121 (2 SPEC. ISS.), pp. 417-420, 2006.
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- A. Paul, A. Beirante, N. Franco, E. Alves, J.A. Odrizola, Phase transformation and structural studies of EUROFER RAFM alloy, *Materials Science Forum* 514-516: 500-504 Part 1-2, 2006.
- A.L.C. Mstepanov, Arques, E. Alves, R.C. Da Silva, M.R. Silva, R.A. Ganeev, A.I. Rysanyansky, T. Usmanov, Ion synthesis and optical properties of gold nanoparticles in an Al₂O₃ matrix, *Technical Physics* 51 (11), pp. 1474-1481, 2006.
- A.P. Vajpeyi, S. Tripathy, S.R. Shannigrahi, B.C. Foo, L.S. Wang, S.J. Chua, E. Alves, Influence of rapid thermal annealing on the luminescence properties of nanoporous GaN films, *Electrochemical and Solid-State Lett.* 9, 150-154, 2006.
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- V. Corregidor N. Franco, E. Alves, N.P. Barradas, Phase separation on GaInAsSb films for thermophotovoltaic devices, *Materials Science Forum* 514-516: 447-451 Part 1-2, 2006.
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- V. Prajzler, V. Jeřábek, I. Huťtel, E. Alves, C. Buchal, J. Špírková, J. Oswald, J. Zavadil, Implantation of Er/Yb ions into gallium nitride, *WSEAS Trans. on Electronics* 3 (4), 262-267, 2006.

Conference Proceedings

- E. Nogales, K. Lorenz, K. Wang, I.S. Roqan, R.W. Martin, K.P. O'Donnell, E. Alves, O. Briot, A microspectroscopic study of cap damage in annealed RE-doped AlN-capped GaN, *MRS Symp. Proc.*, 892, pp. 625-630.
- I.S. Roqan, C. Trager-Cowan, B. Hourahine, K. Lorenz, E. Nogales, K.P. O'Donnell, R.W. Martin, E. Alves, Characterization of the blue emission of Tm/Er co-implanted GaN, *MRS Symp. Proc.*, 892, pp. 599-604.
- K. Lorenz, E. Nogales, R. Nédélec, J. Penner, R. Vianden, E. Alves, R.W. Martin, K.P. O'Donnell, Influence of the annealing ambient on structural and optical properties of rare earth implanted GaN, *MRS Symp. Proc.*, 892, pp. 611-616.
- V. Prajzler, E. Alves, C. Buchal, I. Huttel, J. Špírková, J. Oswald, J. Zavadil, V. Jerabek, Optical properties of $Er^{3+} + Yb^{3+}$ doped Gallium Nitride layers, *Proc. SPIE – Int. Society for Optical Engineering* 6286, art. no. 62860K, 2006.

Communications

Oral

- E. Alves, K. Lorenz, Advanced ion beam materials processing and characterization, *Materials Science and Technology 2006*, Symp.: Ion Beam Modification and Synthesis in Solids, Cincinnati, USA, 15-19 Oct., 2006, Invited talk.
- E. Alves, Surface analysis of nitrides and oxynitride compounds with ion beams, *Iberian Vacuum Meeting*, Salamanca, Spain, 26-28 Jun., 2006, Invited talk.
- K. Bharuth-Ram, U. Wahl, J.G. Correia, The Isolde Collaboration, Near-substitutional implantation of Er in diamond, *19th Int. Conf. Application of Accelerators*

in *Research and Industry*, Fort Worth, Texas, USA, 20-25 Aug., 2006, Invited talk.

K. Lorenz, Rare earth implantation in GaN, an alternative route to develop integrated, all nitride light-emitting devices, *workshop 30 years of "Centro de Física Nuclear da Universidade de Lisboa"*, Lisbon, Portugal, 22-24 Jun., 2006, Invited talk.

N.P. Barradas, Can quantum dots be analysed with macrobeam RBS?, *19th Int. Conf. on Application of Accelerators in Research and Industry*, Fort Worth, USA, 20-25 Aug., 2006, Invited talk.

N.P. Barradas, Characterisation of ordered antiferromagnets by rapid thermal anneal without magnetic field, *12th Workshop on Magnetism and Intermetallics*, ITN, Portugal, 9-10 Feb. 2006, Invited.

U. Wahl, Ion implantation doping of perovskites and related oxides, *2nd Research Coordination Meeting of IAEA Project "Ion Beam Modification of Insulators"*, iThemba LABS Faure, Cape Town, South Africa, 28-30 Jun., 2006, Invited talk.

U. Wahl, Materials Science with radioactive ion beams at ISOLDE, *CERN Research Planning Workshop*, iThemba LABS Gauteng, Johannesburg, South Africa, 26-27 Jun., 2006, Invited talk.

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