

POSTER SESSION I

18 September 2006 (Monday) 14.30-16.30

a. ION BEAM MODIFICATION OF INSULATORS AND RELATED MATERIALS

- P - 24 **Crystalline lattice phase-conversion on thin BN films deposited on Si wafers by an assistance of nitrogen ion beams**
Hidekazu Kimura, Katsuhiko Yokota, Fumiyoshi Miyashita
- P - 25 **Dielectric constants and compositions of barium based compound films deposited on silicon wafers by an ion beam assisted deposition technique**
Yuuki Teramoto, Katsuhiko Yokota, Fumiyoshi Miyashita
- P - 26 **Preferential c-axis orientation and dielectric constants of thin BaTiO₃ films deposited on Si wafers by a low energy N ion beam assisted deposition technique**
Hiroshi Morigou, Katsuhiko Yokota, Fumiyoshi Miyashita
- P - 36 **The effect of the implantation temperature on the structure of the implanted layer and corrosion resistance in nitrogen ion implantation Zircaloy-4**
Guoyi Tang, W. Kim, S. J. Lee, B.H. Choi, J.H. Lee, J.G. Han
- P - 37 **The phase structure and distribution of the implanted elements in nitrogen Zircaloy-4**
Guoyi Tang, W. Kim, S. J. Lee, B.H. Choi, J.H. Lee, J.G. Han
- P - 56 **Observation of voids formed by annealing in LiNbO₃ implanted with Cu ions**
Kaoru Ijima, Naoto Mitui, A. Ho, Junji Yamanaska, Shouhei Taniguchi, Yukinori Saito
- P - 58 **Molecular Dynamics Simulation for Focused Ion Beam processing**
Shin-ichi Satake, Natsuki Inoue, Jun Taniguchi, Masahiko Shibahara
- P - 66 **Optical properties of Sn and oxides fabricated in MgO single crystals by ion implantation and annealing**
Xia Xiang, Xiao Tao Zu, Sha Zhu, Mei Yan Chen, Yan Zhang Liu, Lu Min Wang
- P - 75 **Structural modifications induced by swift heavy ions in cubic stabilized zirconia: an X-ray diffraction investigation**
Gael Sattonnay, A. Benyagoub, Jean-Marc Costantini, Frédéric Garrido, Lionel Thomé, Christina Trautmann
- P - 78 **Improvement of gasochromic properties in tungsten oxide by ion irradiation**
Katsuyoshi Takano, Aichi Inoue, Shunya Yamamoto, Masahito Yoshikawa
- P - 91 **Temperature dependence of the damage induced by Cs implantation in zirconia**
Laetitia Vincent, Lionel Thomé, Frederico Garrido, Odile Kaitasov
- P - 92 **Waveguide barriers with adjustable refractive index produced in KTP by irradiation with He- and Li-ions**
Frank Schrempel, Christian Beeker, Werner Wesch
- P - 97 **Estimation of ion track dimensions on PVDF.**
V. C. Chappa, M. F. del Grosso, G. García Bermúdez, M. Behar
- P - 105 **Ion-beam induced effects at 15 K in MgO**
Elke Wendler, Werner Wesch
- P - 108 **Room temperature annealing of low-temperature ion implanted sapphire**
Claudia S. Schnohr, Elke Wendler, Konrad Gärtner, Werner Wesch
- P - 112 **Custom-tailored microfluidics in transparent CaF₂**
Heinz D. Wanzenboeck, Bernhard Lendl, Emmerich Bertagnolli
- P - 113 **Microanalysis of Ar and He bombarded biomedical polymer films**
Miguel Manso Silvan, Raul Gago, Aurelio Climent, Jose Manuel Martínez Duart, Francois Rossi
- P - 138 **Grafting on Etched Latent Tracks Induced by Swift Heavy Ions**
R. Mazzei, G. García Bermúdez, A. Fernández, A. Torres, N. Betz
- P - 150 **Influence of preparing process on total-dose radiation response of high-k HfSiO gate dielectrics**
Zhaorui Song, Xinhong Cheng, Yumei Xing, Enxia Zhang, Qinwo Shen, Yuehui Yu, Zhengxuan Zhang, Xi Wang, Dashen Shen
- P - 181 **Raman studies on damage of C₆₀ thin films by fast-ion bombardment**
Kazumasa Narumi, Seiji Sakai, Hiroshi Naramoto
- P - 208 **Damage induced in yttria-stabilized zirconia by swift ion irradiation**
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- P - 210 **Ac conductivity studies on the electron irradiated BaZrO₃ ceramic**
Vivekanand Mallappa Jali, Shetty Aparna, Ganesh, S. B. Krupanidhi
- P - 215 **XPS characterization of native oxide layers on amorphous Fe₇₈B₁₃Si₉ after high energy heavy ion irradiation**
Rohit Jain, Deepika Bhandari, S.K. Sharma
- P - 217 **Flat End and Berkovich Instrumented Indentation of Polyethylene Irradiated with N and Si - Viscoelastic Behavior, Hardness and Elastic Modulus**
C.E. Foerster, J.H. Stankievicz, F.C. Serbena, C.M. Lepienski, F.C. Zawislak

- P - 225 **Formation of buried Zn compounds in sapphire by implantation of Zn and O ions**
Carlos Marques, N. Franco, R. da Silva, E. Alves, G. Safran, Carl J. McHargue
- P - 241 **Degradation of Kapton induced by swift heavy ions**
Daniel Severin, Wolfgang Ensinger, Christina Trautmann, Gertrud Walter, Reinhard Neumann
- P - 242 **Ion beam modification of TiN thin films – a study of the induced microstructural changes**
Maja Popović, Mirjana Novaković, Davor Peruško, Ivan Radović, Velimir Milinović, Zoran Stojanović, Nataša Bibić, Momir Milosavljević
- P - 265 **Recoil and mixing effects during irradiation of beryllium targets**
Pavel V. Serba, Yuriy F. Blinov
- P - 268 **Monte Carlo simulations on the kinetics of irradiation-induced defects on carbon nanotube walls**
Jani Kotakoski, Arkady V Krashennikov, Kai Nordlund
- P - 269 **Ion beam effects on electrical characteristics of proton conductive polymer**
Shinji Nagata, Yoshitada Konishi, Hirokazu Katsui, Bun Tsuchiya, Kentaro Toh, Tatsuo Shikama
- P - 278 **Radiation damage in uranium dioxide single crystals: a comparative channelling and transmission electron microscopy investigation**
Frederico Garrido, Gael Sattonnay, Lionel Thomé, Laetitia Vincent, Lech Nowicki
- P - 291 **Minimum line width of ion beam-modified polystyrene by negative carbon ions for nerve-cell attachment and neurite extension**
Piyanch Sommani, Hiroshi Tsuji, Hiroko Sato, Tsuyoshi Kitamura, Mitsutaka Hattori, Yasuhito Gotoh, Junzo Ishikawa
- P - 294 **INVESTIGATIONS OF LOW-ENERGY ION IRRADIATION INFLUENCE ON GLASSY POLYMERIC CARBON**
Volha Abidzina, I. Tereshko, I. Elkin, R.L. Zimmerman, I. Muntele, C. Muntele, R.A. Minamisawa, D. Ila
- P - 295 **Creation of the nucleation center by the ion bombardment.**
Khatam B. Ashurov, Sadulla Sh. Tadjimuratov
- P - 308 **Study of radiation enhanced diffusion of chlorine in uranium dioxide**
Yves Pison, Nicolas Béreud, Nathalie Moncoffre, Christophe Peaucelle, Nelly Toulhoat, Louis Raimbault, Gaëlle Carlot
- P - 313 **Sol and Gel Formation in Polystyrene by MeV Protons**
Ralf Delto, Rüdiger Brenn
- P - 318 **Characterization of micropores produced by ion track-etched polymers**
Adriana Oliveira Delgado, Márcia Almeida Rizzutto, Adriana Rocha Lima, Almy Anacleto Rodrigues da Silva, Marco Antonio Panunzio Carmignotto, Manfredo Harry Tabacniks, Nemitala Added
- P - 320 **Coloration of single crystal rutile by implantation with Co, Mn and Fe ions**
R. I. Khaibullin, O. N. Lopatin, V. V. Bazarov, J. I. Troshina, A. I. Bahtin, B. Z. Rameev, B. Aktas, I. B. Khaibullin
- P - 324 **Surface Damage Studies of ETFE Exposed to Low Energy Ion Irradiation**
R. A. Minamisawa, V. Abidzina, I. Tereshko, I. Elkin, R. L. Zimmerman, D. Ila, A. de Almeida
- P - 343 **The structures and properties of Ti-O-N films synthesized by reactive magnetic sputtering**
Zh. H. Wang, Y. X. Leng, N. Huang
- P - 348 **Temperature dependences on hydrogen retention and release near to the surface of ion induced proton conducting oxide ceramics**
Bun Tsuchiya, Kenji Morita, Shinji Nagata, Kentaro Toh, Tatsuo Shikama
- P - 351 **Change in hydrogen absorption characteristic of perfluorosulfonic membranes by ion beam surface modification**
Bun Tsuchiya, Shinji Nagata, Kentaro Toh, Tatsuo Shikama
- P - 352 **THz spectroscopy of ion-implanted ionic crystal**
Hisato Ogiso, Masahumi Nakada, Shizuka Nakano, Jun Akedo
- P - 355 **Characterization of silver incorporated calcium phosphate film by RBS and its antimicrobial effects**
In-Seop Lee, In-Ho Han, Jong Han Song, Jong-Chul Park, Gun-Hwan Lee, Xiao-Dan Sun
- P - 357 **Effect of diffusion on nucleation of 2D and 3D nanoclusters in supersaturated solutions created by ion deposition**
Alexander E. Volkov, Denis N. Korolev, Michael V. Sorokin
- P - 378 **Characterization of gasochromic tungsten oxide films by RBS**
Shunya Yamamoto, Katsuyoshi Takano, Aichi Inouye, Masahito Yoshikawa
- P - 418 **Sputter etching effect of the substrate on the microstructure of β -FeSi₂ thin film prepared by ion beam sputter deposition method**
Masato Sasase, K. Shimura, K. Yamaguchi, H. Yamamoto, S. Shamoto, K. Hojou
- P - 439 **Structural characterization of ion-implanted pyrolytic graphite**
Hiroshi Watanabe, Katsuo Takahashi, Masaya Iwaki
- P - 464 **Sn and Pb nano-particles formed at SiO₂/Si interfaces by ion implantation and thermal treatment**
Felipe Kremer, João Marcelo J. Lopes, Paulo F. P. Fichtner, Fernando C. Zawislak
- P - 472 **Novel crack propagation in PECVD-deposited dielectric thin films**
Robert G. Elliman, Tessica D. M. Weijers-Dall, Marc G. Spooner, Tae-Hyun Kim, Andrew R. Wilkinson, Steven Huth, Verena Tobias
- P - 478 **Effects of argon ion bombardment on the properties of surface layer in spinel crystals of different compositions**
Vasyl T. Gritsyna, Valentyn V. Bobkov, Sergiy P. Gokov, Valentyna V. Gritsyna, Dmytro I. Shevchenko
- P - 479 **Control of carbon material surfaces by injection of heavy ion beams with an oblique angle of incidence**
Naoto Fujita, Yuji Horino, Toshiro Kasuya, Shuichi Maeno, Shinsuke Nishigaito, Motoi Wada

- P - 480 Investigation of sputtering of water molecules from ice films at the bombardment by Ar ions**
Uchkun O. Kutliev
- P - 482 Modification of bamboo surface by irradiation of heavy negative ion beams**
Shinsuke Nishigaito, Kenichi Akamatsu, Toshiro Kasuya, Masaki Nishiura, Motoi Wada
- P - 492 Lithium ion implantation and annealing of MgO single crystals**
Begoña Savoini, Roberto Gonzalez, R.C. da Silva, E. Alves
- P - 494 Copper and cobalt nanocolloids in implanted MgO crystals**
Begoña Savoini, Roberto Gonzalez, J. V. Pinto, R.C. da Silva, E. Alves
- P - 496 Electronic and structural properties of Ar ion bombarded diamond film**
G. Kovach, Gabor Pető, A. Karacs, H. Csorbai, L. Guzzi, M. Veres, M. Koos, L. Papadimitriou
- P - 504 Effects of Low and High Energy Ion Bombardment on ETFE Polymer**
Renato A. Minamisawa, Volha Abdizina, I. Tereshko, I. Elkin, Robert Zimmerman, Iulia Muntele, Dayrush Ila, Adelaide De Almeida
- P - 521 Influence of carbon co-implantation on the electrical activation of Mg-doped GaN**
Riccardo De Bastiani, Alberto Maria Piro, Maria Grazia Grimaldi, Emanuele Rimini, P. La Fata, S. Lombardo
- P - 524 Structural Changes in Sol-Gel Derived TEOS/MTES Thin Films caused by Ion Implantation of Different Species**
D.A. Lucca, L. Shao, R. Ghisleni, V. Doan, M.J. Klopstein, M. Nastasi, J. Dong, A. Mehner
- P - 525 Effect of He Ion Fluence on Irradiated Organic/Inorganic Sol-Gel Derived Thin Films**
D.A. Lucca, L. Shao, R. Ghisleni, V. Doan, M.J. Klopstein, M. Nastasi, J. Dong, A. Mehner
- P - 529 Ion Implantation on Indentation-Deformed Crystalline and Amorphous SiO₂**
Jin Pan, Yoshihiko Takeda, Haisong Wang, Oleg A. Plaxine, Kenichiro Kono, Hiroshi Amekura, Naoki Kishimoto

b. ION BEAM MODIFICATIONS OF METALS

- P - 5 Investigation of single-crystals of chromium implanted with ¹¹⁹Sn – ions of various energies**
J. Cieslak, Stanislaw M. Dubiel, F. Eichhorn, M. Menzel, H. Reuther
- P - 39 Hydrogen behaviour in electron-irradiated titanium alloys studied by positron annihilation method**
Kana M. Mukashev, Farid F. Umarov
- P - 45 Xe-ion-induced magnetic texturing of Ni films: Domain structure and strain**
K. Zhang, K. P. Lieb, N. Pilet, T. V. Ashworth, M. Marioni, H. J. Hug
- P - 46 Phase Formation and Transition of FePt Nanoparticles upon Ion Irradiation**
Yongqiang O. Wang, J.M. Qiu, J.P. Wang
- P - 63 Synthesis and characterization of ion-implanted Pt nanoparticles in SiO₂**
Raquel Giulian, Patrick Kluth, Bernt Johannessen, Leandro L. Araujo, David J. Llewellyn, Garry J. Foran, David J. Cookson, Mark C. Ridgway
- P - 71 Ion beam induced fabrication of ferromagnetic microelements**
Steffen Blomeier, Burkard Hillebrands, Vladislav E. Demidov, Sergej O. Demokritov, Bernd Reuscher, Alexander Brodyanski, Michael Kopnarski
- P - 82 FIM of radiation effects in subsurface volume of ion-implanted metals and alloys**
Vladimir A. Ivchenko
- P - 100 Swift Heavy Ion Irradiation of Metal Nanocrystals in SiO₂**
Patrick Kluth, Bernt Johannessen, Raquel Giulian, Aidan P. Byrne, Shane G. Dunn, Garry J. Foran, David J. Cookson, Mark C. Ridgway
- P - 121 Development of titanium by intense ion beams**
Vasily Lavrentiev, Claus Hammerl, Bernd Rauschenbach
- P - 131 Study on the orientation of silver films by ion-beam assisted deposition**
Bingyao Jiang, Jun Jiang, Tao Feng, Congxin Ren, Xi Wang, Xianghuai Liu
- P - 143 Surface modification of titanium aluminides with fluorine to improve their application for high temperature service conditions**
Hans-Eberhard Zschau, Michael Schütze, Horst Baumann, Klaus Bethge
- P - 153 Modification of magnetic properties in Fe-Ni and Fe-Ni-Mn alloy thin films induced by energetic ion irradiation**
Yasuhiro Chimi, Norito Ishikawa, Akihiro Iwase, Fumihisa Ono
- P - 160 Influence of long external actions on composition and properties silicides nanofilms**
Dilnoza A. Tashmukhamedova, Baltahadja E. Umirzakov
- P - 191 Influence of Ion Energy on Morphology and Corrosion Properties of Mg Alloys Formed by Energetic PVD Processes**
Yvonne Bohne, Darina Manova, Carsten Blawert, Michael Störmer, Wolfgang Dietzel, Stephan Mändl
- P - 196 Local modification of hardness in FeCu alloys by using swift heavy ion irradiation**
Shou Nakagawa, Norito Ishikawa, Yasuhiro Chimi, Tohru Tobita, Akihiro Iwase
- P - 226 Ion Beam Formation and Amorphisation of Elemental Metallic Cu Nanocrystals**
B. Johannessen, P Kluth, G.J. Foran, D.J. Cookson, D.J. Llewellyn, M.C. Ridgway
- P - 239 Ion implantation induced structural changes in reactively sputtered Cr-N layers on Si substrates**
Mirjana Novaković, Maja Popović, Davor Peruško, Ivan Radović, Velimir Milinović, Mitar Mitrić, Nataša Bibić, Momir Milosavljević

- P - 240 Irradiation induced defect evolution in tungsten during deuterium implantation**
Tommy Ahlgren, Kalle Heinola, Elizaveta Vainonen-Ahlgren, Jari Likonen, Kai Nordlund, Juhani Keinonen
- P - 244 Ion erosion induced ripples as templates for ultrathin magnetic films – ripple-induced anisotropies**
Maciej Oskar Liedke, Bartosz Liedke, Adrian Keller, Steven Rossbach, Stefan Facsko, Juergen Fassbender
- P - 250 Memory effects in interacting and non-interacting ion beam synthesized nanoparticle systems**
Gufei Zhang, Kay Potzger, Shengqiang Zhou, Arndt Mücklich, Yicong Ma, Juergen Fassbender
- P - 255 Modification of Fe-Pd invar alloys by high-energy heavy ions**
Fumihisa Ono, Y. Chimi, N. Ishikawa, H. Kanamitsu, Y. Matsushima, A. Iwase, T. Kambara
- P - 303 Influence of energetic ions and neutral atoms on the L10 ordering of FePt films**
Valentina Cantelli, Johannes von Borany, Juergen Fassbender, Joerg Grenzer
- P - 321 Anisotropic deformation of gold nanoparticles embedded in silica matrix by high energy ion irradiation**
Chahineze Harkati Kerboua, J.M. Lamarre, Z. Yu, L. Martinu, S. Roorda
- P - 364 Mechanical and corrosive behavior of Ti/TiN multiplayer film synthesized by unbalanced magnetron sputtering deposition on stainless steel**
O. Zhang, F. Qi, T.Tao, Y. X. Leng, N. Huang
- P - 365 Surface modification of titanium alloy by plasma nitriding and unbalance magnetron sputtering**
F. Qi, T.Tao, O. Zhang, Y. X. Leng, N. Huang
- P - 367 Titanium Nitride Film Synthesized by DC Filtered Arc Deposition Combined with Electron Cyclotron Resonance**
G.J. Wan, Y.X. Leng, H. Sun, N. Huang
- P - 386 Effects of Ion Irradiation on Hydrogen Absorption Rate of Palladium**
Hiroshi Abe, Yasuhiro Yoneda, M. Morimoto, Kazuhisa Tamura, Jyunichiro Mizuki, Hirohisa Uchida, Hisayoshi Itoh
- P - 401 Phase stability of ion implanted glassy and crystalline Zr-Al-Ni-Cu alloys**
S. Nagata, S. Higashi, K. Takahiro, B. Tsuchiya, K. Toh, T. Shikama, K. Kawatusra
- P - 402 Post deposition stress control on sputtered Mo thin films using ion irradiation**
Aurélien Debelle, Anny Michel, Grégory Abadias, Christiane Jaouen
- P - 405 Modification of indium and chromium layers with argon and krypton ion beam.**
A. Szanyo, Zs Baji, Gy Molnár, A. Toth, Gábor Pető, E. Kotai
- P - 415 Structural and hardness characterization of thin nitrogen ion implanted layer on FeCrNi alloy**
Orhan Öztürk, P. Özdag, A. Öztarhan
- P - 423 Mechanical responses of ZrN/W nanoscale multilayered coatings to high temperature annealing**
Dejun J. Li, Meng Cao, Jingjing J. Zhang, Xuehua H. Zhang,
- P - 429 Influence of the relative humidity on the gaseous corrosion of iron under proton irradiation**
Sandrine Lapuerta, Nathalie Moncoffre, Nathalie Millard-Pinard, Henri Jaffrèzic, Nicolas Béreard, Didier Crusset, Damien Féron
- P - 435 Multilayered TaN/NbN coatings with superlattice structure grown by magnetron sputtering process**
Xuehua H. Zhang, Jin Yang, Meng Cao, Dejun Li
- P - 455 Kr irradiation of Fe_xCo_{1-x}/Cu multilayers: effects on structure and magnetic properties**
I.L. Graff, A. Traverse, S.R. Teixeira, Livio Amaral
- P - 474 The formation of nickel silicide nanocrystals in silicon dioxide films**
Jong-Hwan Yoon, Gyu-Hyun Lee, Robert G. Elliman
- P - 486 Stress measurement of thin Cu foil during low energy ion bombardment**
Wai Lun Chan, Eric Chason, C. Iamsung
- P - 493 Effect of plasma treatment on the structure of Ti-Al coatings produced by mechanical alloying method**
Sergey Romankov, A. Mamaeva, S.D. Kaloshkin, K. Kaevitser, A.M. Zhukeshov
- P - 532 Ion beam shaping of Au nanoparticles: dependence on size and concentration**
Elmuez A. Dawi, Arjen M. Vredenberg
- P - 533 Optical nonlinearity of Au nanoparticles fabricated by negative ion implantation**
Yoshihiko Takeda, Oleg A. Plaksin, Haisong Wang, Naoki Kishimoto
- P - 539 Study of Li diffusion in Re, Nb and Hf**
J. Vacik, H. Hnatowicz, J. Cervena, U. Köster, S. Posta, G. Pasold