POSTER SESSION II

19 September 2006 (Tuesday) 14.30-16.30

a. CLUSTER ION BEAMS

P - 59 **Large-scale molecular dynamics simulation for two Ar clusters impact on 4H-SiC**
Shin-ichi Satake, Tomoaki Kunugi, Masahiko Shibahara, Hirokazu Kasahara, Natsuki Inoue

P - 60 **Damage characteristics of low-temperature BSi molecular ion implantation in silicon**
Jeng-Horng Liang, Shih-Chang Wang

P - 102 **Molecular dynamics simulations of a surface smoothing process with glancing angle gas cluster ion beams**
Takaaki Aoki, Jiro Matsuo

P - 103 **Unique characteristics of oblique irradiation of gas cluster ion beam**
Akiko Suzuki, Emmanuel Bourelle, Akinobu Sato

P - 140 **Formation of surface nanostructures on implantation of Ar clusters into HOPG**
V. N. Popok, E.E.B. Campbell

P - 201 **Cascade Overlap and the Size Effect in Energetic Cluster Impacts on Solids**
Maxim Ponomarev, Roger P. Webb

P - 232 **Molecular effect in GaN bombarded by cluster ions**
Alexander Yu. Azarov, Andrei I. Titov, Sergei O. Kucheyev

P - 256 **Surface Smoothing of Compound Semiconductor SiC Using Gas Cluster Ion Beam**
T. Ichihashi, T. Suzuki, M. Ebata, N. Miyatake, K. Murata

P - 312 **TOF Mass spectrometry of secondary ions from HOPG target bombarded by fast cluster ion beams**
Hiromi Shibata, H. Tuchida, A. Itoh, Y. Saitoh, A. Chiba, K. Narumi, K. Arakawa

P - 335 **Irradiation characteristics of metal-cluster-complex ions containing diverse multi-elements with large mass differences**
Yukio Fujiwara, Kouji Kondou, Yoshikazu Teranishi, Hidehiko Nonaka, Naoaki Saito, Toshiyuki Fujimoto, Akira Kurokawa, Shingo Ichimura, Mitsuhiro Tomita

P - 336 **Low-damage surface smoothing of laser crystallized polycrystalline silicon using gas cluster ion beam**
Hidetada Tokioka, Hiroya Yamarin, Toshiaki Fujino, Mitsuo Inoue

P - 338 **Experimental study of dependence of sputtering yields on cluster size**
Noriaki Toyoda, Isao Yamada

P - 361 **High-speed processing with high-energy SF_6 cluster ion beam**
Toshio Seki, Jiro Matsuo

P - 395 **Characteristics of cluster size selector using high frequency deflector for large cluster ions**
Kiyoto Owaki, Yoshiaki Takatani

P - 404 **A sputtered Si surface irradiated by metal cluster complex ions such as $Os_3(CO)_{12}$ and $Ir_4(CO)_{12}$**
Y.Teranishi, K.Kondou, Y.Fujiwara, H.Nonaka, T.Fujimoto, S. Ichimura, M.Tomita

P - 434 **Low damage smoothing of magnetic material films using gas cluster ion beam**
Shigeru Kakuta, Shinji Sasaki, Tatsumi Hirano, Kazuhiro Ueda

P - 543 **Study of Si wafer surface irradiated by gas cluster ion beams**
E. Toyoda, H. Isogai, T. Senda, K. Izunome, K. Kashima, N. Toyoda, I. Yamada

b. ION BEAM MODIFICATIONS OF SEMICONDUCTORS

P - 13 **Crystalline quality of 3C-SiC synthesized by high-dose C-ion implantation in Si**
S. Intarasiri, A. Hallén, J. Lu, J. Jensen, L.D. Yu, K. Bertilsson, S. Singkarat, G. Possnert

P - 87 **Influence of implantation and annealing parameters on the Si nanocrystals photoluminescence produced by Si hot implantation**
Uilson S. Sias, Moni Behar, Henri Boudinov, Eduardo C. Moreira

P - 89 **Behavior of ion beam induced defects in light-emitting Si nanocrystals**
Gregory A. Kachurin, Svetlana G. Cherkova, Denis V. Marin, Anton K. Gutakovsky, Alexandr G. Cherkov, Vladimir A. Volodin

P - 94 **Electrical characterization of low temperature proton irradiated n-ZnO**
Michael Hayes, F. Danie Auret, Jackie Nel, Werner Wesch, Elke Wendler

P - 96 **Influence of crystal mosaicity on lattice site location experiments of impurities implanted into nitrides**
Bart De Vries, Ulrich Wahl, Joao Guilherme Correia, Sandra Ruffenach, Olivier Briot, André Vantomme, the ISOLDE Collaboration

P - 120 **Optical properties and application of GaSb implanted with 300 keV ^{112}Cd ions**
S. D. Pandey, S. K. Dubey, R. L. Dubey, A. D. Yadav, S. J. Gupta, M. R. Gokhale, B. M. Arora

P - 126 **Room temperature relaxation of amorphous InP, GaAs and InAs characterized with the perturbed angular correlation technique**
Rakesh Dogra, Aidan P. Byrne, Mark C. Ridgway

P - 134 **Effect of Laser annealing on refractive indices of rf sputtered amorphous SiC thin films**
Manoj Arora, S. Koka, Swati Arora

P - 142 **Lattice location of F in preamorphized Si**
Fabiano Bernardi, José Henrique Rodrigues dos Santos, Moni Behar

P - 145 **Formation of thicker buried oxide layer of SIMOX SOI materials using ion-induced defects process**
Jing Chen, Jiayin Sun, Aimin Wu, Zixin Lin, Xi Wang

P - 146 **Research on Ion Implantation Effect on SIMOX Material Modification Technique by XPS Method**
E. X. Zhang, Zh. X. Zhang, J. Chen, Zh. R. Song, H. Yang, W. He, H. Tian, X. Wang

P - 152 **Short-range thermal and structural properties of Ge nanocrystals**
Leandro L. Araujo, Patrick Kluth, Gustavo de M. Azevedo, Mark C. Ridgway

P - 156 **Mn-silicide nanoparticles: the origin of ferromagnetism in Mn-implanted Si?**
S. Zhou, K. Potzger, G. Zhang, A. Mücklich, F. Eichhorn, N. Schell, R. Grötzschel, B. Schmidt, W. Skorupa, M. Helm, J. Fassbender

P - 161 **SiC formation by methane ion implantation in Si**
Vahid Fathollahi, Omid Reza Kakuee, Hassan Dibaji, Mohammad Lamehi-Rachti, Majid Mojtahedzadeh Larijani

P - 166 **Control of the crystalline quality of wurtzitic GaN films deposited on γ-$LiAlO_2$ by ion beam assisted molecular beam epitaxy**
Jürgen W. Gerlach, Andreas Hofmann, Thomas Höche, Bernd Rauschenbach

P - 167 **Electrical characterization of rare-earth implanted gallium nitride**
Vasco Matias, André Vantomme, P. J. Janse van Rensburg, F.D. Auret

P - 171 **Ion bombardment isolation of δ-doped layers in GaAs**
Henri Boudinov, Giovani C. Pesenti, Iuri Danilov

P - 173 **Effect of the substrate temperature during implantation of Eu in GaN**
Vasco Matias, Ester Tooten, André Vantomme

P - 175 **Nanoindentation-induced phase changes in ion-implanted silicon**
Simon Ruffell, Jodie E. Bradby, Jim S. Williams

P - 183 **Optical properties GaAs/CaF_2 nanofilms variable thickness**
Baltahadja E. Umirzakov, Dilnoza A. Tashmukhamedova, Bahodir A. Kadirov, Dilshod M. Murodkobilov

P - 187 **Dual energy Si ion implantation in epitaxial GaN layers on AlN/Al_2O_3**
Daisuke Ozaki, Jiro Ebihara, Yasunori Oshima, Ryosuke Takeuchi, Taroh Inada

P - 192 **Nanocluster formation in Ge + Sn implanted SiO_2 layers**
Peter Gaiduk, Stanislav Prokoph'ev, Werner Wesch, Arne Nylandsted Larsen

P - 198 **Characterization of n-type layers formed in (11-20)-4H-SiC by phosphorus ion implantation**
Naohito Yanagida, Kazuaki Ishibashi, Satoshi Uchiumi, Toroh Inada

P - 203 **Optical properties on Er, Yb implanted $Al_{0.70}Ga_{0.30}As$**
Tomoyuki Arai, Shin-ichiro Uekusa, Akira Uedono

P - 211 **Dynamics of photoionization, heating and crystallization of implanted silicon during laser annealing**
Gennadii D. Ivlev, Elena I. Gatzkevich, Rustem M. Bayazitov, Raphael I. Batalov, Ildus B. Khaibullin

P - 221 **Nonlinear optical properties of transparent semiconductors with implanted metal nanoparticles**
Andrey L. Stepanov, Rustam I. Khaibullin, Nurdogan Can, Alexander Ryasnanskiy, Bruno Palplant

P - 233 **Formation of amorphous layers in silicon**
Erwan Oliviero, Amy Gandy, Paulo F. P. Fichtner, Steve E. Donnelly, Marie France Beaufort, Jean Francois Barbot

P - 234 **Angular dependence of defect formation in H-implanted silicon studied using deep level transient spectroscopy**
Jeffrey C. McCallum, Byron J. Villis

P - 238 **Synthesis of buried silicon nitride layer in SiC by nitrogen implantation**
Alexander V. Suvorov, Alexandra A. Suvorova

P - 245 **Excess vacancies in high energy ion implanted SiGe**
Reinhard Kögler, A. Peeva, A. Mücklich, A. Kuznetsov, J. Christensen, W. Skorupa, B.G. Svensson

P - 248 **Speeding up GaAs semiconductor devices with ion irradiation damage**
Carolina Björkas, Kai Nordlund, Kai Arstila, Juhani Keinonen, Veer D. S. Dhaka, Markus Pessa

P - 259 **Epitaxial lateral overgrown GaN implanted with Eu ions**
S. Magalhães, K. Lorenz, S. Pereira, M. Peres, T. Monteiro, S. Tripathy, E. Alves

P - 260 **Investigation of structural-phase transitions dynamics on the surface of implanted silicon at rapid thermal processing**
Yakhya Fattakhov, Mansur Galyautdinov, Tatiana L'vova, Maksim Zakharov, Ildus Khaibullin

P - 264 **Doubly-stacked Si Dots in SiO_2 Formed by Ion Beam Mixing – A Way to Improve Retention of Nanocrystal Memories**
Karl-Heinz Heinig, Lars Röntzsch

P - 274 **Local structure of Fe incorporated in GaInP layers by high temperature ion implantation**
Tiziana Cesca, Andrea Gasparotto, Giovanni Mattei, Beatrice Fraboni, Federico Boscherini, Massimo Longo, Luciano Tarricone

P - 275 **Ion implantation of Cs into silicon carbide: damage production and diffusion behaviour**
Aurégane Audren, Abdenacer Benyagoub, Lionel Thomé, Frédérico Garrido

P - 280 **Ion irradiation effects on the electro-optical performances of interdigit vertical 4H-SiC Schottky UV photodetectors**
Antonella Sciuto, Fabrizio Roccaforte, Salvatore Di Franco, Vito Raineri

P - 281 **Copper gettering by helium induced voids in silicon**
V.M. Vishnyakov, M.F. Beaufort, S.E. Donnelly

P - 286 **Helium behaviour in α-SiC ceramics investigated by NRA techique**
T. Sauvage, G. Carlot, L. Vincent, P. Garcia, G. Martin, P. Desgardin, M.F. Barthe, A. Gentils

P - 287 **Electrical effects of high temperature Fe implantation on MOVPE GaInP/GaAs**
Beatrice Fraboni, Tiziana Cesca, Andrea Gasparotto, Massimo Longo, Luciano Tarricone

P - 288 **Structural versus electrical properties of defects induced by ion implantation in germanium**
Stefan Decoster, F. Danie Auret, Michael Hayes, André Vantomme

P - 293 **Ion-irradiation-induced amorphization and porosity of Germanium: GISAXS studies of structural modifications and relaxation**
I. Dunja Desnica-Franković, Pavo Dubcek, Maja Buljan, Uros V. Desnica, Sigrid Bernstorff, Mark C. Ridgway, Cris J. Glower

P - 297 **Quantitative determination of electrically active concentration profile in ion-implanted GaN**
Ferdinando Iucolano, Filippo Giannazzo, Fabrizio Roccaforte, Lucia Romano, Maria Grazia Grimaldi, Vito Raineri

P - 316 **Instability of junctions formed by low energy B implant and low temperature solid phase epitaxy growth**
Lin Shao, Yongqiang Q. Wang, Michael Nastasi, Quark Chen, K. Ma, Xiangkun K. Yu, Jiarui Liu, Wei-Kan Chu

P - 334 **Formation process of β-$FeSi_2$ from amorphous Fe-Si**
Muneyuki Naito, Akihiko Hirata, Manabu Ishimaru, Yoshihiko Hirotsu, James A. Valdez, Kurt E. Sickafus

P - 339 **The Yield strength of Si determined from measurements of Implantation induced strain as functions of implant temperature and ion dose**
Veerasamy Lakshmanasamy Raghu, Stephania Hatt, Patrick Kluth, Rakesh Dogra, Susan M. Kluth, Mark C. Ridgway

P - 346 **Fabrication of GaAs on Si heterostructures by hydrogen implantation and direct wafer bonding**
H.J. Woo, H.W. Choi, G.D. Kim, W. Hong, J.K. Kim, H. R. Lee

P - 347 **Modification of He Implantation Induced Defects using Fluorine Implantation**
D.l Alquier, G. Gaudin, M.F. Beaufort, S.E. Donnelly, L. Haworth, F. Cayrel

P - 356 **Raman spectroscopy analysis of hydrogen related defects in high dose H-implanted silicon**
Jeffrey C. McCallum, Daniel J. Pyke,

P - 360 **Amorphous phase formation in ion implanted $In_xGa_{1-x}As$**
Zohair S. Hussain, Werner Wesch, Elke Wendler, Mark C. Ridgway

P - 370 **Defect-band-free luminescence from nano-sized ZnO fabricated by ion implantation and thermal oxidation**
Hiroshi Amekura, Yoshihiko Takeda, Naoki Kishimoto, Christoph Buchal

P - 382 **Fe doping of GaN by ion implantation**
J. Jensen, M. Linnarsson, T. Aggerstam, S. Lourdudoss, G. Possnert, A. Hallén

P - 388 **Epitaxial re-crystallization of amorphous Si layers by swift heavy ions**
Pratap K. Sahoo, T. Mohanty, D. Kanjilal, V.N. Kulkarni

P - 390 **Characterization of silicon carbide coating synthesized from Si-based polymers**
Masaki Sugimoto, Katsuyoshi Takano, Shunya Yamamoto, R.A. Wach, Masahito Yoshikawa

P - 393 **Luminescence Properties of Er Implanted Silicon Nanoclusters**
Giorgia Franzò, Alessia Irrera, Isodiana Crupi, Francesco Priolo, Fabio Iacona, Gianfranco Di Stefano, Angelo Piana, Delfo Sanfilippo, Piergiorgio Fallica

P - 396 **F implantation in preamorphized Si: point defect engineering and control of dopant diffusion**
Giuliana Impellizzeri, Salvatore Mirabella, Francesco Priolo, Enrico Napolitani, Alberto Carnera

P - 413 **Effect of cavity-controlled vacancy supersaturations on B diffusion and activation in Si**
Olivier Marcelot, A. Claverie, M. Gavelle, F. Séverac, F. Cristiano, F. Cayrel, D. Alquier, W. Lerch, S. Paul, L. Rubin, H. Jaouen

P - 414 **RBS--channeling analysis of ion--irradiation effects in laser–annealed Si:As**
Giorgio Lulli, Marco Bianconi, Matteo Ferri, Guglielmo Fortunato, Luigi Mariucci

P - 417 **Growth of GaN on Ga ion implanted SiN substrates using ECR-MBE**
Junichi Yanagisawa, Hiroyoshi Matsumoto, Takaaki Fukuyama, Yuuki Shiraishi, Tokuo Yodo, Yoichi Akasaka

P - 433 **Ion Implanters contamination on wafer surface analyzed by ToF-SIMS and SPV analytical techniques**
R. Ricciari, M. Bertini, G. Pizzo, E. Ferlito, G. Anastasi, D. Mello, G. Franco

P - 437 **Damage recovery of GaN implanted with Mg, N and Ga ions**
I.O. Usov, T.G. Holesinger, D.D. Koleske, Y.Q. Wang

P - 438 **Properties of silicon nanocrystals formed and doped by ion implantation in different oxide matrices**
A.I. Belov, A.V. Ershov, T.G. Finstad, O.N. Gorshkov, A.I. Kovalev, A.N. Mikhaylov, L. Pavesi, D.I. Tetelbaum, R. Turan, D.L. Wainstein

P - 440 **Two mechanisms of nanocrystals formation under ion irradiation of silicon**
A.A. Ezhevskii, D.I. Tetelbaum, Yu.A. Mendeleva, D.V. Guseinov, E.V. Kiseleva

P - 441 **Accumulation of Si at the surface during implantation of 4H SiC**
Anders Hallén, Yanwen Zhang

P - 444 **Large Boron Interstitial Clusters: Dissolution Kinetics and Strain**
D. De Salvador, G. Bisognin, E. Napolitani, A. Carnera, E. Bruno, S. Mirabella, F. Priolo, S. Boninelli, N. Cherkashin, F. Cristiano

P - 447 **Why the F^+ ion implantation can stop boron diffusion in Si?**
Nik Gerasimenko, Nik Gerasimenko Jr, Alex Tarasenkov, Igor Loviagin

P - 448 **Thermo-optical effects on radiation defects in implanted silicon**
Nik N. Gerasimenko Jr, Nik N. Gerasimenko

P - 449 **Fractal analysis of self-organized structures in implanted semiconductors**
Sergey A. Aprelov, Nik N. Gerasimenko

P - 454 **Neon Implantation in Silicon at different Temperature**
S. Peripolli, L. Amaral, E. Oliviero, M.F. Beaufort, J.F. Barbot, P.F.P. Fichtner, S.E. Donnelly

P - 459 **Damage evolution in low-energy ion-implanted silicon: comparing nanocalorimetry, reflectometry and channeling**
Rachid Karmouch, Yonathan Anahory, Martin Chicoine, Jean-François Mercure, François Schiettekatte

P - 461 **Evolution of H/D-related defects in germanium implanted with high fluences of low-keV H or D ions**
Nicholas Desrosiers, Alexandre Giguère, Bernard Terreault

P - 462 **Silicon swelling under low-keV hydrogen and deuterium implantation**
Nicholas Desrosiers, Bernard Terreault

P - 463 **TEM investigation of nanobubbles induced by F implantation in preamorphized Si**
Simona Boninelli, Giuliana Impellizzeri, Salvatore Mirabella, Francesco Priolo, Enrico Napolitani, Filadelfo Cristiano

P - 473 **Large capacitance-voltage hysteresis loops in SiO_2 films containing Ge nanocrystals produced by low energy ion implantation and annealing**
C.J. Park, K.H. Cho, W.-C. Yang, H.Y. Cho, Suk-Ho Choi, R. G. Elliman, J.H. Han, Chungwoo Kim

P - 481 **Investigation of ion scattering from the semiconductor defect surfaces at the grazing incidence**
A.A. Dzhurakhalov, U.O. Kutliev, B.S. Kalandarov

P - 488 **Deposition of Ge-C films using low-energy ion-beam induced chemical vapor deposition**
T. Matsutani, M. Kiuchi, T. Takeuchi

P - 508 **Effect of strain on the carrier mobility in heavily doped p-type Si**
Lucia Romano, Riccardo De Bastiani, Cristina Miccoli, Gabriele Bisognin, Maria Grazia Grimaldi

P - 509 **Boron Interstitial Clusters nucleation, growing and dissolution mechanisms**
Alberto Maria Piro, Lucia Romano, Salvatore Mirabella, Maria Grazia Grimaldi

P - 511 **Nanovoids in MBE SiGe/Si epilayers induced by He ion implantation**
Antonio Terrasi, Gabriele Bisognin, Marina Berti, Salvatore Mirabella, D. D'Angelo, Elena Bruno, Corrado Bongiorno, Filippo Giannazzo, Vito Raineri

P - 513 **High energy N^+ ion implantation in 4H-SiC**
Erwan Oliviero, Mihai Lazar, Alain Gardon, Christophe Peaucelle, Angela Perrat, Jean-Jacques Grob, Christophe Raynaud, Dominique Planson

P - 516 **Amorphous-Crystalline interface evolution during Solid Phase Epitaxy Re-growth of SiGe films amorphized by ion implantation**
Daniele D'Angelo, Salvatore Mirabella, Corrado Bongiorno, Lucia Romano, Alberto Piro, Antonio Terrasi, Maria Grazia Grimaldi

P - 518 **Si-Self interstitial diffusion in crystalline silicon at room temperature**
Alberto Maria Piro, Lucia Romano, Salvatore Mirabella, Maria Grazia Grimaldi

P - 523 **Photoluminescence of He-implanted ZnO nanocrystals**
J.-K. Lee, D.A. Lucca, T.A. Harriman, M. Nastasi

P - 534 **Ultra deep trench doping in silicon by grazing incident boron implantation**
S. Nizou, M. Ziti, J.M. Lecoq, M. Roy, D. Alquier

P - 536 **Trap efficiency in ion irradiated 4H-SiC**
L. Calcagno, A. Ruggiero, P. Musumeci, G. Cuttone, G. Foti

P - 549 **Effect of energetic ions on the stability of bond-center hydrogen in silicon**
S.V.S. Nageswara Rao, S.K. Dixit, G. Lüpke, L.C. Feldman, N.H. Tolk

P - 550 **Effects of dopants on the amorphous-to *fcc* transition in Ge2Sb2Te5 thin films**
S. Privitera, E. Rimini, C. Bongiorno, A. Pirovano, R. Bez