The conference is devoted to the memory
of professor Leonid S. Smirnov

IVth Russian Conference

PHYSICAL AND PHYSICO-CHEMICAL BASES OF ION IMPLANTATION

(with foreign scientists participation)

and International Youth Conference

RADIATION EFFECTS AND PROCESSES IN INORGANIC MATERIALS

23-26 October, 2012, Novosibirsk

PROGRAMME

Novosibirsk-2012

MONDAY, 22 OCTOBER

15^{00}-18^{00} Conferees registration

TUESDAY, 23 OCTOBER

Session 1 Chairman **– Alexander L. Aseev**

10^{00} – 10^{15} Opening ceremony. Introductory speech by **Alexander L. Aseev**, ISP SB RAS Director, SB RAS Chairman**.**

10^{15} – 10^{45} ***V.N.Mordkovich***. Reactions assisted by own dot defects in radiated semiconductors ***(invited report)***

Institute of the Problems of Microelectronics Technology and Ultra-Pure Materials, RAS, Chernogolovka.

10^{45} – 11^{15} ***A.V.Dvurechenskii.*** Ion-induced molecular-beam epitaxy. Impulse annealing of nanostructures ***(invited report).***

A.V.Rzhanov Institute of Semiconductor Physics, SB RAS, Novosibirsk.

11^{15} – 11^{45} *A.L.Aseev,* ***A.V.Latyshev****.* Electron and ion lithography: nanostructuring ***(invited report).***

A.V.Rzhanov Institute of Semiconductor Physics, SB RAS, Novosibirsk.

COFFEE BREAK - 15 min.

Session 2. Chairman - V.N.Mordkovich

12^{00} – 12^{30} ***R.M.Bayazitov***. Fast thermal processings in silicon-based microelectronics ***(invited report)***

E.K.Zavoisky Kazan Physico-Technical institute of Kaz SC RAS, Kazan.

$12^{30} – 12^{45}$ ***P.P.Trohimchuk***. The problem in the ratio of ionization and thermal mechanisms under laser annealing and laser doping

Lesya Ukrainka Volynsk National University, Lutsk, Ukraine.

Lunch (12^{45}-14^{00})

$14^{00} – 15^{30}$ Poster session (reports C1-1 – C1-29).

Session 3. Chairman – D.I.Tetelbaum.

$15^{30} – 16^{00}$ ***V.V.Kozlovsky.*** Semiconductors modification by proton beams ***(invited report).***

St.-Petersburg State Polytechnical University, St.-P.

$16^{00} – 16^{30}$ ***S.Rubanov[1]***, *B.A.Fairchild[2], P.Olivero[3], S.Prawer[2]*. Focused ion beam engineering of nanostructures in diamond ***(invited report)***

[1]Bio21 Institute, the University of Melbourne, Victoria, Australia
[2]School of Physics, the University of Melbourne, Victoria, Australia
[3]Physics Department, University of Torino, Italy

16^{30} - 16^{45} ***E.C.Demidov,*** *V.V.Podolsky, V.P. Lesnikov, V.V.Karxzanov, V.V.Sdobnyakov, E.D.Pavlova, A.A.Tronov.* Ion-beam and laser synthesis of new silicon-based magnetic materials.

N.I.Lobachevsky Nizhegorod State University, Nizhny Novgorod.

$16^{45} – 17^{00}$ ***V.Yu.Petukhov****, G.G.Gumarov, A.V.Alekseev, D.A.Konovalov.* Investigation of magnetic anisotropy of iron silicide thin films, ion-synthesized in magnetic and mechanical fields.

E.K.Zavoisky Kazan Physico-Technical Institute of Kaz SC, RAS, Kazan.

$17^{00} – 17^{15}$ ***I.V.Matyshkin[1]***, *S.V.Korobov[1], N.A.Zaitsev[1], I.A.Khomyakov[1], S.N.Orlov[1], A.N.Mikhailov[2], D.V.Guseinov[2].* Cell-automat approach to defect formation simulation under ion implantation.

[1] OJSC «RI of Molecular electronics», Moscow, Zelenograd.
[2] N.I.Lobachevsky Physico-Technical Institute of NNSU, Nizhny Novgorod.

Coffee break - 15 min.

Session 4. **Chairman – R.M.Bayazitov**

$17^{30} – 18^{00}$ ***N.G.Kolin[1]***, *L.S.Smirnov[2]*. Nuclear semiconductor doping. Current state and perspectives ***(invited report).***

[1]Affiliated Branch of FSUE L.Ya.Karpov RPCI'.
[2]A.V.Rzhanov Institute of Semiconductor Physics, SB RAS, Novosibirsk.

$18^{00} – 18^{30}$ ***V.A.Bykov***, *K.Yu.Borisov, A.V.Bykov, V.V.Kotov, V.V.Polyakov. Cluster technological lines of micro- and nanoelectronics using the systems of multi-beam maskless lithography* ***(invited report).***

Group of "NT-MDT" enterprises , Moscow.

$18^{30} – 19^{00}$ ***A.F.Vyatkin***. Formation of super-narrow p-n junctions in silicon by ion implantation ***(invited report)***

Institute of the Problems of Microelectronics Technology and Ultra-Pure Materials, RAS, Chernogolovka.

19^{15} Buffet table.

Wednesday, 24 October

Session 5. **Chairman – A.F.Vyatkin**

09^{00} - 09^{30} ***P.A.Karasev****, A.I.Titov*. Change of GaN properties under accelerated ion radiation ***(invited report)***

St.-Petersburg State Polytechnical University, St.-P.

09^{30} – 10^{00} ***A.V.Voitsekhovsky[1]****, N.H.Talipov[2]*. Ion implantation in CMT ***(invited report)***

[1]National Research Tomsk State University, Tomsk.
[2]Peter-the Great Military Academy of RST, Moscow.

10^{00} – 10^{15} *N.A.Dobychin, V.V.Karzanov,* ***E.V.Semenova***. Ion implantation-induced defects in silicon nitride.

N.I.Lobachevsky Nizhegorod State University, Nizhny Novgorod.

10^{15} – 10^{30} ***O.V.Naumova,*** *B.I. Fomin, M.A. Ilnitsky, V.P. Popov.* Influence of ion implantation on charge accumulation in Si/SiO_2 systems of SOI structures under ionizing radiation.

A.V.Rzhanov Institute of Semiconductor Physics, SB RAS, Novosibirsk.

10^{30} – 10^{45} ***O.A.Podsvirov[1]****, P.A.Karasev[1], A.Ya.Vinogradov[2], V.S.Belyakov[1], A.V.Arkhipov[1], K.V.Karabeshkin[1], N.N.Karasev[3], E.N.Shubina[1], А.И.Тимов[1]*. Effect of ion bombardment for α-C:H film properties.

[1]St.-Petersburg State Polytechnical University, St.-Petersburg.
[2]A.F.Ioffe Physico-Technical Institute, St.-Petersburg.
[3] St.-Petersburg State University of Information Technologies, Mechanics and Optics, St.-Petersburg.

Coffee break - 15 min.

Session 6 **Chairman – F.F.Komarov**

11^{00} – 11^{15} ***I.E.Tyschenko***. Radiation-resistant SOI structures with ion-modified buried insulator.

A.V.Rzhanov Institute of Semiconductor Physics, SB RAS, Novosibirsk.

11^{15}– 11^{30} ***N.A.Dobychin**, V.V.Karzanov.* Photoluminescence of silicon-enriched silicon nitride.

N.I.Lobachevsky Nizhegorod State university, Nizhny Novgorod.

11^{30} – 11^{45} ***A.A.Liamkina**, S.P.Moshchenko, V.G.Kesler.* Plasmon resonance frequency control in indium nanodrops under oxygen ion oxidation in Townsend charge plasma.

A.V.Rzhanov Institute of Semiconductor Physics, SB RAS, Novosibirsk.

11^{45} – 12^{00} ***Zh.V. Smagina**, A.V. Dvurechenskii, P.L. Novikov, A.V. Nenashev, N.P. Stepina, S.A. Rudin*. Epitaxial growth of Ge nanocrystals on patterning Si surface with ion irradiation.

A.V.Rzhanov Institute of Semiconductor Physics, SB RAS, Novosibirsk.

12^{00} – 12^{15} ***S.V.Sitnikov**[1], S.S.Kosolobov[1,2], A.V.Latyshev[1,2]*. Kinetics of 3D submicron structures relaxation on the Si(111) atomic-smooth surface.

[1]A.V.Rzhanov Institute of Semiconductor Physics, SB RAS, Novosibirsk.
[2]Novosibirsk State University, Novosibirsk.

12^{15} – 12^{30} *I.K.Beysembetov, N.B.Beysekhanov, S.K.Zharikov, B.K.Kenzhaliev,* ***K.N.Nusupov*** *T.K.Ahmetov*. Thin silicon carbide films synthesis.

Kazakhstan-British Technical University, Kazakhstan

12^{30} – 12^{45} ***I.R.Vakhitov**[1,2], A.A.Achkeev[1], V.F.Valeev[2], E.N.Dulov[1], I.A.Faizrakhmanov[2], L.R.Tagirov[1], R.I.Haibullin[1,2], M.Dobeli[3]*. Influence of iron ions implantation regimes and subsequent thermal annealing on rutile magnetic phase composition (TiO_2).

[1]Kazan Federal University, Kazan.
[2] Kazan Physico-Technical Institute, Kazan.
[3] Swiss Higher Technical School, Zurich.

Lunch (12^{45}-14^{00})

14^{00} – 15^{30} Poster session (report C2-1 − C2-19).

Session 7 **Chairman – A.V.Latyshev**

15^{30} - 16^{00} ***D.I.Tetelbaum****, A.N.Mikhailov*. Secondary defect formation in silicon under ion radiation ***(invited report).***

Research Physico-Technical Institute of N.I.Lobachevsky Nizhegorod State University, Nizhny Novgorod.

16^{00} – 16^{30} ***L.I.Fedina****.* Topological {113}-defects in Si as a result of own interstitial atoms and vacancies clusterization ***(invited report).***

A.V.Rzhanov Institute of Semiconductor Physics, SB RAS, Novosibirsk.

16^{30} – 17^{00} ***N.Cherkashin****, S.Reboh, A.Lubk, P.Pochet, A.Claverie and M.J.Hÿtch.* Direct mapping of strain depth distributions with a nanometer spatial resolution in ion implanted Si using Dark-Field Electron Holography ***(invited report).***

[1] CEMES, Université de Toulouse, Toulouse, France
[2] CEA UJF, INAC, Lab Simulat Atomist (L_ Sim), Grenoble, France

17^{00} – 17^{15} ***K.V.Feklistov****, L.I.Fedina, A.G.Cherkov*. Ordering boron precipitants ensamble as a layered distribution: considering the influence of implantation defects on the ripening of the Ostwald ensamble.

A.V.Rzhanov Institute of Semiconductor Physics, SB RAS, Novosibirsk.

Coffee break — 15 min.

Session 8 **Chairman – V.P.Popov.**

17^{30} – 18^{00} ***R.I.Khaibullin[1,2]****, V.I.Nuzhdin[1], O.N.Lopatin[2], A.G.Nikolaev[2]*. Hemmological aspects of ion implantation into minerals and their synthetic analogs ***(invited report).***

[1]E.K.Zavoisky Physico-Technical Institute, Kaz SC RAS, Kazan.
[2]Kazan (Privolzhsk) Federal University, Kazan.

18^{00} – 18^{30} ***V.N.Brudny***. Evolution of non-metallic materials electron subsystem affected by hard radiation : electron properties of radiated semiconductors ***(invited report).***

National Research Tomsk State University, Tomsk.

$18^{30} – 18^{45}$ ***V.V.Hvostov****, K.F.Minnebaev, V.E.Yurasova*. Enerrgy distribution of secondary particles under graphite nanocrystallites ion radiation.

M.V.Lomonosov MSU, Physiacl Faculty, Moscow.

$18^{45} – 19^{00}$ ***D.A.Kartashov***. Methods of numerical evaluation of *p-n* junctions depth produced by ion implantation based on the data of relative two-wave x-ray reflectometry.

OJSC "RI of Molecular Electronics", Moscow, Zelenograd.

Thursday, 25 October

Session 9 **Chairman – R.I.Haibullin.**

$09^{00} – 09^{30}$ ***N.A.Sobolev.*** Engineering of structural defects and luminescent centres in Si light diodes implantation technology ***(invited report)***

A.F.Ioffe Physico-Technical Institute, St.-Petersburg.

$09^{30} – 10^{00}$ ***K.Nordlund****, R.Wei, E.Holmström, F.Djurabekova, and A.Kuronen*. Molecular dynamics simulations of the primary state of damage in irradiated Si and GaN nanowires ***(invited report)***

Department of Physics University of Helsinki, Finland

$10^{00} – 10^{15}$ ***I.V.Antonova[1]****, V.A.Skuratov[2], I.Balberg[3]*. Ge nanocrystals formation in SiO_2 и Al_2O_3 with high-energy ions.

[1]A.V.Rzhanov Institute of Semiconductor Physics, SB RAS, Novosibirsk.
[2]United Institute of Nuclear research, Dubna.
[3]The Racah Institute of Physics, Hebrew University, Jerusalem, Israel

$10^{15} – 10^{30}$ *S.E.Demyanov,* ***E.Yu.Kanyukov***. Ion-track technology to create nanostructured sensors of magnetic field.

SPC of the Belarus NAS on Material Science, Minsk.

10^{30} - 10^{45} ***G.A.Kachurin[1]****, S.G.Cherkova[1,2], V.A.Volodin[1,2], A.G.Cherkov[1,2], D.V.Marin[1,2], G.N.Kamaev[1,2], A.H.Antonenko[1,2], V.A.Skuratov[3]*. Light-rediating nanostructures formation by fast heavy ions implantation into alternating Si/SiO_2 nanolayers.

[1]A.V.Rzhanov Institute of Semiconductor Physics, SB RAS, Novosibirsk.
[2]Novosibirsk State University, Novosibirsk.
[3]United Institute of Nuclear Research, Dubna.

10^{45} - 11^{00} ***A.N.Mikhailov[1]***, *A.I.Belov[1], A.O.Timofeeva[1], V.K.Vasilyev[1], I.Yu.Zhavoronkov[1], A.V.Barsukov[1], D.S.Korolev[1], D.I.Tetelbaum[1], V.I.Sakharov[2], I.T.Serenkov[2], E.I.Shek [2], N.A.Sobolev[2].* Ion-beam modification of silicon-based nanostructures, emitting light at wavelength 1.5 mcm.

[1]Research Physico-Technical Institute of N.I.Lobachevsky, Nizhny Novgorod.
[2] A.F.Ioffe Physico-Technical Institute, St.-Petersburg.

Coffee break - 15 min.

Session 10. **Chairman – V.V.Kozlovsky.**

11^{15} – 11^{45} ***N.N.Gerasimenko***. Ion synthesis of silicon-based nanostructures ***(invited report).***

National Research University «MIET», Moscow, Zelenograd.

11^{45} – 12^{15} ***F.F.Komarov***. Ion synthesis of narrow-band A_3B_5 semiconductor nanocrystals in silicon and silicon dioxide ***(invited report).***

A.N.Sevchenko Institute of Applied Physical Problems of BSU, Minsk.

12^{15} – 12^{45} ***V.P.Popov[1]***, *L.N.Safronov[1], V.A.Antonov[1], A.K.Gutakovsky[1], V.I.Obodnikov[1], S.N.Podlesny[1], I.A.Kartashev[1], A.V.Shishaev[1], I.I.Ryabtsev[1], I.N.Kupriyanov[2], A.A.Kalinin[2], Yu.N.Palyanov[2], S.Rubanov[3].* Diamond structures for optoelectronics and quantum computer programing: ion implantation and annealing under pressure ***(invited report)***

[1]A.V.Rzhanov Institute of Semiconductor Physics, SB RAS, Novosibirsk.
[2] V.S˙.Sobolev Institute of Geology and Mineralogy, Novosibirsk.
[3] Bioinstitue of the University of Melbourne, Melbourne.

12^{45} – 13^{00} ***R.A.Hmelnitsky****, V.A.Dravin, A.A.Tal, M.I.Latushko, A.A.Homich, A.V.Homich, A.S.Trushin, A.A.Alekseev, S.A.Terentyev*. Swelling and amorphization of diamond at ion implantation.

P.N.Lebedev Physical Institute, RAS, Moscow.

13^{00} – 13^{30} ***Paul F.A.Alkemade***. Sub-Nanometer Focused Helium Ion Beam for Structuring Materials on the Nanoscale ***(invited report)***

Kavli Institute of Nanoscience, Delft University of Technology, Delft, The Netherlands

Lunch (13^{30} – 14^{30})

14^{30} – 18^{30} ***visits to:***

SB RAS Exponential Centre;

Technopark of the Novosibirsk Academgorodok;

Novosibirsk laser on free electrons;

visiting ISP (ion- and electron-induced nanostructuring, implanters);

INP (electron, neutron and ion radiation, implanters, accelerators).

19^{00} – **banquet.**

Friday, 26 October

Session 11. **Chairman – N.N.Gerasimenko**

09^{00} – 09^{30} ***A.A.Ivanov****, A.V.Burdakov, V.I.Davydenko*. Ion sources and accelerators for nuclear doping and boron neutron-capture therapy ***(invited report)***

G.I.Budker Instittute of Nuclear Physics, SB RAS, Novosibirsk.

09^{30} – 10^{00} ***K.V.Rudenko****, V.F.Lukichev, A.A.orlikovsky*. Plasma-immerse ion implantation and its perspective applications in technologies of nanoelectronics and nanostructures ***(invited report).***

RAS Physico-Technological Institute (RAS PTI), Moscow.

10^{00} – 10^{30} *A.A.Leino[1], O.H.Pakarinen[1],* ***F.Djurabekova[1]****, K.Nordlund[1], Mark Ridgway[2]*. Mechanism of swift heavy ion beam elongation of embedded nanoclusters ***(invited report)***

[1]University of Helsinki and Helsinki Institute of Physics, Helsinki, Finland
[2]Department of Electronic Materials Engineering, The Australian National University, Australia

10^{30} – 10^{45} ***G.P.Pokhil****, V.V.Cherdyntsev*. Ion beams control assisted with dielectric channels.

D.V.Skobeltsev RINP, MSU, Moscow.

10^{45} – 11^{00} New trends in ion implantation

ULVAC/Tokyo Boeki, Russia.

Coffee break — 15 min.

Session 12. **Chairman – V.Ya.Bayankin.**

$11^{15} – 11^{45}$ ***Yu.P.Sharkeev***[1,2], *I.A.Kurzina*[2,3]. Nanostructuring titanium and ion implantation ***(invited report)***

[1] *Institute of Resistance Physics and Material Science, SB RAS, Tomsk..*
[2] *Tomsk Polytechnical University, Tomsk.*
[3] *Tomsk State University, Tomsk*.

$11^{45} – 12^{00}$ ***A.A.Novoselov***, *V.Ya.Bayankin, F.Z.Gilmutdinov*. About the manifestation of small-dosage long-distance effect under ion implantation of rolled copper-nickel foils.

Physico-Technical Institute of UrB RAS, Izhevsk.

$12^{00} – 12^{15}$ ***M.Yu. Bekhtina***[1], *A.V.Irzhak*[2], *V.V.Koledov*[1]. Influence of focused ion beam on surface layers of Ti_2NiCu ribbon.

[1]*V.A.Kotelnikov Institute of Radiotechnics and Electronics, RAS, Moscow.*
[2] *National Research Technological University «MIS and A», Moscow.*

$12^{15} – 12^{30}$ ***A.V.Zhikharev***[1], *I.N.klimova*[1], *V.Ya.Bayankin*[1], *E.V.Kharanzhevsky*[2]. Influence of laser radiation on segregation processes in $Cu_{50}Ni_{50}$ foils with a sprayed-on Al layer.

[1]*Physico-Technical Institute, UrB RAS, Izhevsk.*
[2]*Udmurt State university, Izhevsk.*

$12^{30} – 12^{45}$ ***V.L.Vorobyev***[1], *P.V.Bykov*[1], *V.Ya.Bayankin*[1], *O.A.Bureev*[2]. Change of mechanical properties of carbon steel depending on the impulse chrome ion-induced radiation dosage.

[1]*Physico-Technical Institute, UrB RAS, Izhevsk.*
[2]*Institute of Electrophysics, UrB RAS, Yekaterinburg.*

$12^{45} – 13^{00}$ *G.Abadias*[1], ***V.V.Uglov***[2], *A.Yu.Rovbut*[2], *I.A.Solodukhin*[2], *S.V.Zlotsky*[2]. Structural-phase changes in TiZrAlN cap layers implanted with xenon ions.

[1]*Poitiers University, France, Poitiers.*
[2]*Belarus State University, Minsk.*

Lunch ($13^{00} – 14^{30}$)

Session13. **Chairman – A.V. Dvurechenskii**

$14^{30} – 15^{00}$ ***Julian Duchaine****, Frank Torregrosa, Yohann Spiegel*. Challenges and use of plasma immersion ion implantation for advanced semiconductor devices ***(invited report).***

IBS, Peynier, France.

$15^{00} – 15^{15}$ ***S.P.Kobeleva[1]****, I.M.Anfimov[1], A.M.Musalitin[1], V.V.Kalinin[2], K.V.Fritzler[2]*. Influence of technological prehistory on thermoacceptors formation in silicon crucibleless zone melting CZM) radiated by relativistic electrons

[1]National research technological University, Moscow
[2]A.V.Rzhanov Institute of Semiconductor Physics, SB RAS, Novosibirsk

$15^{15} – 15^{30}$ ***A.A.Korepanov****, V.V.Bolotov, K.E.Ivlev, P.M.Korusenko, D.V.Cheredov.* Structural and electrophysical properties of por-Si/SnO_x, nanocomposite obtained with the impact of a powerful nanosecond laser beam.

Omsk Affiliated Branch of A.V.Rzhanov Institute of Semiconductor Physics, SB RAS, Omsk.

$15^{30} – 15^{45}$ ***A.V.Stepanov****, G.M.Filippov*. Simulation of particles channeling in carbon nanotube arrays.

[1] I.Ya.Yakovlev Chuvash State Pedagogical University.
[2] Cheboksary Polytechnical Institute (affiliated branch) of the Moscow State Open University, Cheboksary.

$15^{45} – 16^{00}$ ***M.I.Makoviychuk***. Flicker-noise spectroscopy — a perspective analytical investigation method for ion-doped semiconductor layers.

Yaroslavl Affiliated Branch of the Physico-Technological Institute, RAS, Yaroslavl.

16^{00} CLOSING OF THE CONFERENCE.

POSTER PRESENTATIONS

POSTER SECTION C1

C1-1. ***A.I.Gumarov[1]***, *N.MLiadov[2], E.I.Dulov[1], V.F.Valeev[2], N. Dogan[3] B.Z.Rameev[2,3], A. Mackova[4,5], V. Hnatowicz[5], L.R.Tagirov[1,2], R.I.Haibullin[1,2].* Investigating the effect of substrate temperature on structural and magnetic properties of ZnO, implanted by Fe or Co ions.

[1]Kazan (Privolzhsk)Federal University, Kazan.
[2]Kazan Physico-Technical Institute of the KSC, RAS.
[3] Gebze Institute of Technology, Gebze-Kocaeli, Turkey
[4]Nuclear Physics Institute of the AS CR, Rez 130, Czech Republic
[5]Department of Physics, J.E. Purkinje University, Usti nad Labem, Czech Republic

C1-2. ***G.G.Gumarov***, *A.V.Alekseev, V.Yu.Petuhov, V.F.Valeev.* Dose dependence of magnetic properties of iron silicides ion-synthesized in external magnetic field.

E.K.Zavoisky Kazan Physico-Technical Institute of the KAZSC, RAS, Kazan.

C1-3. ***N.N.Halitov[1,2]***, *M.N.Liadov[1], V.A.Shustov[1], R.I.Haibullin[1,2], I.A.Faizrakhmanov[1,2], P.A.Gorbatova[2], V.V.Parfenov[2].* Formation of nanocomposite films of $BaTiO_3$:Co multi-ferroics with the ion-stimulated deposition method.

[1] Kazan Physico-Technical Institute, Kazan.
[2] Kazan Federal University, Kazan.

C1-4. ***E.E.Rodiankina[1]***, *S.S.Kosolobov[1,2], A.V.Latyshev[1,2]*. Silicon surface morphology under epitaxial growth and sublimation.

[1]A.V.Rzhanov Institute of Semiconductor Physics, SB RAS., Novosibirsk.

C1-5. ***G.F.Karlova[1]***, *G.I.Koltsov[2], S.Yu.Yurchuk[2]*. Ion implantation of beryllium into galium arsenide and the possibility of its use in producing heterobipolar transistors.

[1]OJSC «Research institute of Semiconductor Devices», Tomsk.
[2] RTU MIS, Moscow.

C1-6. *N.N.Gerasimenko[1], N.Medetov[1], Yu.A.Ryabkin[2], S.Zh.Tokmoldin[2],* ***K.B.Tynyshtykbaev[2]***. About the same common origin of radiation and non-radiaiton cracks with the example of anode-etched p-Si (100).

[1]MIET, Zelenograd.
[2]Physico-Technical Institute MES KR, Almati.

C1-7. ***R.S.Madatov***, *TT.B.Tagiev, Yu.M.Mustafaev, F.P.Abasov*. Influence of penetrating radiaition on photoelectric properties of GaS and GaS:Er monocrystals.

Institute of Radiation Problems of the Aizerbaidjan NAS, Baku.

C1-8. ***A.V.Zhelannov[1]***, *V.E.Udaltsov[2]*, *D.G.Fedorov[1,2]*. Use of ion implantation in ohmic contacts formation to diode structures based on gallium nitride

[1]OJSC «RDB — Planet»,Novgorod-the-Great.
[2]Ya.Mudry Novgorod State University, Novgorod-the-Great (Veliky Novgorod).

C1-9. ***A.K.Shestakov***, *K.S.Zhuravlev*. Computer research of electro-physical processes in ion-doped field GaAs-transistor with Shottky gate at the change of the channel profile doping parameters.

A.V.Rzhanov Institute of Semiconductor Physics, SB RAS, Novosibirsk.

C1-10. *I.I.Izhnin[1]*, *E.I.Fitsych[1]*, *A.Yu.Bonchik[2]*, *G.V.Savitsky[2]*, *A.V.Voitsekhovsky[3]*, *S.A.Dvoretsky[4]*, *N.N.Mikhailov[4]*, *Yu.G.Sidorov[4]*, *V.S.Varavin[4]*, ***K.D.Mynbaev[5]***. Defect structure relaxation of epitaxial CdHgTe films subjected to low- and high-energy ion processing.

[1]Scientific-production Enterprise "Karat", Lvov, Ukraine.
[2]Ya.S.Pidsrtrigach Institute of Applied problems of Mechanics and Mathematics, NAS of Ukraine., Lvov.
[3]Tomsk State University, Tomsk.
[4]A.V.Rzhanov Institute of Semiconductor Physics, SB RAS, Novosibirsk.
[5]A.F.Ioffe Physico-Technical Institute, St.-Petersburg.

C1-11. *A.V.Voitsekhovsky[1]*, ***N.H.Talipov[2].*** Influence of power IR impulse laser radiation on boron-implanted p-type heteroepitaxial $Cd_xHg_{1-x}Te$ layers.

[1]Tomsk State University, Tomsk.
[2]Peter-the-Great Military Academy of Rocket Strategic Troops, Moscow.

C1-12. ***G.V.Baranov***, *A.G.Italiantsev*, *O.M.Orlov.* Implanted As redistribution under radiation defect-stimulated diffusion.

OJSC «RIME, Moscow, Zelenograd.

C1-13. ***M.V.Dragut[1,2]***, *D.A.Usik[1]*, *D.M.Misharin[1]*. Estimate of depleted surface GaAs region after SCE with the layer-by-layer chemical etching method.
[1]OJSC «RDB – Planet», Novgorod-the-Great 9Veliky Novgorod.
[2]Ya.Mudry Novgorod State University, Veliky Novgorod.

C1-14. ***A.A.Koshkarev***, *A.V.Nenashev*, *A.V.Dvurechenskii*. Registrationof anisotropy incalculating elestic deformation in quantum wires and dots.

A.V.Rzhanov Institute of Semiconductor Physics, SB RAS, Novosibirsk.

C1-15. *V.V.Karzanov*, ***N.A.Karpov.*** Effect of silicon implantation on AlN luminescent properties.

N.I.Lobachevsky Nizhegorod State University, Nizhny Novgorod.

C1-16. ***P.A.Kuchinskaya[1],*** *V.A.Zynovyev[1], A.V.Nenashev[1,2], V.A.Armbrister[1], A.V.Dvurechenskii[1,2]*. QDs spatial organization into ring chains in multilayer Ge/Si structures.

[1]A.V.Rzhanov Institute of Semiconductor pPhysics, SB RAS Novosibirsk.
[2]Novosibirsk State University, Novosibirsk.

C1-17. ***A.A.Ghismatulin[1]***, *A.H.Antonenko[1,2], G.N.Kamaev[1,2], G.A.Kachurin[1], S.G.Cherkova[1,2], A.G.Cherkov[1,2], V.A.Skuratov[3].* Electro-physical properties of multilayer Si/SiO_2 structures with Si nanoclusters form with high-energy Xe ion radiation.

[1] A.V.Rzhanov Institute of Semiconductor Physics, SB RAS, Novosibirsk.
[2] Novosibirsk State University, Novosiirsk.
[3] United Nuclear Research Institute, Dubna.

C1-18. ***F.F.Komarov[1]***, *Yu.Zhuk[2], L.A.Vlasukova[1], O.V.Milchanin[1], V.Vesh[3], E.Vendler[3], M.V.Greben[1], M.A.Mokhovikov[1], I.N.Parkhomenko[1]*. Structure and optical properties of silicon layers with InSb and InAs nanocrystals formed by ion-beam synthesis.

[1] Belarus State University, Minsk, Belarus.
[2] M. Curi-Skladowska University, Lublin, Poland
[3] F. Schiller University Jena, Jena, Germany

C1-19. ***V.A.Lastkin[2]***, *A.S.Ionov[2], V.V.Gavrushko[1].* Research of doping silicon ion-diffusion profiles by arsenic.

[1]Ya.Mudry Novgorod State University, Novgorod-the-Great (Veliky Novgorod).
[2]OJSC «RDB - Planet», Novgorod-the-Great (Veliky Novgorod).

C1-20. ***R.I.Batalov[1]***, *R.M.Bayazitov[1], G.A.Novikov[1], N.V.Kurbatova[1], P.I.Gaiduk[2], G.D.Ivlev[2], S.L.Prokopyev[2]*. SiGe/Si heterostructures formation with magnetron spraying methods and nanosecond ion/laser annealing.

[1]E.K.Zavoisky Kazan Physico-Technical Institute of the KazSC, RAS, Kazan.
[2]Belarus State University, Minsk, Belarus.

C1-21. ***D.I.Tetelbaum***[1], *A.N.Mikhailov[1], D.V.Guseinov[1], A.I.Belov[1], A.B.Kostiuk[1], D.S.Korolev[1], M.P.Fedonin[2], D.A.Pavlov[2], A.I.Bobrov[2], V.N.Trushin[1], A.S.Markelov[1].* Peculiarities of ion-beam impact on silicon and aluminum oxides layers having Au nanoclusters.

[1]N.I.Lobachevsky Research Institute of the Nizhegorod State University, Nizhny Novgorod.
[2] Physical Faculty of N.I.Lobachevsky Nizhegorod State university, Nizhny Novgorod.

C1-22. ***S.N.Nagornykh[1]***, *V.I.Pavlenkov[1], I.A.Chugrov[1], A.V.Ershov[1], A.N.Mikhailov[1], A.I.Belov[1],* ***D.I.Tetelbaum[1]***, *D.I.Kryzhkov[2], L.V.Krasilnikova[2]*. About the influence of silicon mnanocrystals size on the temperature dependence of photoluminescence spectra.

[1] N.I.Lobachevsky Nizhegorod State University, Nizhny Novgorod.
[2I]Institute of Microstructures Physics, RAS, Nizhny Novgorod.

C1-23. *A.O.Timofeeva, A.I.Belov, A.N.Mikhailov,* ***D.I.Tetelbaum***. Effect of built-in electric field under ion radiation of silicon for the secondary radiation defects system.

Research Physico-Technical Institute of N.I.Lobachevsky Nizhegorod State University, Nizhny Novgorod.

C1-24. **A.N.Mikhailov**[1], *D.S.Korolev*[1], *A.B.Kostiuk*[1], *A.I.Belov*[1],*D.I.Tetelbaum*[1], *D.A.Grachev*[2], *I.A.Chugrov*[2], *A.V.Ershov*[2]. *I*nfluence of radiation with Au, Er and Zr ions on the optical properties of oxide structures with Si nanocrystals

[1] *Research Physico-Technical Institutute of N.I.Lobachevsky NNSU, Nizhny Novgorod.*
[2] *N.I.Lobachevsky Nizhegorod State University, Nizhny Novgorod.*

C1-25. ***T.H.Hasanov*****.** Oxygen and water vapor diffusion on the silicon dioxide — silicon interface.

A.V.Rzhanov Institute of Semiconductor Physics, SB RAS Novosibirsk.

C1-26. ***D.I.Rogilo***[1,2], *L.I.Fedina*[1], *S.S.Kosolobov*[1,2], *A.V.Latyshev*[1,2]. A change of kinetic limitations of high-temperature Si growth on Si(111)-(7×7)

[1] *A.V.Rzhanov Institute of Semiconductor Physics, SB RAS Novosibirsk.*
[2] *Novosibirsk State University,Novosibirsk.*

C1-27. *V.N.Popok*[1], *J.Samela*[2], *K.Nordlund*[2], ***V.P.Popov***[3]. Radiation Damage in Diamond by Implantation of Argon Cluster Ions

[1]*Department of Physics and Nanotechnology, Aalborg University, Denmark,*
[2]*Department of Physics and Helsinki Institute of Physics, University of Helsinki, Finland*
[3]*Institute of Semiconductor Physics, Novosibirsk*

C1-28. ***I.E.Tyschenko***[1], *V.A.Volodin*[1,2], *V.P.Popov*[1]. Crystallization of SOI films implanted with big hydrogen ion doses and annealed at the millisecond pulse regime.

[1]*A.V.Rzhanov Institute of Semiconductor Physics, SB RAS, Novosibirsk.*
[2] *Novosibirsk State University, Novosibirsk.*

C1-29. *O.N.Gorshkov, D.A.Pavlov, I.N.Antonov, M.E.Shenina, A.Yu.Dudin, A.I.Bobrov, A.P.Kasatkin,* ***K.V.Sidorenko***. Investigation of gold nanodimensional particles formation process in germanium dioxide thin films by ion implantation method.

N.I.Lobachevsky Research Physico-Technical Institute of the Nizhegorod State University, Nizhny Novgorod.

POSTER SECTION C2

C2-1. ***N.M.Liadov***[1], *Yu.N.Osin*[2], *T.S.Kavetsky*[3], *A.L.Stepanov*[1]. Synthesis of silver nanoparticles under ion implantation of organically-nonorganic hybrid glass-polymer composites As_2S_3-ureasil.

[1] *E.K.Zavoisky Kazan Physico-Technical institute of RAS, Kazan*
[2] *Kazan Federal University, Kazan.*
[3]*Ioan Franko Drogobychsk Pedagogical university, Drogobych, Ukraine.*

C2-2. ***N.M.Liadov**, V.F.Valeev, V.I.Nuzhdin, A.L.Stepanov,* I.A.Faizrakhmanov. Optical properties research of silver ion-implanted ZnO Al_2O_3.

E.K.Zavoisky Kazan Physico-Technical Institute of Kaz SC, RAS, Kazan.

C2-3. *O.N.Gorshkov, D.A.Pavlov, I.N.Antonov, **M.E.Shenina**, A.Yu.Dudin, A.I.Bobrov, A.P.Kasatkin*. Peculiarities of metallic nanoparticles formation in ZrO_2(Y) matrix with the method of ion implantation.

N.I.Lobachevsky Nizhegorod State University, Nizhny Novgorod.

C2-4. ***V.V.Privezentev**[1], V.S.Kulikauskas[2], V.V.Zatekin[2], D.V.Petrov[2], A.V.Makunin[2], A.A.Shemukhin[2], A.V.Putrik[3].* Effect of annealing temperature and atmosphere for nanoparticles formation in silicon by the method of ion doping with zinc.

[1]RAS Physico-Technological Institute, Moscow.
[2]D.V.Skobeltsin RINP, M.V.Lomonosov MSU, Moscow.
[3] B.N.Eltsin Ural Federal State University, Yekaterinburg.

C2-5. ***E.V.Medvedeva**, S.S.Aleksandrova*. Quantitative analysis of disoriented nanoblock structure obtained by ion-beam processing.

Institute of Electrophysics, UrB of RAS, Yekaterinburg.

C2-6. ***A.A.Dmitrievsky**[1], N.Yu.Efremova[1], A.R.Lovtsov[1], E.Yu.Isaeva[1], M.V.Badylevich[2]*. Influence of low-intensity beta-radiation on thin films-on-silicon physico-mechanical properties.

[1] G.R.Derzhavin Tambov State University, Tambov.
[2] Light and Lighting Laboratory, Catholic University College Gent, Gent, Belgium

C2-7. ***V.L.Levshunova**[1], G.P.Pokhil[2], D.I.Tetelbaum[1], P.N.Chernykh[2].* Fast ion emission from the reverse side of gallium arsenide wafer under front side radiation by 2-MeV hellium ions.

[1] Research Physico-Technical Institute NSSU, Nizhny Novgorod
[2] RINP of MSU Moscow.

C2-8. ***A.A/Kolotov**, V.Ya.Bayankin, S.G.Bystrov.* Mass transfer in metals under pulse ion radiation.

Physico-Technical Institute of UrB RAS, Izhevsk.

C2-9. ***A.Yu.Drozdov**[1], N.M.Sazonova[1], V.Ya.Bayankin[1], I.L.Nagornykh[2].* Molecular-dynamic shock wave simulation in iron-based amorphous alloys.

[1]Physico-Technical institute of UrB RAS, Izhevsk.
[2]Institute of Mechanics of UrB RAS, Izhevsk.

C2-10. ***P.V.Bykov**, V.L.Vorobyev, V.Ya.Bayankin*. Formation of surface layers composition, change of surface morphology and carbon steel mechanical properties depending on manganese ion energy.

Physico-Technical Institute of UrB RAS, Izhevsk.

C2-11. ***O.V.Obidina**, I.V.Tereshko, V.P.Redko.* Long-distance action effect in metals and alloys after radiating them in glow discharge plasma.

Belarus-Russian University, Mogilev, Belarus.

C2-12. ***V.V.Poplavsky**, I.M.Bely, A.V.Dorozhko*. Peculiarities of catalitically active layers formation based on glass-carbon using an electric-bow ion source.

Belarus State Technological University, Minsk, Belarus.

C2-13. ***V.A.Fedorov*[1]**, *Yu.A.Kochergina*[1], *L.G.Karyev*[2], *A.A.Lobachev*[1]. Research of physico-chemical processes and properties of ion crystals under metal implantation in thermoelectric impact conditions.

[1] *G.R.Derzhavin Tambov State University, Tambov.*
[2] *Yamalo-Nenetsk Affiliated Branch of the Tyumen State Oil-Gas University, New Urengoi (Novy Urengoi).*

C2-14. ***A.A.Ismailov*[1]**, *N.A.Melnikov*[2]. Electro-physical properties of TIS monocrystals.

[1]*Academician G.M.Abdullaev Institute of Physics, NAS of Aizerbaidjan, Baku.*
[2]*Aizerbaidjan technixcal University.*

C2-15. ***D.S.Petukhov*[1]**, *T.B.Charikova*[1], *O.E.Petukhova*[1], *A.A.ivanov*[2]. Anisotropy of galvan-magnetic properties in the quasi two-dimensional superconductive compound $Nd_{2-x}Ce_xCuO_{4+д}$ with a different level of cerium doping and a different degree of non-stechiometric disorder.

[1]*Institute of Metal Physics of UrB RAS, Yekaterinburg.*
[2]*Moscow Sate Engineering-Physical Institute, Moscow.*

C2-16. ***N.S.Filippov**, M.A.Parashchenko, N.V.Vandysheva, O.I.Semenova, S.S.Kosolobov, S.I.Romanov.* Developing electrokinetic filters using plasma-stimulated silicon deposition.

A.V.Rzhanov Institute of Semiconductor Physics, SB RAS Novosibirsk.

C2-17. *D.Melebaev,* ***A.M.Tashlieva***. Determining Ga_2O_3 band gap width with the photoelectric method.

Physico-Mathematical Institute of the Academy of Sciencies of Turkmenistan, Ashkhabad.

C2-18. ***I.G.Pashaev,*** *I.A.Abuzerov.* Effect of different metallic layers microstructure on Shottky diodes electrophysical properties.

Baku State University, Baku, Aizerbaidjan

C2-19. *I.K.Beisembetov,* ***N.B.Beisenkhanov***, *S.K.Zharikov, B.K.Kenzhaliev, K.H.Nusupov, T.K.Ahmetov.* Ion synthesis and and properties of silicon carbide films and carbon.

Kazakhstan-British Technical University, Almaty