

INSTYTUT FIZYKI POLSKIEJ AKADEMII NAUK



Sesja sprawozdawcza z działalności naukowej w roku 2019

13 lutego 2020
początek o godzinie 9:50



al. Lotników 32/46, 02-668 Warszawa
Aula im. Leonarda Sosnowskiego

POSTER SESSION

16:00 - 17.30

ON 1

1. P. Skupiński, K. Grasza, A. Reszka, A. Avdonin, M. Arciszewska, B.J. Kowalski, A. Wołoś
Electrical and magnetic properties of magnetic topological materials of the $(Bi,Sb)_2(Te,Se)_3$ family
2. A. Wardak, M. Szot, G. Janusz, M. Witkowska-Baran, D. Kochanowska, M. Potręć, A. Mycielski
One- and two-step post-growth annealing investigation of $(Cd,Mn)Te$ crystals for developing room-temperature nuclear detectors
3. S. Adamiak, E. Dynowska, E. Łusakowska, S. Chusnutdinow, A. Szczerbakow, G. Karczewski, T. Wojtowicz, W. Szuszkievicz
Selected mechanical properties of MBE-grown $(Pb,Cd)Se$ layers
4. A.Królicka, K. Dybko, R. Minikayev, A. Reszka , J. Więckowski, A. Szewczyk, A. Grochot, H. Przybylińska, W. Knoff, K. Gas, M. Sawicki, A. Mirowska, A. Materna, M. Piersa, T. Story
Chromium resonant impurity effect on the thermoelectric properties of $(Pb,Sn)Te$
5. M. Szot, K. Karpińska, S. Chusnutdinow, L. Kowalczyk, S. Kret, T. Wojciechowski, S. Schreyeck, T. Story, G. Karczewski
Plasmon-enhanced photoluminescence of quantum dot-like $PbTe/CdTe$ heterostructures
6. W. Wołkanowicz, M. Szot, J. Polaczyński, K. Karpińska, L. Kowalczyk, P. Dziawa, B. Taliashvili, M. Zięba, A. Sulich, J.Z. Domagała, R. Minikayev, E. Łusakowska, A. Reszka, K. Dybko, A. Kaleta, S. Kret, M. Wiater, A.M. Witowski, T. Wojtowicz, T. Story
Optical and structural properties of $(Pb,Sn)Te$ epitaxial layers grown on (001)-oriented $CdTe/GaAs$ hybrid substrates

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7. M. Zięba, A. Grochot, G. Mazur, A. Kaleta, A. Reszka, R. Minikayev, B. Taliashvili, K. Dybko, M. Wiater, T. Wojtowicz, K. Gas, M. Sawicki, H. Przybylińska, T. Story
Ferromagnetic transition and magnetic anisotropy in (Sn,Mn)Te epitaxial layers on BaF₂ and GaAs substrates
 8. A. Łusakowski, P. Bogusławski, T. Story
Influence of surface deformation on the topological surface states in (Pb,Sn)Te

ON 2

1. Marta Z. Cieplak, I. Zaytseva, K.M. Kosyl, W. Paszkowicz, V.L. Bezusyy, A. Lynnyk, D.J. Gawryluk
Enhancement of electron doping by iron vacancies in Ni-substituted FeTe_{0.65}Se_{0.35} single crystals
2. P. Gierłowski, I. Abaloszewska, B. Cury Camargo, A. Abaloszew, M. Jaworski, K. Cho, M. Kończykowski
London penetration depth anisotropy of electron-irradiated Ba_{1-x}K_xFe₂As₂ single-crystals
3. J. Szczepkowski, A. Grochola, O. Dulieu, W. Jastrzębski
Towards ultracold paramagnetic polar molecules
4. J. Szczepkowski, A. Grochola, P. Kowalczyk, W. Jastrzębski
The C(3)¹Σ⁺ and c(2)³Σ⁺ states in KCs molecule studied with polarization labeling spectroscopy
5. J. Archer, M. Kolwas, D. Jakubczyk, G. Derkachov
Influence of coulomb Instabilities on the surface of evaporating microdroplet of SDS/DEG colloidal suspension
6. M. Białous, B. Dietz, L. Sirko
Experimental investigation of the elastic enhancement factor in a microwave chaotic cavity with varying openness

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7. M. Głódź, V. Grushevsky, A. Huzandrov J. Klavins, K. Miculis , I. Sydoryk, J. Szonert
Collisional quenching and radiative lifetimes of some lower Rydberg S and D states of K atoms
 8. A. Derkachova, G. Derkachov
Non-invasive method to determine the surface tension and viscosity of droplets of suspension

ON 3

1. P. Iwanowski, M. Głowacki, A. Hruban, J. Fink-Finowicki, R. Diduszko, M. Czech, A. Wadge, T. Wojciechowski, B. Kowalski, A. Wiśniewski, M. Berkowski
Growth and characterization of Weyl semimetal single crystals and single crystals of oxides for optoelectronic applications
2. V.V. Chabanenko, A. Nabiałek, R. Puźniak
Self-organized cascades of giant thermomagnetic avalanches in superconducting plate
3. S.K. Jena, M. Jakubowski, E. Milińska, A. Pietruszak, R. Minikayev, W. Paszkowicz, S. Lewińska, A. Lynnyk, R. Puźniak, Z. Kurant, I. Sveklo, A. Maziewski, P. Aleshkevych, A. Wawro
Magnetization reversal and ferromagnetic resonance of heavy metal/ferromagnetic heterostructures
4. A. Ciechan, P. Bogusławski
Transition metal ions in ZnO: DFT calculations of electronic and magnetic properties
5. V.F. Rusakov, O.M. Chumak, A. Nabiałek, V.V. Chabanenko
Features of the motion of an Abrikosov's vortex in the vicinity of resonant frequencies

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6. N. Nedelko, A. Ślawska-Waniewska, P. Dłużewski, C.A. Demarchi, A. Bella Cruz, A. Debrassi, L.M. da Silva, F. de Campos Buzz, J Trzciński, J. Dal Magro, J. Scapinello, C.A. Rodrigues

Magnetic nanocomposites based on O-carboxymethylchitosan and iron oxide nanoparticles - synthesis, properties and applications

ON 4

1. Grochot, V. Volobuev, G. Springholz, R. Jakieła, W. Jantsch, A. Ney, H. Przybylińska

Ferromagnetic resonance studies of multiferroic $Ge_{1-x}Mn_xTe$ epitaxial layers

2. V. Tsiumra, A. Krasnikov, S. Zazubovich, L. Vasylechko, A. Voloshinovskii, Ya. Zhydachevskyy, A. Suchocki

Localized exciton luminescence of the $RVO_4:Bi^{3+}$ ($R = Y, Gd, Lu$)

3. M. Ożga, B.S. Witkowski, R. Pietruszka, A. Wierzbicka, M. Godlewski

Growth of CuCo thin films by hydrothermal method for electronic applications

4. J. Rosowska, J. Kaszewski, B. Witkowski, Ł. Wachnicki, M. Godlewski

Comparison of optical and structural properties of $ZrO_2:Pr, Yb$ and $ZrO_2:Pr, Y$ nanoparticles prepared by microwave hydrothermal method

5. A. Seweryn, R. Pietruszka, B.S. Witkowski, M. Ozga, P. Sybilski, K. Kopalko,

A. Wierzbicka, R. Jakieła, M. Godlewski

Structural, electrical and optical parameters of ZnO thin films grown by ALD with water and ozone precursors

6. A. Reszka, K.P. Korona, S. Kret, R. Bozek, G. Tchutchulashvili, A. Pieniążek,

M. Sobanska, K. Klosek, Z. R. Żytkiewicz, B. J. Kowalski

Optical and electrical properties of $(Al,Ga)N/GaN$ LED structures in nanowires with switching growth polarity

7. B.A. Orłowski, S. Chusnutdinow, K. Gościński, M. Galicka, K. Gwoźdz,

E. Guziewicz, B.J. Kowalski

Damping of heterojunction photovoltaic effect by extended defect electronic states

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8. M. Sobańska, Z.R. Żytkiewicz, K. Kłosek, R. Kruszka, K. Golaszewska, M. Ekielski, S. Gierałtowska
Selective area formation of GaN nanowires by the use of amorphous Al_xO_y nucleation layer
 9. Z.R. Żytkiewicz, M. Sobańska, K.P. Korona, A. Daniluk, K. Kłosek
Formation of GaN nanowires in molecular beam epitaxy observed simultaneously by line-of-sight quadrupole mass spectrometry, reflection high energy electron diffraction and optical reflectometry: what can we learn using these growth monitoring tools?
 10. M.A. Pietrzyk, E. Zielony, A. Wierzbicka, R. Szymon, E. Popko, A. Kozanecki
Structural and optical studies of ZnO/CdO multiquantum wells grown by MBE on Si (111) substrate
 11. M. Stachowicz, M.A. Pietrzyk, S. Prucnal, W. Skorupa, A. Kozanecki
Contactless investigation of optical phenomena in ZnO/ZnMgO quantum wells grown on Si (111) substrates by molecular beam epitaxy

ON 5

1. D.A. Nissley, Vu Van Quyen, F. Trovato, N. Ahmed, Mai Suan Li, E.P. O'Brien
Electrostatic interactions govern extreme nascent protein ejection times from ribosomes and might delay ribosome recycling
2. D. K. Nandy, T. Sowiński
Dynamical properties of a few mass-imbalanced ultra-cold fermions confined in a double-well potential
3. S. Sarkar, S. McEndoo, D. Schneble, A. J. Daley
Inter-species entanglement in two-species bosons in optical lattices
4. A. Opala, S. Ghosh, T.C.H. Liew, M. Matuszewski
Exciton-polariton condensate neural network in disorder potential
5. J. Dobrzyniecki, T. Sowiński
Momentum correlations of a few ultracold bosons escaping from an open well

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6. S. Samadi, R. Buczko
Hinge states in topological crystalline insulators nanowires
 7. P. Miętki, A. Opala, M. Matuszewski
Hybrid regime of stabilization in exciton-polariton condensates
 8. M. Galicka, R. Rechciński, V.V. Volobuev, M. Simma, O. Caha, P.S. Mandal, E. Golias, J. Sanchez-Barriga, A. Varykhlov, O. Rader, G. Bauer, G. Springholz, P. Kacman, R. Buczko
On and off Rashba effect in PbSnSe quantum wells
 9. R. Rechciński, M. Galicka, P. Kacman, R. Buczko
Scaling law for energies of bound states in normal and topological crystalline insulator quantum wells
 10. J. A. Krzywda, Ł. Cywiński
Adiabatic electron charge transfer between two quantum dots in presence of 1/f noise
 11. D. Włodzyński, D. Pęcak, T. Sowiński
Inter-component correlations in few-fermion systems induced by a shape of an external confinement

ON 6

1. R. Islam, W. Brzezicki, T. Hyart, C. Autieri, T. Dietl
Topology of Hg-based chalcogenides: ab-intio studies
2. C. Autieri, C. Sliwa, R. Islam, T Dietl
Momentum-resolved spin splitting in Mn-doped trival CdTe and topological HgTe semiconductor
3. T. Paul, V.F. Becerra, M. Płodzień, D.I. Pikulin, T. Hyart
A quantum transport study of the interplay of quantum spin hall effect and exciton condensation in electron-hole bilayers
4. A. Mishra, S. Hoffman, P. Simon, M. Trif
Dynamical torques from Shiba states in s-wave superconductors

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5. J. Polaczyński, T. Wojciechowski, P. Dziawa, J. Sadowski, W. Zaleszczyk, J. Korczak, T. Story, T. Wojtowicz
E-beam lithography as a tool for fabrication of electrical contacts to nanoobjects
 6. J. Polaczyński, J. Korczak, A. Kazakov, T. Wojciechowski, W. Zaleszczyk, T. Story, T. Wojtowicz
Fabrication of electric contacts to $Pb_{1-x}Sn_xTe$ topological crystalline insulator nanowires
 7. V. V. Volobuev, M. Galicka, P.S. Mandal, O. Caha, D. Marchenko, R. Rechciński, J. Sanchez-Barriga, E. Golias, A. Varykhalov, G. Bauer, O. Rader, R. Buczko and G. Springholz
(111) topological crystalline insulator epilayers with Dirac-Rashba surface states
 8. R. Rudniewski, W. Zaleszczyk, M. Wiater, Z. Adamus, D. Śnieżek, P. Ungier, T. Wojciechowski, J. Wróbel, T. Wojtowicz
Quantum point contacts fabricated from $Cd_{1-x}Mn_xTe$ heterostructures using the split-gate technique

SL 1

1. R. Sobierański, P. Zalden, K. Sokolowski-Tinten, M. Chojnacki, G. Evangelakis, K. Fronc, K. Georgarakis, A.L. Greer, R.W.E. van de Kruijs, R. Kaminski, D. Klinger, K. Kosyl, A. Olczak, N. Panagiotopoulos, M. Sikora, P. Sun, J. Antonowicz
Ultrafast melting and crystallization of Pd
2. P. Rejmak
Computational characterization of ultramarine pigments
3. R. Minikayev, A.A. Prokhorov, L.F. Chernush, T.N. Melnik, A.D. Prokhorov
Structural and elastic properties of the Cr^{3+} doped huntite-type borates
4. H.S. Rahimi Mosafer, W. Paszkowicz, R. Minikayev, M. Berkowski, M. Kozłowski
Crystal structure and thermal expansion of $Ca_{10.5-x}Cu_x(VO_4)_7$ solid solution

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5. A. Sulich, J.Z. Domagała, W. Paszkowicz, A. Shekhovtsov, M. Berkowski
Investigation of extended defects in selected rare-earth-containing oxides
 6. S. Kryvyi, D. Janaszko, P. Wojnar, J. Płachta, S. Kret
Electron diffraction with scanning nanobeam as a tool to study strain in hetero-nanowires
 7. S. Kret, K. Morawiec, P. Dłużewski, A. Kaleta, D. Janaszko, S. Kryvyi, B. Kurowska, M. Bilska, J. Sadowski
Structural and magnetic properties of hybrid GaAs nanowires with MnGa and MnAs shells determined by advanced TEM methods
 8. D. Janaszko, S. Kret, S. Kryvyi, J. Dąbrowski, P. Wojnar, A. Kaleta, J. Płachta
Determination of the strain state in highly mismatched core-shell CdTe/ZnTe nanowires by quantitative TEM

SL 2

1. K. Gas, L. Scheffler, S. Banik, J. Knobel, C. Schumacher, C. Gould, J. Kleinlein, L.W. Molenkamp, M. Sawicki
Magnetic properties of antiferromagnetic CuMnSb epitaxial thin films investigated by SQUID magnetometry
2. K. Gas, R. Adhikari, D. Sztenkiel, A. Navarro-Quezada, J. Domagała, D. Hommel, A. Bonanni, M. Sawicki
Magnetic anisotropy engineering in the insulating ferromagnet (Ga,Mn)N
3. D. Sztenkiel, K. Gas, N. Gonzalez Szwacki, J. Domagała, D. Hommel, T. Dietl, M. Sawicki
Atomistic spin model simulations of magnetic properties of ferromagnetic (Ga,Mn)N
4. K. Kalbarczyk, K. Dybko, K. Gas, D. Sztenkiel, M. Foltyn, D. Hommel, M. Sawicki
Electrical characteristics of vertical-geometry Schottky junction to ferromagnetic insulator (Ga,Mn)N heteroepitaxially grown on sapphire

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5. M. Foltyn, K. Norowski, A. Savin, and M. Zgirski
Flipping coin experiment for studying switching in Josephson junctions and superconducting wires
 6. D. Sztenkiel, K. Gas, M. Foltyn, N. Gonzalez Szwacki, D. Hommel, T. Dietl, M. Sawicki
Voltage assisted magnetization switching in ferromagnetic (Ga,Mn)N
 7. G. Grabecki, A. Dąbrowski, P. Iwanowski, T. Wojtowicz, A. Hruban, A. Wiśniewski,
Electron transmission of Pb/NbP superconductor-weyl semimetal junction
 8. D. Śnieżek, J. Wróbel, R. Rudniewski, E. Bobko, S. Schreyeck, K. Brunner, L.W. Molenkamp, J. Wróbel, G. Karczewski
Planar transport properties of SnTe/PbTe topological heterojunctions
 9. K. Norowski, P. Grzączkowska, A. Naumov, M. Foltyn, M. Zgirski
Direct measurement of thermal relaxation time

SL 3

1. P. Wojnar, P. Dziawa, Z. Adamus, M. Aleszkiewicz, M. Szymura, J. Domagała, R. Kuna, S. Chusnutdinow, G. Karczewski, T. Wojtowicz
Molecular beam epitaxy of crystalline tellurium thin layers grown on semi insulating substrate
2. P. Wojnar, P. Baranowski, M. Szymura, J. Płachta, S. Chusnutdinow, G. Karczewski, T. Wojtowicz
Selenium induced emission energy variation in Cd(Se,Te)/ZnTe self-assembled quantum dots
3. J. Płachta, A. Kaleta, S. Kret, T. Kazimierczuk, P. Baranowski, P. Kossacki, G. Karczewski, J. Kossut, T. Wojtowicz, P. Wojnar
Valence band splitting in wurtzite and zinc blende (Cd,Mn)Te/(Cd,Mg)Te nanowires accessed by magneto-optical spectroscopy
4. Ł. Kłopotowski, M. Szymura, J. Mikulski, P. Wojnar, T. Kazimierczuk, J. Kossut
Spin relaxation dynamics in CdSe quantum dots doped with copper

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5. M. Szymura, M. Karpińska, P. Wojnar, J. Mikulski, Ł. Kłopotowski, J. Kossut
Photoluminescence dynamic of copper-doped CdSe colloidal quantum dots and (Zn,Cd)Se/ZnSe quantum well
 6. M. Karpińska, M. Duda, M. Szymura, B. Sikora, Ł. Kłopotowski
Photoluminescence dynamics of colloidal CuInS₂ nanocrystals
 7. M. Duda, P. Kowalik, A. Borodziuk, T. Wojciechowski, K. Sobczak, R. Minikayev, Ł. Kłopotowski, B. Sikora
Upconverting core/shell/shell structures doped with thulium ions for generation of reactive oxygen species

SL 4

1. I. Kamińska, D. Elbaum, B. Sikora, P. Kowalik, J. Mikulski, Z. Felcyn, P. Samol, T. Wojciechowski, R. Minikayev, W. Paszkowicz, W. Zaleszczyk, M. Szewczyk, A. Konopka, G. Grużel, M. Pawlyta, M. Donten, K. Ciszak, K. Zajdel, M. Frontczak-Baniewicz, P. Stępień, M. Łapiński, G. Wilczyński, K. Fronc
Single-step synthesis of Er³⁺ and Yb³⁺ doped molybdate/Gd₂O₃ core-shell nanoparticles for biomedical imaging
2. P. Kowalik, D. Elbaum, K. Fronc, J. Mikulski, A. Borodziuk, R. Minikayev, T. Wojciechowski, D. Kalinowska, M. Klepka, M. Łapiński, P. Grzączkowska, P.E. de Souza, R. Barbosa Nunes, F.H. Veiga-Souza, R. Pązik, M. Kulpa-Greszta, B. Sikora, I. Kamińska
Multifunctional bio-functionalized nanoparticles as a drug factor for targeted cancer therapies
3. A. Borodziuk, P. Kowalik, M. Duda, R. Minikayev, T. Wojciechowski, K. Sobczak, D. Kalinowska, Ł. Kłopotowski, B. Sikora
Conjugates of Rose Bengal with lanthanide doped nanoparticles for photodynamic therapy
4. M. K. Cieplak-Rotowska, A. Stelmachowska, K. Tarnowski, M. Dadlez, M.R. Fabian, N. Sonenberg, A. Niedźwiecka
HDX MS and affinity chromatography analysis reveal the competition between human GW182 and tristetraprolin for binding to CNOT1

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5. M. Białobrzewski, K. Piecyk, M. Jankowska-Anyszka, J. Stępiński,
E. Darżynkiewicz, A. Niedźwiecka

*Thermodynamics of interactions of human eIF4E protein with RNA 5' cap
analogues and 4E-BP1 peptide fragment*