

Contents

Invited Lectures

1.	Ando T. Exotic transport properties of monolayer and bilayer grapheme	8
2.	Enoki T. The role of zigzag and armchair edges in the electronic structure of nanographene	9
3.	Hirsch A. Functionalization of synthetic carbon allotropes	10
4.	Chow E.K., Zhang X.-Q., Chen M., Lam R., Robinson E., Moore L., Osawa E., Ho D. Nanodiamond platforms for biomedical applications	11
5.	Kang W.P. , Gosh N., Xu S.H., LeQuan C., Davidson J.L. Nanocarbon field emission devices and their applications	12
6.	Konarev D.V. , Lyubovskaya R.N., Khasanov S.S. From neutral complexes to ionic compounds of fullerenes with magnetic transitions and metallic conductivity	13
7.	Okazaki T. One-dimensional molecular nano-structures inside single-walled carbon nanotubes	14
8.	Ōsawa E. Recent progress in dispersed detonation nanodiamond	15
9.	Troyanov S.I. Structures and cage transformations of higher fullerenes	16
10.	Vlasov I.I. , Shenderova O.A., Turner S., Shiryaev A.A., Orlinskii S.B., Sildos I. Nitrogen in nanodiamonds of dynamic synthesis	17
11.	Wakabayashi K. Edge effect on electronic properties in nanoscale graphene systems	18

Oral Contributions

1.	Aleksenskii A.E. , Baidakova M.V., Brunkov P.N., Dideykin A.T., Shalnev I.V., Veinger A.I., Vul' A.Ya. Deagglomeration of detonation nanodiamonds. Problem and its decision	19
3.	Ankudinov A.V. , Voznyakovskii A.P., Nyapshaev I.A. Nanocarbons-induced hardening of ultrathin polysiloxane block copolymer films	20
4.	Antonova I.V. , Kotin I.A., Soots R.A., Volodin V.A., Prinz V.Ya. Novel graphene based hybrid material with tunable electronic properties	21
5.	Arnault J.C. , Petit T., Girard H.A., Gesset C. Surface modifications of nanodiamonds for higher surface reactivity	22
6.	Avdeev M.V. , Aksenov V.L., Kyzyma O.A., Kyrey T.O., Bulavin L.A. Solvatochromism and cluster formation in solutions of fullerene C ₆₀	23
7.	Novikov N.V., Bochechka A.A. , Nazarchuk S.N., Gavrilova V.S., Romanko L.A. Diamond-tungsten carbide nanocomposite based on detonation synthesized diamond nanopowder	24
8.	Bousige C. , Rols S., Kataura H., Launois P. Translational dynamics of 1D fullerenes chains encapsulated inside single-walled carbon nanotubes	25
9.	Chernozatonskii L.A. , Artyukhov V.I., Biro L., Mark G., Sorokin P.B., Kvashnin A.G., Kvashnin D.G., Yakobson B.I. Nanostructures based on H-(or F-) atom functionalized graphene elements for electronic and optic nano engineering	26
10.	Eliseev A.A., Kharlamova M.V. , Yashina L.V., Lukashin A.V., Tretyakov Yu.D. Growth and characterization of one-dimensional semiconductor nanocrystals within single-walled carbon nanotube channels	27
11.	Faikov P.P. , Zharikov E.V., Zaramenskikh K.S., Popova N.A., Iskhakova L.D., Gerke M.N., Kutrovskaya S.V., Nogtev D.S. Carbon nanotubes reinforced alumina composites fabricated by vacuum sintering	28
12.	Fedorov G. , Yang Y., Barabra P., Jiménez D., Smirnov D., Roche S. Interplay between intrinsic and contact phenomena in carbon nanotube devices: from exponential magnetoresistance to chemical sensing	29
13.	Cheng H.-F. , Tai N.-H., Chang T.-H., Chen H.-C., Lin I.-N. Growth of ultrananocrystalline diamond films on non-silicon substrates using electrophoresis-deposited nano-diamond as nucleation layer	30

Contents

14.	Hao Y. , Pengwan C. Synthesis carbon-encapsulated metal nanoparticles by a detonation method	31
15.	Sie Y.C., Huang J.H. , Chen Y.S. Synthesis and supercapacitor performance of arrayed MWCNT-MnO ₂ nanocomposites	32
16.	Katz E.A. , Manor A., Tromholt T., Krebs F.C. Effects of concentrated sunlight on efficiency and stability of fullerene-polymer solar cells	33
17.	Kharlamova M.V. , Eliseev A.A., Yashina L.V., Lukashin A.V., Tretyakov Yu.D. Structure and electronic properties of single-walled carbon nanotubes intercalated by transition metal halogenides	34
18.	Korobeinyk A.V. , Whitby R.L.D., Salvage J., Mikhailovsky S.V. Exfoliation of single- and multi-layer graphenes from the surface of polyacrylonitrile-based copolymer under thermal treatment	35
19.	Korobov M.V. , Avramenko N.V., Batuk M.M., Osawa E. Detonation nanodiamonds as revealed by differential scanning calorimetry	36
20.	Kováts É. , Bortel G., Pekker S. Comparative study of fullerene-cubane rotor-stator systems	37
21.	Krestinin A.V. , Zvereva G.I., Kislov M.B. Technology and main products of single-walled carbon nanotubes produced by arc discharge process	38
22.	Kurdyukov D.A. , Feoktistov N.A., Medvedev A.V., Nashchekin A.V., Aleksenskii A.E., Vul' A.Ya., Golubev V.G. Template-assisted fabrication and study of 2D and 3D ordered porous nanodiamond films	39
23.	Makarova T.L. , Shames A.I., Zagainova V.S., Okotrub A.V., Chekhova G.N., Pinakov D.V., Yudanov N.F., Bulusheva L.G. Two-dimensional magnetism of fluorinated graphite	40
24.	Malinovskaya O.S. , Rizakhanov R.N., Polyanskiy M.N., Tsvetkova E.V. CVD facility for formation of carbon nanomaterials on a space station board	41
25.	Mazov I.N. , Kuznetsov V.L., Romanenko A.I., Anikeeva O.B., Suslyayev V.I., Zhuravlev V.A. Structural and physical properties of MWNT/polyolefine composites	42
26.	Misochko E.Ya. , Akimov A.V., Tyurin D.A. Open-shell fullerene derivates: low temperature ESR spectroscopy and quantum chemical (DFT) calculations	43
27.	Pentecost A., Neitzel I. , Mochalin V., Gogotsi Y. Diamond nanoparticles: purification, deagglomeration and functionalization	44
28.	Karaeva A.R., Khasikov M.A., Mitberg E.B., Kulnitskiy B.A., Perezhugin I.A., Ivanov L.A., Denisov V.N., Kirichenko A.N., Mordkovich V.Z. Longer carbon nanotubes by controlled catalytic growth in the presence of water vapour	45
29.	Neitzel I. , Gogotsi Y., Mochalin V. Nanodiamond-containing polymers for structural and biological applications	46
30.	Nikolaev I.V. , Torok Gy., Lebedev V.T., Grushko Yu.S., Melenevskaya E.Yu., Sedov V.P., Shilin V.A. Ordering of hydroxylated fullerenes in aqueous solutions	47
31.	Ogata H. , Baba K. Fabrication, characterization and properties of C ₆₀ (OH) _x nanocrystals by a reprecipitation method	48
32.	Okotrub A.V. , Bulusheva L.G., Makarova T.L., Yudanov N.F., Chehova G.N., Asanov I.P., Gusel'nikov A.V. Electronic properties of fluorinated graphite and grapheme	49
33.	Ozerin A.N. , Ozerin A.N., Alkhanishvili G.G., Kurkin T.S., Kechek'yan A.S., Gritsenko O.T., Ozerina L.A., Sustchev V.G., Dolmatov V.Yu. Polymer-nanodiamond composites	50
34.	Panich A.M. Diamond nanoparticles with functionalized surface –a NMR study	51
35.	Pichot V. , Stephan O., Comet M., Mory J., Fousson E., March K., Spitzer D. Nitrogen doping of detonation nanodiamonds	52
36.	Pliushch A. , Kuzhir P., Maksimenko S.A., Coderoni L., Micciulla F., Sacco I., Rinaldi G., Bellucci S. Nanocarbon modified epoxy resin and microwaves	53
37.	Pruel E.R. , Ten K.A., Titov V.M. SAXS measurement and dynamics of condensed carbon growth at detonation of condensed high explosives	54
38.	Razbirin B.S. , Sheka E.F., Nelson D.K., Starukhin A.N., Degunov M.Yu., Shukov I.V. Site-selective spectroscopy of electronic states of fullerene derivatives	55

39.	Rols S. , Pontiroli D., Ricco M., Mazzani M., Launois P., Bousige C., Pekker S. Inelastic neutron investigations of AC ₆₀ compounds with A=Li ₄ , Mg ₂ and C ₈ H ₈	56
40.	Schmidlin L. , Pichot V., Josset S., Comet M., Spitzer D. High density nanodiamond monolayer obtained by an electrophoretic process	57
41.	Sheka E.F. Graphene in view of atomic-molecular approach	58
42.	Shenderova O.A. , Hens S., Turner S., Van Tendeloo G., Vlasov I. Carbon dots decorated nanodiamond	59
43.	Šiller L. , Astuti Y., Butenko Y.V., Brieva A.C., Coxon PR., Alves L., van Papendrecht G., Bangert U., Gass M., Mendis B.G. Evaporation of detonation nanodiamonds	60
44.	Talyzin A. Structural study of graphite oxide hydration: effects of temperature and pressure	61
45.	Terranova M.L. , Orlanducci S., Tamburri E., Guglielmotti V., Sordi D., Toschi F., Matassa R., Passeri D., Rossi M. Engineering nanodiamond-PANI nanocomposites: structural features and mutual arrangements	62
46.	Usachov D. , Fedorov A.V., Vilkov O.Yu., Vyalikh D.V., Adamchuk V.K. Nitrogen-doped graphene: synthesis and properties	63
47.	Verberck B. , Cambedouzou J., Vliegthart G.A., Gompper G., Launois P. A Monte Carlo study of C ₇₀ molecular motion in C ₇₀ @SWCNT peapods	64
48.	Wang Z.P. , Shoji M., Ogata H. Growth and electrochemical properties of carbon nanosheets via microwave plasma enhanced chemical vapor deposition	65
49.	Whitby R.L.D. , Korobeinyk A., Gun'ko V.M., Busquets R., Cundy A.B., Laszlo K., Skubiszewska-Zięba J., Leboda R., Tombacz E., Toth I., Kovacs K., Mikhalovsky S.V. Conformational changes and chemistry of single-layer graphene oxide	66
50.	Sadowski M.L. Funding graphene research in the European Research Area	67

Poster Session 1

1. Graphene

1.01.	Abdurakhmanova N. , Amsharov N., Amsharov K., Stepanov S., Jansen M., Kern K. Facile synthesis of graphene nanoribbons with adjustable width at surfaces	70
1.02.	Avramov P. , Sakai S., Kuzubov A., Entani S., Matsumoto Y., Naramoto H. Structure, potential energy surfaces and electronic states of graphene- and multigraphene-based 2D extended complex nanocomposites	71
1.03.	Babichev A.V. , Gasumyants V.E., Butko V.Y. Electron transport and thermoelectric power in CVD grown centimeter size grapheme	72
1.04.	Davydov V.Ya. , Kalashnikova E.V. Evaluation of adsorption properties of grapheme	73
1.05.	Davydov S.Yu. Epitaxial graphene on metals: charge-transfer effect	74
1.06.	Davydov S.Yu. Graphene elastic moduli in the Keating model	75
1.07.	Efimkin D.K. , Lozovik Yu. E Electron-hole pairing with finite value of Cooper pair momentum in graphene bilayer	76
1.08.	Ershov I. Ab initio study of surface states at the graphene/Al ₂ O ₃ (0001) interface	77
1.09.	Fedorov A.S. , Fedorov D.A., Eliseeva N.S., Kuzubov A.A. Vacancies influence on elastic properties of graphene and their migration rate under deformation	78
1.10.	Fedorov A.V. , Haberer D., Liu X., Treske U., Grobosch M., Vilkov O.Yu., Grueneis A., Usachov D.U., Adamchuk V.K. Kinetics of graphene hydrogenation: XPS study	79
1.11.	Gaboardi M. , Riccò M., Pontiroli D., Mazzani M., Aramini M., Choucair M., Stride J.A., Yazyev O.V. μ SR study of hydrogen interactions with defective grapheme	80
1.12.	Grichuk E. , Manykin E. Spin-polarized quantum pumping in zigzag graphene nanoribbons	81
1.13.	Ilyasov V. , Meshi B., Ryzhkin A., Ershov I., Ilyasov A. Substrate-induced magnetism in epitaxial single layer graphene	82
1.14.	Ivanchenko G.S. , Nevzorova Ju.V., Kolesnikov D.V., Khimicheva A.A. Phonon spectrum of graphene bilayer and monolayer grapheme	83
1.15.	Kotov O.V. , Lozovik Yu.E., Medvedev V.V. Graphene on a subwavelength metallic grating: anomalous optical properties	84

Contents

1.16	Kozhemyakina N.V. , Hirsch A. Graphene from graphite: the “wet” approach	85
1.17	Chernozatonskii L.A., Kvashnin D.G. , Eliseev A.I. Quantum dots based on graphane and graphane ribbons: structure and properties	86
1.18	Latyshev Yu.I. , Orlov A.P., Monceau P., Escoffier W. Aharonov-Bohm effect on nanoholes in thin graphite and grapheme	87
1.19	Lebedev S.P. , Strel’chuk A.M., Shamshur D.V., Agrinskaya N.V., Lebedev A.A. Transport properties of multi-graphene films grown on semi-insulating SiC	88
1.20	Bobrinetskiy I.I., Levin D.D. , Nevolin V.K., Simunin M.M. The CVD formation of multi-graphene clusters in CNT growth system CVDomna	89
1.21	Lyapkosoვა O.S. , Lebedev N.G., Belonenko M.B. Nonlinear electromagnetic waves in a graphane ribbon system under the deformation gauge fields	90
1.22	Mikoushkin V.M. , Shnitov V.V., Nikonov S.Yu., Dideykin A.T., Vyalikh D.V., Vilkov O.Yu. Chemical restoration of few layer exfoliated graphite oxide studied by photoelectron spectroscopy	91
1.23	Nechaev Yu.S. Some aspects of the graphene-graphane problem	92
1.24	Nevzorova J.V. , Lebedev N.G., Ivanchenko G.S. The conductivity two-layer graphene nanoribbons in external electric field	93
1.25	Pak A.V. , Lebedev N.G., Belonenko M.B. The study of exchange indirect interaction in the impurity bigraphene	94
1.26	Popova A. , Shikin A.M., Rybkin A.G., Marchenko D., Vilkov O., Varykhalov A., Rader O. Features of the electronic structure of graphene on top of different substrates	95
1.27	Popova N.A. , Sheka E.F. Stepwise hydrogenation and fluorination of graphene towards graphane and fluoride	96
1.28	<u>Popova N.A.</u> , Sheka E.F. Effect of chemical modification on tricotage-like deformation of grapheme	97
1.29	Rozhkova N.N. , Gorlenko L.E., Yemelyanova G.I., Ōsawa E., Lunin V.V. Catalytic activity of nanodiamonds in redox process	98
1.30	Sabirova G.I. , Davydov S.Yu. On the calculation of the charge transfer due to atom adsorption on grapheme	99
1.31	Sedelnikova O.V. , Bulusheva L.G., Okotrub A.V. Curvature-induced optical transitions in grapheme	100
1.32	Shaymardanova L.Kh. , Sheka E.F., Popova N.A. The hexagon molecular motive as main factor for the failure of chemically modified grapheme	101
1.33	Shnitov V.V. , Lebedev S.P., Lebedev A.A., Mikoushkin V.M., Nikonov S.Yu., Yakimova R., Vilkov O.Yu., Nelyubov A.V. Investigation of graphene films grown on SiC substrate subjected to original pre-growth treatment	102
1.34	Smovzh D.V. , Koverznev M.P., Nerushev O.A. Low temperature thermal-CVD of methane	103
1.35	Lozovik Yu.E., Sokolik A.A. Electron-hole cooper pairing in graphene bilayer	104
1.36	Ribas M.A., Singh A.K., Sorokin P.B. , Yakobson B.I. Nanoroads and quantum dots on fluorinated grapheme	105
1.37	Zaporotskova I.V., Stepanova A.U. Research of the nanopour creation mechanism at the thin-filmed systems of the different nature	106
1.38	Sudorgin S.A. , Belonenko M.B., Lebedev N.G. Transport coefficients of bilayer graphene	107
1.39	Vinogradov N. , Ng M.L., Simonov K., Mårtensson N., Preobrajenski A.B. Reversible chemical reactions on adsorbed grapheme	108
1.40	Yanyushkina N.N. , Belonenko M.B., Lebedev N.G. Solitons in a system of a coupled bilayer graphene waveguides	109
2. Carbon Nanotubes		
2.01	Algaer Yu.A. , Okotrub A.V. Investigation of properties of carbon nanotube-cadmium sulfide nanoparticle hybrids	110

2.02	Blank V.D., Alshevskiy Yu.L. , Batov D.V., Kazennov N.V., Tatyani E.V., Ivanov L.A. Transparent SWNT and MWNT mixture films	111
2.03	Bagatskii M.I. , Dolbin A.V., Sumarokov V.V., Barabashko M.C. The features of the low temperature behavior of heat capacity and thermal expansion of bundles of single-walled carbon nanotubes	112
2.04	Belolipetskii A.A. , Lebedev N.G. The quantum chemical research of the dependence of SWCN's dipole moment	113
2.05	Bessonova A.V. , Bobrinetskiy I.I., Nevolin V.K., Simunin M.M. The macropores investigation in carbon nanotubes agglomerates	114
2.06	Bobrinetskiy I.I. , Kireev D.M., Seleznev A.S., Morozov R.A. The creation of biocompatible transparent CNT-electrodes	115
2.07	Butko V.Y. , Fokin A.V., Nevedomsky V.N., Sisoeva A.A., Kumzerov Y.A. Carbon nanotube fabrication inside nano-channel porous materials	116
2.08	Bychanok D.S. , Shuba M.V., Maksimenko S.A., Kanygin M.A., Okotrub A.V. Model of anisotropy of deformed polymer carbon nanotube based composites in Ka-band (26-37 GHz)	117
2.09	Chernukhina A.A. , Ermilov A.Yu. Potential magnetic properties of carbon nanotube fragments (n, 0) with asymmetrical edges	118
2.10	Bocharov G.S., Eletskii A.V. Degradation of a CNT-based field emission cathode due to ion sputtering	119
2.11	Fedorov I.V. , Kireev D.M., Bobrinetskiy I.I., Nevolin V.K. The investigation of photoactive J-aggregates of cyanine dyes – carbon nanotubes composite for the application in high-efficiency photoelectric converters	120
2.12	Fedorovskaya E.O. , Okotrub A.V., Bulusheva L.G. Polyaniline coated aligned carbon nanotubes for electrochemical supercapacitors	121
2.13	Fronya A.A. , Chernodub M.L., Osipov M.V., Puzyrev V.N., Starodub A.N., Zaramenskikh K.S., Zharikov E.V. Laser-produced plasma of carbon nanotubes	122
2.14	Goupalov S.V. Implications of time-reversal symmetry for band structure and optical properties of carbon nanotubes	123
2.15	Goupalov S.V. Semi-analytical theory of exciton fine structure in carbon nanotubes	124
2.16	Ichkitidze L.P. , Selishchev S.V., Ryndina T.S., Tabulina L.V., Shulitski B.G., Galperin V.A., Shaman Yu.P. Composite nanomaterial based on protein and multiwall carbon nanotubes	125
2.17	Ichkitidze L.P. , Podgaetsky V.M., Selishchev S.V. Electrical conductivity of composite nanomaterial with carbon nanotubes	126
2.18	Ivanchenko G.S. , Nevzorova Yu.V., Mikhaylov A.V. The research on adsorption of methane on carbon nanotube surface	127
2.19	Kanygin M.A. , Bychanok D.S., Okotrub A.V. Influence of stretch ratio on the dielectric response of polymer composite, consisting multiwall carbon nanotubes	128
2.20	Khavrel P.A. , Ioffe I.N., Chernukhina A.A., Skokan E.V., Sidorov L.N. Theoretical study of CNTs functionalized by fluorine and chlorine	129
2.21	Glukhova O., Kirillova I., Kolesnikova A. Investigation of the effect of bending on the polymerization of fullerenes inside carbon nanotubes	130
2.22	Kondrashov V.A. , Nevolin V.K. Toroidal modification of carbon nanotubes	131
2.23	Kosakovskii G.G. , Kosakovskaya Z.Ya., Orlov A.N., Smolovich A.M. About the mechanism of field emission of carbon nanostructures	132
2.24	Zaporotskova I.V., Krutoyarov A.A. , Krutoyarova N.V., Perevalova E.V., Boroznin S.V. Investigation of the interaction between some polymers and carbon nanotubes	133
2.25	Ksenevich V.K. , Gorbachuk N.I., Poklonski N.A., Samuilov V.A., Kozlov M.E., Wieck A.D. Impedance of single-wall carbon nanotubes fibers	134
2.26	Kuznetsov K.M. , Arutyunyan N.R., Chernov A.I., Obratsova E.D. Alignment of single-wall carbon nanotubes along preferred axis in suspensions and polymeric films	135

Contents

2.27	Latypov Z.Z. Anizotropic reinforcement of polymeric composites properties by electromagnetic orientations of carbon nanotubes	136
2.28	Meriakri V.V., Chmutin I.A., Ryvkina N.V., Zhou S. Dielectric properties of the nano composites on the base of crosslinked poly(ϵ -caprolactone)	137
2.29	Moliver S.S. Stone–Wales defect generation in carbon nanotube being fractured	138
2.30	Moseenkov S.I., Kuznetsov V.L., Elumeeva K.V., Larina T.V., Anufrienko V.F., Romanenko A.I., Anikeeva O.B. Comparative study of reflectance properties of nanodiamonds, onion-like carbon and multiwalled carbon nanotubes	139
2.31	Mueller A., Amsharov K., Jansen M. Synthesis of end-cap precursor molecules for the controlled growth of single-walled carbon nanotubes	140
2.32	Nguyen H.V., Luu S.T., Fadeeva E.V., Rakov E.G. Solubility of functionalized carbon nanofibers in different aqueous media	141
2.33	Orlov O.M., Matyushkin I.V., Krasnikov G.Ya. Comparative study of NVM elements based on single-walled carbon nanotubes and silicon nanocrystals	142
2.34	Paddubskaya A.G., Kuzhir P.P., Kuznetsov V.L., Mazov I.N., Moseenkov S.I., Ishchenko A.V., Romanenko A.I., Anikeeva O.B., Buryakov T.I. CNT/ PMMA electromagnetic coating:effect of carbon nanotube diameter	143
2.35	Pelech I., Narkiewicz U., Owodziń K., Borowiak-Paleń E. Microwave-assisted acid digestion method for purification of carbon nanotubes	144
2.36	Pelech R., Pelech I. Adsorption of methylene blue onto chemical modified carbon nanotubes	145
2.37	Ponomarchuk V.A., Titov A.T., Semenova D.V. Oldest natural carbon micro- and nanotubes on the Earth	146
2.38	Popov A.S., Belonenko M.B., Lebedev N.G. Propagating of a light bullet through the beam of CNT with a metallic inhomogeneity lattice	147
2.39	Prikhodko A., Konkov O. Carbon clusters as an example for self-organization	148
2.40	Belousova I.M., Kislyakov I.M., Videnichev D.A., Ryzhov A.A., Volynkin V.M. Composite material with the carbon nanostructures for the applications in optical power limiting	149
2.41	Shamina E.N., Lebedev N.G. Electronic structure of carbon nanotubes in benzene solution	150
2.42	Shoji M., Ito T., Ogata H. Fabrication and characterization of hybrid solar cells based on semiconducting single-walled carbon nanotubes	151
2.43	Slepicheva M., Chernyshev Y., Basteev A., Bazyma L., Ugryumov M. Hydrogen sorption process modeling on the periodic structures formed by carbon nanotubes	152
2.44	Tóhátí H.-M., Németh K., Kamarás K., Ben-Valid S., Zeng A., Reiss L., Yitzchaik S., Pietraszkiewicz M., Pietraszkiewicz O., Maggini L., Bonifazi D. Infrared spectroscopic investigation on non-covalently functionalized single walled carbon nanotubes	153
2.45	Tomilin O.B., Muryumin E.E., Rodionova E.V. The regularities of p-electron conjugation in carbon nanotubes	154
2.46	Tomilin O.B., Muryumin E.E., Rodionova E.V. A p-electron conjugation in fullerenes and carbon nanotubes	155
2.47	Zaglyadova S.V., Maslov I.A., Don A.K., Kuptsov A.K., Zhigalina V.G. Synthesis of high quality single-wall carbon nanotubes by CCVD method	156
2.48	Zaporotskova N.P., Zaporotskova I.V., Ermakova T.A. Investigation of carbon nanotube activity to heavy organic molecules	157
2.49	Zaramenskikh K.S., Zharikov E.V., Faikov P.P., Kovalenko A.N., McRae E., Devaux X., Iskhakova L.D. Ethanol pyrolytic synthesis of carbon nanotubes using a novel Ni/(NiO+Y ₂ O ₃) catalyst	158
2.50	Zaytsev A.A., Simunin M.M., Egorkin V.I., Solovyeva N.A., Nikiforov D.N. Growth of vertically oriented nanotubes on clusters, made by nanoimprint lithography	159
2.51	Zhukov A., Finkelstein G. Influence of local Coulomb potential on transport through carbon nanotubes	160

Poster Session 2

3. Nanodiamonds

3.01	Avramenko N.V. , Kalachev A., Korobov M.V., Belyaeva L.A., Semenyuk P.I. Comparative study of some commercial detonation nanodiamonds	162
3.02	Basharin A.Yu. , Lysenko I.Yu., Turchaninov M.A. Carbon phase diagram and the liquid carbon properties: the new results	163
3.03	Basharin A.Yu. Graphite remelting as a new method to obtain metastable carbon phases	164
3.04	Bogatyрева G. , Marinich M.A., Ilnitskaya G. Effect of physical-chemical treatments on the aggregative properties of nanodiamond of detonation synthesis	165
3.05	Chernov V.V. , Vikharev A.L., Gorbachev A.M., Kozlov A.V., Vul' A.Ya., Aleksenskii A.E. The nucleation and growth of nanocrystalline diamond films in millimeter-wave CVD reactor	166
3.06	Chu Y.Q. , Tong Y., Wang X.Z., Zhang T.L., Huang F.L. Synthesis of nanodiamond reinforced dental composite resins and their mechanical properties	167
3.07	Danilenko V.V. About creation of technology of "pure" synthesis of detonation nanodiamonds	168
3.08	Dementjev A. , Maslakov K. Chemical state of carbon atoms on nanodiamond surface: growth mechanism of detonation nanodiamond	169
3.09	Burkat G.K., Dolmatov V.Yu. , Myllymäki V. Electrochemical silver-diamond coatings	170
3.10	Filicheva Yu.A. , Lvova N.A., Anan'ina O.Yu. Quantum-chemical simulation of interaction of hydrogen atoms with diamond nanoclusters	171
3.11	Goncharova O.A. , Chekanova L.A., Iskhakov R.S. Synthesis, structure and magnetic properties of composite powders UDD/Ni-P and UDD/Co-P	172
3.12	Grudinkin S.A. , Feoktistov N.A., Aleksenskii A.E., Vul' A.Ya., Golubev V.G. Aerosol spraying of detonation nanodiamond for seeding and growth of transparent B-doped CVD nanodiamond films	173
3.13	Ivanov M.G. , Shenderova O., Ivanov D.M., Pavlyshko S.V., Petrov I., McGuire G. Nanodiamond-based nanolubricant	174
3.14	Kaleicheva J. Karaguiozova Z., Lyubchenko E., Kandeва M., Stavrev S., Mishev V. Investigation on the microstructure and properties of composite nickel coatings with nanodiamond	175
3.15	Raina S., Kang W.P. , Davidson J.L., Huang J.H. Tailoring the electronic properties of CVD nanocrystalline diamond films by <i>in situ</i> nitrogen incorporation for selective electrochemical detection of neurotransmitters	176
3.16	Korobkova A.I. , Shilova O.A., Frank-Kamenetskaya O.V. Effect of detonation nanodiamond dopant on phase composition and strength of Portland cement materials	177
3.17	Medvedev D., Petyev V., Potapkin B., Sapunov D., Prikhodko K., Domantovsky A., Korobtsev S. Experimental study of electric discharge treatment of nanodiamond particles in flow liquid	178
3.18	Korolev K. , Makarov I., Sustchev V., Malygin A., Marchukov V. Graphite diamond composites formed by a controlled oxidation of detonation blend	179
3.19	Koscheev A.P. , Tereshenkov A.V., Petrovskaya A.V., Chukov N.A., Sadovskaya N.V., Perov A.A., Khatipov S.A. The effect of filler surface chemistry on the tribology properties of nanodiamond/polytetrafluoroethylene composites	180
3.20	Kulakova I.I. , Tveritinova E.A., Zitnev Yu.N., Lunin V.V. Effect of detonation nanodiamond surface chemistry on its catalytic properties	181
3.21	Sorokin P.V., Chernozatonskii L.A., Avramov P.V., Kvashnin A.G. Electronic and elastic properties of diamond films with nanometer thickness	182
3.22	Lysenko I.Yu. , Basharin A.Yu., Spitsyn B.V. Diamond and nanodiamond new obtaining method in its metastable region: autoepitaxial growth from liquid carbon	183
3.23	Meylakhs A.P. , Eidelman E.D. Calculation of the electron effective mass in a nanodiamond-metal composite	184

Contents

3.24	Mordvinova L.E. , Chiganova G.A. Nanodiamond influence on a microstructure of galvanic nickel coatings	185
3.25	Okotrub A.V. , Polyakov O.V., Asanov I.P., Bulusheva L.G. Synthesis and electronic structure of surface of CVD diamond films	186
3.26	Kolonenko A.L., Osipova I.V. , Vnukova N.G., Tomashevich Ye.V., Chiganov A.S., Churilov G.N. Treatment of detonation diamonds by metalcontained plasma of high frequency arc discharge and their properties	187
3.27	Popov V.A. , Egorov A.V., Savilov S.V., Lunin V.V., Khodos I.I. An investigation of nanodiamond and carbon onion structures by UNR-TEM methods	188
3.28	Popov V.A. , Chernov B.B., Nugmanov A.M., Shchetinina G.P. Use of mechanical alloying for production of MMC with nanodiamond reinforcements	189
3.29	Rozhkova N.N. , Gorlenko L.E., Yemelyanova G.I., Ōsawa E., Lunin V.V. Catalytic activity of nanodiamonds in redox process	190
3.30	Sedov V.S. , Ralchenko V.G., Sizov A.I., Zvukova T.M., Khomich A.A., Konov V.I. Nucleation of CVD diamond particles and films on heat-treated polymers PHC and PNHC	191
3.31	Vitiaz D.A., Senyut V.T. , Markova L.V. Investigation of nanostructured particles obtained from sintered nanodiamonds	192
3.32	Shakhov F.M. , Kidalov S.V., Abyzov A.M. High thermal conductivity diamond-copper composites	193
3.33	Shakhov F.M. , Osipov V.Yu., Kidalov S.V., Takai K., Enoki T., Vul' A.Ya. Magnetic studies of nanodiamond – copper composites synthesized at high pressure and high temperature	194
3.34	Shalimova A.S. , Gasanov Z.D., Novikova K.O. Self-organization of detonation nanodiamonds after treatment by high-energy methods	195
3.35	Shenderova O.A. , Ivanov M.G., Deev L.E., Ivanov D.M. Fluorinated nanodiamond and soot in tribological applications	196
3.36	Aleksenskii A.E., Shvidchenko A.V. Problems of stability of disaggregated nanodiamond hydrosols	197
3.37	Sokolina G.A., Denisov S.A. , Kiseleva O.A., Spitsyn B.V. Effect of water adsorption on electrical conductivity and permittivity of diamond nanopowders	198
3.38	Soltamov V.A. , Soltamova A.A., Bhoodoo C., Babunts R.A., Shakhov F.M., Kidalov S.V., Vul' A.Ya., Baranov P.G. ODMR studies of fluorescent nitrogen-vacancy defects fabricated by sintering of detonation nanodiamonds	199
3.39	Britun V.F., Kurdyumov A.V., Solonin Yu.M. Yarosh V.V. Polycrystalline diamond fibres prepared by high temperature shock compression of the multi-walled carbon nanotube	200
3.40	Stepanenko E.V. , Levashov E.A., Ralchenko V.G., Patsera E.I. Manufacturing of seeding suspensions based on crushed nanodiamond for CVD diamond films	201
3.41	Tomchuk O.V. , Avdeev M.V., Aksenov V.L., Bulavin L.A. Cluster models in small-angle scattering analysis of detonation nanodiamonds	202
3.42	Volkov D.S. , Avramenko N.V., Belyaeva L.A., Davydov V.A., Proskurnin M.A., Korobov M.V. Formation, distraction and drying of the “secondary structure” in detonation nanodiamonds	203
3.43	Voropaev S. , Galimov E.M. Structural investigations of carbon nanostructures produced by hydrodynamical cavitation technique	204
3.44	Yakovlev R.Yu. , Badun G.A., Selezenev N.G., Yakusheva E.N., Leonidov N.B. Development and investigation of drug delivery system based on the detonation nanodiamonds	205
3.45	Yakovlev R.Yu. , Alieva I.B., Leonidov N.B., Rakita D.R., Agafonov V.N., Uzbekov R.E. Interaction dynamics of the nanodiamond with living cells in culture	206
3.46	Zhukov.N. , Gareeva F.R. Integrated investigation of electrical surface properties of detonation nanodiamond agglomerates in aqueous KCl solutions	207
3.47	Zousman B. , Levinson O. Monodispersed nanodiamond powder btained by laser synthesis	208

4. Methods for Characterization of Nanocarbons

4.01	Agafonov S.S. , Borisova P.A, Glazkov V.P., Somenkov V.A. Phase transition in amorphous fullerites C ₇₀	209
4.02	Bekhterev A.N. Vibration states of micro- and nanocarbon: structural aspects	210
4.03	Bagrov I.V., Belousova I.M. , Grenishin A.S., Kiselev V.M., Kislyakov I.M. , Sosnov E.N. Advanced model of the singlet oxygen generator of gas flowing type on base of porous fullerene-containing structures	211
4.04	Belousova I.M. , Kislyakov I.M., Murav'eva T.D., Yelleswarapu C.S., Rao D.V.G.L.N. Z-scan study of nonlinear properties of carbon nanostructures	212
4.05	Bogatyreva G. , Ilnitskaya G.D., Marinich M., Bazaliy G., Leshchenko O. Assessment of chemical inhomogeneity of nanodispersed diamond powders	213
4.06	Chikina A.G. , Fedorov A.V., Usachev D.U, Adamchuk V.K. Lattice constant reduction of the graphene/Ni(111) due to Au intercalation	214
4.07	Davydov S.N. , Bondarenko V.B., Gabdullin P.G., Gnuchev N.M. Novel spectrometer for investigating nanostructure field emission: adjusting, test spectra and first results	215
4.08	Dolmatov V.Yu. , Yurjev G.S., Myllymäki V., Vehanen A. Why are detonation nanodiamonds small	216
4.09	Gorodetskiy D.V. , Kurenaya A.G., Kudashov A.G., Okotrub A.V. Optimization of CVD synthesis parameters for growth of long carbon nanotubes array	217
4.10	Klyushin A.Yu. , Vinogradov A.S., Generalov A.V., Simonov K.A. Chemical bonding effect on the resonance F KVV Auger emission from polytetrafluoroethylene	218
4.11	Koissin V. , Warnet L., Akkerman R. Estimation of the stiffness parameters of a nanofibre forest	219
4.12	Komarova N.S. , Krivenko A.G., Naumkin A.V. Electrochemical functionalization of carbon single-walled nanotubes	220
4.13	Levina V.V. , Novakova A.A., Kiseleva T.Yu., Ilinykh I.A., Kuznetsov D.V., Chuprunov K.O., Kolesnikov E.A. Different carbon nanostructures obtained on Fe/SiO ₂ and Fe/Al ₂ O ₃ catalySt with various phase composition	221
4.14	Leshchev D.V. , Leshcheva I.A. Retrospective IWFAC's scope study using mind maps approach	222
4.15	Meletov K.P. Intertubular interaction in bundled single-walled carbon nanotubes studied by Raman scattering at high pressure and temperature	223
4.16	Meletov K.P. , Konarev D.V. Raman study of the neutral state donor-acceptor complexes Ni·(nPr)·(C ₆₀) ₂ and Cu·(nPr)·(C ₆₀) ₂ at high pressure	224
4.17	Nesterenko P. , Quirino J., Haddad P. , Müller M., Wallace G, Li D.Characterisation of graphene oxide and chemically converted graphene by capillary zone electrophoresis	225
4.18	Nesterenko P. Adsorption properties and chromatographic performance of microdispersed sintered detonation nanodiamonds	226
4.19	Osipov V.Yu. , Shestakov M.S., Baranov A.V., Takai K., Enoki T., Kaburagi Y. , Endo M., Vul' A.Ya. UV optical absorption studies of surface plasmon resonance in water suspension of multi-shell nanographites	227
4.20	Osipov V.Yu. , Makarova T.L., Baranov A.V., Ermakov V.A., Shames A.I. , Takai K., Enoki T., Kaburagi Y., Hayashi T., Endo M., Vul' A.Ya. Raman characterization and X-band EPR studies of multishell nanographites with and without oxygen-sensitive edge-localized spins	228
4.21	Panich A.M. Difference and similarity in properties of bulk and nanomaterials as seen by NMR	229
4.22	Panova A.M. , Bogatyreva G.P., Zapyuk G.G., Katrusha A.N. Applicatopn of gas chromatography for studies of oxidation kinetics of nanocarbon materials	230
4.23	Sivkov V.N., Petrova O.V. , Nekipelov S.V., Obiedkov A.M, Kaverin B.S, Kirillov A.I, Domrachev G.A., Egorov V. A., Vyalikh D.V., Molodtsov S.L. NEXAFS studies of the composite materials MWCNT's-pyrolitic metals by synchrotron radiation	231

Contents

- 4.24 **Skryleva E.A.**, Shulga N.Yu. XPS characterization onion-like carbon from nanodiamonds and carbon structure from onion-like carbon after high pressure high temperature treatment 232
- 4.25 **Stacey D.**, Ponkratov K., Batten T. Probing the nano world – an overview of Raman spectroscopy and its key role in ACN research 233
- 4.26 **Tikhomirova G.V.**, Volkova Ya.Yu., Babushkin A.N. Conductivity of carbon materials at pressures 20-50 Gpa 234
- 4.27 **Zhilinskaya E.A.**, Rakhmanina A.V., Davydov V. A., Agafonov V. EPR study of depolymerization processes of C₆₀ polymerized phases 235
- 4.28 **Dorozhkin P.**, Shelaev A., Shchokin A., Kuznetsov E., Bykov V. AFM-Raman and tip enhanced Raman studies of carbon nanostructures 236

Poster Session 3

5. Fullerenes

- 5.01 **Abramova N.V.**, Babievski K.K., Peregudova S.M., Manuylov S.A., Sokolov V.I. Optically active diastereomeric N-methyl-2(-)myrtenylpyrrolidinofullerenes and their methiodides: synthesis and CD spectra 238
- 5.02 **Akhmetov A.R.**, Tuktarov A.R., Yarullin I.R., Dzhemilev U.M. The first example of the interaction between [60]fullerene and hydrazoic acid 239
- 5.03 **Aksenova V.V.**, Nikonova R.M., Lad'yanov V.I. Behavior of the solvate molecules in solid solvate of C₆₀ and C₇₀ fullerenes under heating 240
- 5.04 Semenov K., **Alekseyev N.I.**, Charykov N., Letenko D., Nikitin V.A., Namazbaev V.I., Keskinov V., Puharenko Y.V. Anti-corrosion properties of metallic surfaces modified with fullerenol-d 241
- 5.05 Semenov K., **Alekseyev N.I.**, Charykov N., Letenko D., Nikitin V.A., Namazbaev V.I., Keskinov V., Puharenko Y.V. Increase in stability of paints modified with fullerenol-d 242
- 5.06 Semenov K., **Alekseyev N.I.**, Charykov N., Keskinov V. Cheap method for synthesis of highly water soluble fullerene derivatives – fullerenols-d 243
- 5.07 Sherstnev V.V., **Alekseyev N.I.**, Charikov N.A., Semenov K.N., Keskinov V.A., Krohina O.A. Fullerene for semi-conducting photo- and light diodes (1.5–5.0 μm) 244
- 5.08 **Amsharov K.Yu.**, Jansen M. Direct synthesis of carbon nanostructures 245
- 5.09 **Apenova M.G.**, Rybalchenko A.V., Borkovskaya E.V., Belov N.M., Dorozhkin E.I., Ignat'eva D.V., Goryunkov A.A., Ioffe I.N. Synthesis and characterization of the novel isomer 1,4,10,19,25,41,60,69-C₇₀(CF₃)₈ 246
- 5.10 **Apenova M.G.**, Ovchinnikova N.S., Goryunkov A.A., Borkovskaya E.V., Belov N.M., Troyanov S.I., Sidorov L.N. The functionalization of C_{2-p}⁷-C₇₀(CF₃)₈ by the Bingel reaction 247
- 5.11 **Bashkatova E.**, Shilovski I., Bashkatova Yu., Khaitov M., Andreev S. Adducts of [60]fullerene with basic amino acids as delivery vectors 248
- 5.12 **Brotsman V.A.**, Ioutsy V.A., Bogdanov V.P., Rybalchenko A.V., Ovchinnikova N.S., Goryunkov A.A., Sidorov L.N. Functionalization of fluorine-containing fullerene derivatives 249
- 5.13 **Galimov D.I.**, Gazeyeva D.R., Sabirov D. Sh., Bulgakov R.G. Reactivity of C₆₀ fullerene towards peroxy radicals generated in initiated oxidation of hydrocarbons 250
- 5.14 Phase transitions in two-layer fullerenes with the non-central effect
Kolesnikova A., Glukhova O., Kirillova I., Saliy I., Slepchenkov M. 251
- 5.15 **Grushko Yu.S.**, Kozlov V.S., Artamonova T.O., Khodorkovsky M.A. Concentrating of higher metallofullerene and empty fullerene fraction with carbon cages of more than 100 carbon atoms 252
- 5.16 **Ioutsy V.A.**, Negrebetsky V.V., Yurovskaya M.A., Sidorov L.N. Amino acid silyl esters as an efficient precursor in the 1,3-dipolar cycloaddition of azomethine ylides to fullerene C₆₀ 253
- 5.17 **Ito S.**, Fujimoto T., Ito M., Yamana S. Efficacy of fullerene capsule with amphipathic antioxidants vitamin 254

5.18	Maslov M.M., Katin K.P. Thermal stability of the endohedral complex of [60]fullerene with tetrahedrane, $C_4H_4@C_{60}$	255
5.19	Katz E.A. The Euler theorem for molecular structure studies:cases of fullerene-like nanoparticles of carbon and inorganic compounds	256
5.20	Beneoux C., Itzhak C., Avrahami R., Zussman E., Frey J., Katz E.A. , Shames A.I., Yerushalmi-Rozen R. Fibers of functional nanocomposites of poly(3-hexythiophene) containing fullerene derivatives and carbon nanotubes	257
5.21	Kazachenko V. , Razanau I. Nanocomposite layers on the basis of polymeric forms of C_{60}	258
5.22	Khakimova E.U. , Konarev D.V., Zorina L.V., Khasanov S.S., Lyubovskaya R.N. Ionic complexes containing fullerene anions and negatively charged phthalocyanine structures	259
5.23	Khamatgalimov A.R. , Kovalenko V.I. Electronic structure and stability of C_{76} fullerene IPR-isomers	260
5.24	Khokhriakov N.V. , Kodolov V.I. Interaction between hydroxyfullerene and water	261
5.25	Klimova E. , Klimova T., Moggio I., Arias-Marín E., Martínez-García M. Optical properties of double pyrene-anthrylvinylene-fullerene- C_{60} or pyrene-OPV- fullerene C_{60} triads	262
5.26	Krisilov A.V. , Zon B.A., Kotova A.L. Endofullerenes of lanthanides $Ln@C_{60}$: <i>ab initio</i> geometric and electronic structure calculation	263
5.27	Kvyatkovskii O.E. , Zakharova I.B. <i>Ab initio</i> calculations of nonlinear polarizabilities of fullerene-porphyrin complexes	264
5.28	Kvyatkovskii O.E., Zakharova I.B., Diba D.D., Makarova T.L. Interaction of oxygen with fullerenes: oxidation versus singlet oxygen production	265
5.29	Kyrey T.O. , Kyzyma O.A., Avdeev M.V., Korobov M.V., Aksenov V.L., Bulavin L.A. Absorption characteristics of fullerene C_{60} in N-methyl-2-pyrrolidone/toluene mixture	266
5.30	Lanskikh M.A. , Chang K.-C., Belova Yu.M., Tamm N.B., Kemnitz E., Troyanov S.I. New trifluoromethyl derivatives of C_{76} and C_{82}	267
5.31	Lebedev V.T. , Török Gy., Vinogradova L.V. Star-shaped homo- and hybrid fullerene C_{60} -containing polymers and their supramolecular organization in aromatic solvents	268
5.32	Lebedev V.T. , Török Gy., Ratnikova O.V., Vinogradova L.V. Specific internal structure of star-shaped polystyrenes with fullerene C_{60} branching center	269
5.33	Lopatin D.V. , Chirkin E.S., Dmitrievskii A.A., Zheltov M.A., Samodurov A.A., Stolyarov R.A. Electronic and defect structures of fullerene C_{60} molecular complex	270
5.34	Lopatin M.A. , Ketkov S.Yu., Markin G.V., Kuropatov V.A., Rychagova E.A., Kalakutskaya L.V., Domrachev G.A. DFT and ESR spectroscopic studies of new organoelement fullerene derivatives	271
5.35	Lopatin M.A. , Klapshina L.G., Grigoryev I.S., Semenov V.V., Lermontova S.A., Domrachev G.A. The quenching of the Yb (III) porphyrazine complexes and heterocyclic ligands by C_{60} in solutions	272
5.36	Luzan S.M. , Tsybin Y.O., Talyzin A.V. In situ observation of C_{60} hydrogenation reaction using gravimetric method	273
5.37	Mazaleva O.N. , Ioffe I.N. Detailed computational study of the chlorination-assisted skeletal rearrangement of D2-19150C76 into C2-18917C76Cl24	274
5.38	Merzlyakova M.A. , Nikonova R.M., Lad'yanov V.I., Aksyonova V.V. Thermo-destruction of the fullerenes	275
5.39	Mikoushkin V.M. , Shnitov V.V., Nashchekin A.V., Pavlov S.I., Nesterov S.I., Konnikov S.G. Formation of carbon microstructures by dry electron-beam lithography	276
5.40	Nasonova K.V. , Melenevskaya E.Yu., Shamanin V.V., Podosenova N.G. Sorbents based on silica containing fullerenols for use in plasmapheresis	277
5.41	Lebedev V.T., Orlova D.N., Nasonova K.V. , Melenevskaja E.Yu., Shamanin V.V., Vinogradova L.V. Supramolecular formations of fullerene C_{60} -containing poly(ethylene oxide) in deuterobenzene	278
5.42	Nikolaev D.N. , Davidovich P.B., Piotrovskiy L.B. Preparative synthesis of (1,2-methanofullerene C_{60})-61-carboxylic acid	279

Contents

5.43	Okuneva A.D. , Bobyleva L.G., Bobylev A.G., Podlubnaya Z.A. Effects of C ₆₀ derivatives on in vitro amyloidogenesis of A β (1-42) peptide of the brain	280
5.44	Oprunenko Yu.F. , Gloriov I.P., Vasil'kov A.Yu. A DFT study of fullerene C ₆₀ transition metal complexes structure and dynamic	281
5.45	Pavlenko O. , Dmytrenko O., Kulish M., Brusentsov V., Rybiy V., Korniyenko M., Strilchuk V., Romaniuk B.M., Shpilevsky E. Irradiation and doping induced changes in properties of C ₆₀ fullerite films	282
5.46	Pavlychev A.A. , Brykalova X.O. Inner-shell electronics of caged molecules: small molecules in carbon cages	283
5.47	Petrenko E.O. , Makarets N.V., Mikoushkin V.M. Simulation of faSt electron transport in thin metal and fullerite films	284
5.48	Piotrovskiy L.B. , Dumpis M.A., Litasova E.V., Rodionova O.M., Safonova A.F., Saponov N.S., Selina E.N. <i>In vivo</i> toxicology of fullerene C ₆₀ in low aggregation state	285
5.49	Piotrovskiy L.B. , Okunevich I.V., Dumpis M.A., Litasova E.V., Saponov N.S. Fullerene C ₆₀ <i>in vivo</i> : influence on the basic types of metabolism	286
5.50	Polozkov R.G. , Verkhovtsev A.V., Ivanov V.K., Korol A.V., Solov'yov A.V. Oscillation phenomenon in photoionization cross section of Ar@C ₆₀	287
5.51	Pykhova A.D. , Gracheva Yu.A., Ovchinnikova N.S., Milaeva E.R., Yurovskaya M.A. Antioxidative activity of some fullerene C ₆₀ derivatives	288
5.52	Li H., Zhu G., Jiang Y., Qi L. , Xu Z. Formation of micrometer-scale fullerene decagonal prisms crystal: from mesocrystal to single crystal	289
5.53	Razanau I. , Kazachenko V., Zhavnerko G. Thin C ₆₀ polymer films formed with C ₆₀ ions assistance, their optical, electric and magnetic properties	290
5.54	Rybalchenko A. , Nikitin O.M., Goryunkov A.A., Heinze J. Magdesieva T.V. Electrochemical studies of C ₆₀ (CF ₂)H ₂	291
5.55	Belousova I.M., Ryzhov A.A. Containing one-dimensional photonic band gap crystals	292
5.56	Sabirov D.Sh. , Garipova R.R., Bulgakov R.G. Generalized theoretical approach to the estimation of fullerenes reactivity in the reactions of addition based on curvature indices	293
5.57	Sabirov D.Sh. , Garipova R.R., Bulgakov R.G. Polarizability of fullerene derivatives	294
5.58	Salcedo R. Thermochemical characterization of the seven C ₈₀ isomers by means homodemotic reaction	295
5.59	Samoylova N.A. , Semivrazhskaya O.A., Belov N.M., Markov V.Yu., Ovchinnikova N.S., Goryunkov A.A. CF ₂ -derivatives of C ₇₀ : synthesis and structure	296
5.60	Sedov V.P. , Kukorenko V.V., Kolesnick S.V., Shilin V.A., Grushko Yu.S. Concentration and separation of high fullerenes	297
5.61	Sheka E.F. , Shaymardanova L.Kh. Reaction barriers and deformation energies of C ₆₀ -based composites	298
5.62	Shiliaeva L.A. , Korobov M.V., Avdeev M.V., Senyavin V.M., Semenyuk P.I. Solubility behaviour of C ₆₀ in N-methylpyrrolidon	299
5.63	Grushko Yu.S., Lebedev V.T., Shilin V.A. , Sedov V.P., Kozlov V.S., Kolesnik S.G. Anomalous survival of endometallofullerenes under irradiation in reactor	300
5.64	Shnitov V.V. , Mikoushkin V.M. Analysis of electron-induced fullerite C ₆₀ modification in terms of destruction cross-section	301
5.65	Spoiala D. , Evtodiev I., Prilepov V. Comparative characteristics of electrical and photoelectrical properties of Si/fullerite C ₆₀ and Si/nanocomposite fullerite C ₆₀ :Me (Me=Cu, Al, Sn and Te) heterostructures	302
5.66	Madjuga A.M., Gal'pern E.G., Stankevich I.V. Endohedral derivatives of fullerenes and their formation	303
5.67	Suslova I.B. , Mikoushkin V.M. Diffusion model of low-energy secondary electrons in fullerite and other solids	304
5.68	Tamm N.B. , Skokan E.V., Karnatsevich V.L., Polyakova M.V., Tarasov V.P., Chelovskaya N.V., Kirillov A.I., Arkhangelsky I.V. On solvent impurity in commercial fullirites	305

5.69	Tarakina N.V. , Verberck B. Tubular fullerenes inside carbon nanotubes: optimal molecular orientation versus tube radius	306
5.70	Tuktarov A.R. , Khuzina L.L., Dzhemilev U.M. Effective synthesis of methano- and pyrazolinofullerenes	307
5.71	Tuktarov A.R. , Korolev V.V., Khuzin A.A., Dzhemilev U.M. Catalytic synthesis of heteroatom-containing homo- and methanofullerenes	308
5.72	Tumareva T.A. , Sominski G.G., Svetlov I.A., Panteleev I.S. Ion treatment influence on operation of field emitters with nanostructured fullerene coatings	309
5.73	Uvarov M.N. , Kulik L.V., Pichugina T.I., Dzuba S.A. Fullerene C ₇₀ triplet zero-field splitting parameters revisited from light-induced EPR spectra at thermal equilibrium	310
5.74	Verkhovtsev A.V. , Polozkov R.G., Ivanov V.K., Korol A.V., Solov'yov A.V. Self-consistent Hartree-Fock approach to electronic structure of endohedral fullerenes	311
5.75	Vozyakovsky A.P. , Kudoyarova V.Kh., Kudoyarov M.F., Lebedev V.T. Self-organization processes in polymeric nanocomposites with C ₆₀ fullerenes	312
5.76	Li B., Zhu G., Qi L., Xu Z. A fullerene-based catalyst for molecular hydrogen activation with comparable catalytic hydrogenation capability to noble metal catalyst	313
5.77	Yumagulova R.Kh. , Medvedeva N.A., Kolesov S.V. Fullerenation of diallyl monomer	314
5.78	Ziminov V.M. , Zakharova I.B., Aleshin A.N., Makarova T.L. Comparative study of several fullerene based bulk heterojunctions	315
5.79	Zubov V.I. Size effects in fullerites nanoparticles	316
6. Nanocarbon		
6.01	Abrukov S.V. , Kochakov V.D., Telegin G.G. Nano films of linear-chain carbon with embedded metal and nonmetal atoms: characterization and data mining modelling	317
6.02	Davydov V., Rakhmanina A., Autret C., Limelette P., Agafonov V. Carbon-encapsulated iron carbide nanoparticles in the thermal conversions of ferrocene at high pressures	318
6.03	Arkhipov A.V. , Bondarenko V.B., Gabdullin P.G. Role of nano-sized objects in field-induced electron emission facilitation	319
6.04	Arkhipov A.V. , Gabdullin P.G., Gordeev S.K., Korchagina S.B., Mishin M.V. Field-induced electron emission from graphitic nano-island films at silicon substrates	320
6.05	Bekhterev A.N. Optical characteristics of porous nanocarbon materials in effective media model: Bruggeman approximation	321
6.06	Gil'man A.B., Drachev A.I., Belobrzechkaja-Kosta L. N. , Del Borghi M., Fumagalli M.S., Costa Nicola B. Applied polymerization of PEDOT in a direct current discharge was ineffective: it's showed undesirable dielectric properties of material	322
6.07	Chernogorova O.P. , Drozdova E.I., Ovchinnikova I.N., Blinov V.M. Mechanical properties and fracture of superelastic hard carbon particles produced from fullerenes under pressure	323
6.08	Churilov G.N. , Osipova I.V., Maslennikov A.N., Gluchenko G.A., Drokin N.A. Composites based on superhigh-molecular poly(ethylene) and carbon nanostructures	324
6.09	Davydov V.A. , Rakhmanina A.V., Agafonov V.N., Khabashesku V.N. Pressure-temperature-induced transformations of polyhedral carbon nanoparticles in hydrogen-containing system	325
6.10	Ginzburg B.M. , Tuichiev Sh., Osawa E., Rashidov D., Tabarov S., Mukhamad A. Nanocarbon materials and polymers	326
6.11	Golubev O.L. Tungsten carbide emitting nanoprotusions as effective field emission point sources of the electrons and ions	327
6.12	Ibragimov A.A. , Lupehin S.M. Field emission of carbon cathodes with hard limited nanostructured emitting surface	328
6.13	Karpov D.I. , Pruel E.R., Satonkina N.P. Formation of carbon clusters in detonation products of high explosives	329
6.14	Koprinarov N.S. , Konstantinova M. Carbon particles synthesized by pyrolysis in closed container	330

Contents

6.15	Koprinarov N. , Konstantinova M.A. Carbon structures produced as a result of periodically repeated spark discharge in liquid hydrocarbons	331
6.16	Kurkin T. , Ozerin A., Kechek'yan A., Gritsenko O., Sustchev V., Dolmatov V. Highly oriented poly(vinyl alcohol) fibers modified with nanodiamonds: from effective structural modification to high tensile strength and modulus	332
6.17	Lysenko I.Yu. , Basharin A.Yu., Turchaninov M.A., Dozhdokov V.S. Homogeneous nucleation in liquid carbon obtained by laser pulse melting of graphite	333
6.18	Manika I. , Maniks J., Zabels R., Gabrusenoks J., Krause M., Tomut M., Schwartz K. Nanoindentation and Raman spectroscopy study of graphite irradiated with swift ^{238}U ions	334
6.19	Puziy A.M., Poddubnaya O.I., Reinish C.A., Mironiuk T.I., Tsyba M.M., Mikhalovsky S.V. , Mikhalovska L.I. Nanostructured carbons obtained by template method for protein adsorption	335
6.20	Mikhalovsky S.V. , Sandeman S.R., Howell C.A., Tennison S.R., Nikolaev V.G. Nanostructured carbon adsorbents for medical protection against chemical-biological-radiological-nuclear (CBRN) hazards	336
6.21	Nikonova R.M., Pozdeeva N.S. , Lad'yanov V.I. Influence of nanostructural carbon forms on deformation behaviour of copper at mechanical activation	337
6.22	Arakelyan S.M., Antipov A.A., Kutrovskaya S.V., Kucherik A.O., Nogtev D.S. , Osipov A.V., Prokoshev V.G. Synthesis of metal-carbon nanostructured materials by controlled laser deposition	338
6.23	Naletov A.M. Nozhkina A.V. Lonsdaleite in nanodiamonds	339
6.24	Arakelyan S.M., Antipov A.A., Kutrovskaya S.V., Kucherik A.O., Nogtev D.S. , Osipov A.V. , Prokoshev V.G. Controlled laser synthesis of carbon nanostructured at laser action	340
6.25	Rud A.D. , Ivaschuk L.I., Kuskova N.I., Tsolin P.L., Kiryan I.M., Zelinskaya G.M., Biliy N.M. Structure of amorphous carbon produced by high-voltage electric discharge technology in organic liquids	341
6.26	Shornikova A.L. , Sheshin E.P., Gordeev S.K. Comparative analysis of field emission properties of SiC powder with different synthesis parameters	342
6.27	Smirnov B.I. , Orlova T.S., Parfeneva L.S., Popov V.V., Smirnov I.A., Jezowski A., Martinez-Fernandez J. Structural and physical properties of wood-derived biocarbons	343
6.28	Orlanducci S., Guglielmotti V., Sordi D., Tamburri E., Terranova M.L. , Passeri D., Rossi M. Self-assembling of graphitic nanoplatelets	344
6.29	Titorov D.B. Spatial atomic and electronic structures of graphene, diamond, graphite and fullerene	345
6.30	Urbanovich V.S. , Kuis D.V., Okatova G.P., Svidunovich N.A., Oichenko V.M. Superhard composite material based on nanodispersed carbon	346
6.31	Voznyakovskii A.P. , Pozdnyakov A.O., Popov E.O., Pozdnyakov O.F. Nanocarbons as physical modifier of polymers – dispersity or structure	347
6.32	Gushchin O., Yafarov R., Baklanov M., Ignatov P., Zaytsev N., Yanovich S. , Orlov S. Khomyakov, I. Nano-diamond based materials fabrication with low pressure non-equilibrium microwave gas discharge and its field emission properties	348
6.33	Zagaynova V. , Makarova T., Mombro A., Pardo H., Faccio R. The influence of boron doping on magnetic properties of oxygen-eroded graphite	349
6.34	Zaporotskova I.V., Davletova O.A. , Polikarpov D.I., Zaporotskov P.A. Structure and characteristics of pyrolyzed polyacrylonitrile with vacancies	350
6.35	Dikio E.D. , Shooto D.N. Morphological characterization of soot from the atmospheric combustion of diesel, kerosene and candle wax	351

Conference/School of Young Scientists

7.01	Cherniyenko A. , Bochechka A. Definition of structural elements of diamond powders and polycrystals sintered from them	354
------	---	-----

7.02	Kanygin M.A. , Kurenaya A.G., Gusel'nikov A.V., Okotrub A.V. Application of angle-resolved X-ray spectroscopy for characterisation of oriented CNT films	355
7.03	Kirilenko D.A. , Dideykin A.T., Van Tendeloo G. Measurement of ripples spectrum in suspended grapheme	356
7.04	Koniakhin S.V. , Eidelman E.D. Full 2D calculation of graphene Raman amplitude	357
7.05	Korobkova A.I. , Shilova O.A., Frank-Kamenetskya O.V. Interpretation of SEM images of Portland cement materials doped nanodiamonds	358
7.06	Krylov D.S. , Kompan M.E. Raman scattering in porous carbon materials	359
7.07	Kurkin T. , Ozerin A., Kechek'yan A., Gritsenko O., Sustchev V., Dolmatov V. Small angle X-Ray scattering as a method to determine the shape and size distribution of nanodiamond particles. Comparison with dynamic light scattering	360
7.08	Kuzmichev A.V. Formation of grapheme and graphite on the surface of rhodium	361
7.09	Nasonova K.V. , Melenevskaya E.Yu., Shamanin V.V. Use of TGA for analysis of fullerenols	362
7.10	Ovchinnikova I.N. High-resolution Raman microscopic study of C ₆₀ fullerite transformation upon HPHT treatment	363
7.11	Petrova N.I. Research on size stability of commercial nanodiamond suspensions under the influence of external factors	364
7.12	Petrova O.V. , Nekipelov S.V., Sivkov V.N., Vyalikh D.V., Molodtsov S.L. X-ray transitions oscillator strength measures in the NEXAFS C1s –spectrum range of fullerene by synchrotron radiation	365
7.13	Popova A.A. , Shikin A.M., Rybkin A.G. Angle resolved photoelectron spectroscopy as the method for investigation of electronic structure of grapheme	366
7.14	Razanau I. Diagnostics of the structure of thin films of polymerized C ₆₀ formed via electron-beam dispersion method	367
7.15	Shavlovskiy N.V. , Smirnov A.N., Lebedev S.P., Lebedev A.A. Raman studies of epitaxial multi-graphene films grown on a 6H-SiC substrates	368
7.16	Shestakov M.S. , Osipov V.Yu. Infrared absorption studies of surface functional groups of chemically modified nanodiamonds	369
7.17	Shishov M.A. , Sapurina I.Yu. Diagnostics of nitrogen-doped carbon prepared by polyaniline pyrolysis	370
7.18	Soltamova A.A. , Soltamov V.A., Bhoodoo C., Kramuschenko D.D., Shakhov F.M. EPR and optical diagnostics of nanodiamonds	371
7.19	Gavrilova V.C., Janchuk I.B., Svirid E.A. , Efanov A.V. Determination of the diamond content in the detonation products of explosive	372
7.20	Tomchuk O.V. , Avdeev M.V., Aksenov V.L., Bulavin L.A., Garamus V.M. Analysis of two-level organization of detonation nanodiamond clusters by SANS	373
7.21	Uvarov M.N. , Kulik L.V., Pichugina T.I., Dzuba S.A. Investigation of triplet fullerene C ₇₀ lineshape EPR under continuous light illumination: zero field splitting parameters distribution	374
7.22	Vilkov O.Yu. , Usachev D.Yu., Fyodorov A.V., Shikin A.M., Vladimirov G.G. Intercalation of Cu underneath a graphene layer on Ni(111) and Co(0001) substrates studied with a synchrotron radiation	375
7.23	Yakovlev R.Ju. The problem of nanodiamond visualization in biopharmaceutical research	376
7.24	Zagaynova V. , Hacke C., Chowdhury T., Makarova T. Transient charging phenomena in graphite	377
7.25	Sedlovets D.M. , Red'kin A.N. Electrical conductivity and optical transparency measurements of thin carbon films	378
	Author Index	379
	Contents	385