

Юрий Козьмич Воронько



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Президиум академии инженерных наук имени А.М. Прохорова и институт общей физики Российской академии наук с глубоким прискорбием сообщают, что 24 ноября 2014 года на 83-м году жизни скончался **Юрий Козьмич Воронько** – главный научный сотрудник Научного центра лазерных материалов и технологий ИОФРАН, доктор физико-математических наук, профессор, лауреат премии Совета Министров СССР, действительный член АИН им. А.М. Прохорова, Заслуженный деятель науки РФ.

Воронько Ю.К. был одним из ведущих специалистов в области спектроскопии лазерных кристаллов, физики твердого тела, квантовой электроники, автор свыше 300 научных работ.

Юрий Козьмич Воронько родился 31 мая 1932 года в г. Запорожье УССР. В 1954 году окончил МГУ им. М.В. Ломоносова и в 1955 году начал научную деятельность в Физическом институте им. П.Н. Лебедева. В 1983 году после образования Института общей физики РАН он возглавил лабораторию спектроскопии кристаллов и стекол, где проработал до конца своей долгой жизни.

С 1962 года Ю.К. Воронько одним из первых приступил к изучению спектроскопии примесных редкоземельных ионов и ионов группы железа в лазерных кристаллах в образованном тогда по инициативе академика Н.Г. Басова и А.М. Прохорова отделе монокристаллов ФИАН. Предложенные им методы концентрационных серий, добавок, селективного возбуждения, радиационного воздействия внесли существенный вклад в развитие нового 60 – 70-х годах направления – спектроскопии материалов квантовой электроники. Одновременно им были начаты пионерские работы по изучению процессов взаимодействия различных оптических центров и передачи энергии возбуждения между редкоземельными ионами, которые впоследствии стали широко применяться для увеличения эффективности активных лазерных сред. Эти работы стали классическими, а их результаты не потеряли актуальность и в настоящее время.

Ю.К. Воронько внес значительный вклад в исследование аспектов получения индуцированного излучения на кристаллах фторидов лития с различными типами центров окраски, которые нашли применение в качестве активных элементов лазеров и пассивных лазерных затворов.

С участием Юрия Козьмича Воронько были начаты работы, приведшие к развитию нового научного направления – исследования фазообразования, плавления и кристаллизации широкого класса материалов (оксидов, фосфатов, боратов и т.д.) методов высокотемпературной (до 2000К) спектроскопии КРС.

Ю.К. Воронько подготовил более 20 кандидатов наук. Под его руководством начинали свою научную деятельность академик РАН И.А. Щербаков и член-корреспондент РАН Т.Т. Басиев.

Светлая память о Юрии Козьмиче Воронько навсегда останется в сердцах родных, друзей и сотрудников, которые знали его как доброжелательного, веселого и оптимистичного человека.

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Список основных публикаций:

1. **VORONKO, YK; SOBOL, AA; SHUKSHIN, VE; GERASYMOV, I.**
STRUCTURE AND PHASE TRANSITIONS OF RARE-EARTH PYROSILICATES
STUDIED BY RAMAN SPECTROSCOPY
INORGANIC MATERIALS 51(10), 1039-1046 (2015)
2. **VORON'KO, YK; SOBOL', AA; SHUKSHIN, VE; GERASIMOV, YV.**
SPONTANEOUS RAMAN SCATTERING OF LU₂SI₂O₇ SINGLE CRYSTALS AT
TEMPERATURES IN THE RANGE FROM 20 TO 2173 K
PHYSICS OF THE SOLID STATE 57(7), 1424-1430 (2015)
3. **VORONKO, YK; SOBOL, AA; SHUKSHIN, VE.**
RAMAN SCATTERING STUDY OF MOLTEN ALKALI-METAL MOLYBDATES AND
TUNGSTATES RICH IN BASIC OXIDES
INORGANIC MATERIALS 50(8), 837-843 (2014)
4. **VORONKO, YK; SOBOL, AA; SHUKSHIN, VE.**
RAMAN SCATTERING STUDY OF MOLTEN ALKALI-METAL MOLYBDATES
RICH IN MOO₃
INORGANIC MATERIALS 50(8), 844-849 (2014)
5. **VORON'KO, YK; SOBOL', AA; SHUKSHIN, VE.**
RAMAN SCATTERING IN LIB₃O₅ SINGLE CRYSTALS AT 300 AND 20 K
OPTICS AND SPECTROSCOPY 115(6), 863-869 (2013)
6. **VORONKO, YK; SOBOL, AA; SHUKSHIN, VE.**
RAMAN SPECTROSCOPY STUDY OF THE PHASE TRANSFORMATIONS OF
LIB₃O₅ AND LI₂B₄O₇ DURING HEATING AND MELTING
INORGANIC MATERIALS 49(9), 923-929 (2013)
7. **VORON'KO, YK; SOBOL', AA; SHUKSHIN, VE; ZAGUMENNYI, AI;
ZAVARTSEV, YD; KUTOVOI, SA.**
STRUCTURAL TRANSFORMATIONS IN LiGD₉(SiO₄)(6)O-2 AND
Ca₂GD₈(SiO₄)(6)O-2 CRYSTALS CONTAINING ISOLATED [SiO₄] COMPLEXES:
RAMAN SPECTROSCOPIC STUDY
PHYSICS OF THE SOLID STATE 54(8), 1635-1642 (2012)

8. **VORONKO, YK; SOBOL, AA; SHUKSHIN, VE.**
STRUCTURE OF BORON-OXYGEN GROUPS IN CRYSTALLINE, MOLTEN, AND GLASSY ALKALI-METAL AND ALKALINE-EARTH METABORATES
INORGANIC MATERIALS 48(7), 732-737 (2012)
9. **VORON'KO, YK; SOBOL', AA; SHUKSHIN, VE.**
STUDY OF A STRUCTURE OF BORON-OXYGEN COMPLEXES IN THE MOLTEN AND VAPOR STATES BY RAMAN AND LUMINESCENCE SPECTROSCOPIES
JOURNAL OF MOLECULAR STRUCTURE 1008, 69-76 (2012)
10. **VORONKO, Y.; EDER, G.; WEISS, M.; KNAUSZ, M.; ORESKI, G.; KOCH, T.; BERGER, K.; NOWAK, S.; JAGER-WALDAU, A.; HELM, P..**
LONG TERM PERFORMANCE OF PV MODULES: SYSTEM OPTIMIZATION THROUGH THE APPLICATION OF INNOVATIVE NON-DESTRUCTIVE CHARACTERIZATION METHODS
27TH EUROPEAN PHOTOVOLTAIC SOLAR ENERGY CONFERENCE AND EXHIBITION. PROCEEDINGS , 3530 (2012)
11. **PETROVA, OB; POPOV, AV; SHUKSHIN, VE; VORON'KO, YK.**
LEAD BORATE OXYFLUORIDE GLASSES DOPED WITH ND³⁺ IONS AND TRANSPARENT GLASS-CRYSTAL MATERIALS BASED ON THEM
JOURNAL OF OPTICAL TECHNOLOGY 78(10), 659-663 (2011)
12. **VORON'KO, YK; SOBOL', AA; SHUKSHIN, VE; ZAGUMENNYI, AI; ZAVARTSEV, YD; KOUTOVOI, SA.**
SPONTANEOUS RAMAN SPECTRA OF THE CRYSTALLINE, MOLTEN AND VITREOUS RARE-EARTH OXYORTHOSILICATES
OPTICAL MATERIALS 33(8), 1331-1337 (2011)
13. **BASIEV, TT; KARASIK, AY; SOBOL, AA; CHUNAEV, DS; SHUKSHIN, VE.**
SPONTANEOUS AND STIMULATED RAMAN SCATTERING IN ZNWO₄ CRYSTALS
QUANTUM ELECTRONICS 41(4), 370-372 (2011)
14. **BASIEV, TT; VORON'KO, YK; MASLOV, VA; SOBOL, AA; SHUKSHIN, VE.**
LEAD PYROVANADATE SINGLE CRYSTAL AS A NEW SRS MATERIAL
QUANTUM ELECTRONICS 41(2), 125-127 (2011)
15. **BREKHOVSKIKH, MN; VORONKO, YK; DMITRUK, LN; MOISEEVA, LV; PETROVA, OB; POPOV, AV; FEDOROV, VA.**
SYNTHESIS AND GLASS FORMATION IN THE BAO-B₂O₃-BaCl₂ SYSTEM
INORGANIC MATERIALS 46(12), 1391-1395 (2010)
16. **KRUT'KO, VA; POPOV, AV; VORONKO, YK; CHUDINOVA, NN.**
LUMINESCENT PROPERTIES OF YB³⁺-DOPED HEXAGONAL LN(3)BWO(9) (LN = GD, Y)
INORGANIC MATERIALS 46(8), 900-905 (2010)
17. **POPOV, AV; RYABOVA, AV; KOMOVA, MG; KRUT'KO, VA; PETROVA, OB; LOSHCHEV, VB; VORON'KO, YK.**
SPECTROSCOPY OF NANOPARTICLES BASED ON GD₁₄B₆GE₂O₃₄ POLYCRYSTALS AND LA₂O₃-B₂O₃ GLASSES, ACTIVATED BY ND³⁺ IONS, FOR CANCER DIAGNOSTICS
QUANTUM ELECTRONICS 40(12), 1094-1097 (2010)
18. **SHUKSHIN, VE; VORONKO, YK; SOBOL, AA.**
RAMAN SPECTRA AND STRUCTURE OF SILICON-OXYGEN GROUPS IN CRYSTALLINE, MOLTEN, AND GLASSY MG(2)SiO(4)
XXII INTERNATIONAL CONFERENCE ON RAMAN SPECTROSCOPY 1267, 1172-1173 (2010)
19. **VORON'KO, YK; SOBOL', AA; SHUKSHIN, VE; ZAGUMENNYI, AI; ZAVARTSEV, YD; KUTOVOI, SA.**
RAMAN SPECTROSCOPIC STUDY OF STRUCTURAL DISORDERING IN YVO₄, GDVO₄, AND CAWO₄ CRYSTALS
PHYSICS OF THE SOLID STATE 51(9), 1886-1893 (2009)
20. **BOLSCHIKOV, FA; KUZ'MICHEVA, GM; LIS, DA; PAPIN, YM; POPOV, AV; RYABOCHKINA, PA; RYBAKOV, VB; SENIN, VG; SMIRNOV, VA; SUBBOTIN,**

- KA; VORON'KO, YK; VORONOV, VV; ZHARIKOV, EV.**
GROWTH, REFINED STRUCTURAL AND SPECTROSCOPIC CHARACTERISTICS
OF TM³⁺-DOPED NAGD(WO₄)₂ SINGLE CRYSTALS
JOURNAL OF CRYSTAL GROWTH 311(17), 4171-4178 (2009)
21. **VORON'KO, YK; SOBOL', AA; SHUKSHIN, VE.**
SPECTRAL DIAGNOSTICS OF VAPOR COMPOSITION OVER MOLTEN NA₂WO₄
AND NA₂O-BAO-B₂O₃ SYSTEM
INORGANIC MATERIALS 45(5), 561-567 (2009)
22. **VORONKO, YK; SOBOL, AA; SHUKSHIN, VE; FEDOROV, PP; KOKH, AE;
KONONOVA, NG.**
RAMAN SPECTRA AND STRUCTURE OF TUNGSTEN-OXYGEN GROUPS IN
CRYSTALLINE, MOLTEN, AND GLASSY NAIN(WO₄)₂
INORGANIC MATERIALS 45(2), 182-188 (2009)
23. **VORON'KO, YK; ZHARIKOV, EV; LIS, DA; POPOV, AV; SMIRNOV, VA;
SUBBOTIN, KA; KHROMOV, MN; VORONOV, VV.**
GROWTH AND SPECTROSCOPIC STUDIES OF NALA(MOO₄)₂:TM³⁺ CRYSTALS:
A NEW PROMISING LASER MATERIAL
OPTICS AND SPECTROSCOPY 105(4), 538-546 (2008)
24. **BELOVA, IA; BOL'SHCHIKOV, FA; VORON'KO, YK; MALOV, AV; POPOV, AV;
RYABOCHKINA, PA; SOBOL, AA; USHAKOV, SN.**
INTENSITY OF THE F-F TRANSITIONS OF ND³⁺, ER³⁺, AND TM³⁺ RARE-EARTH
IONS IN CALCIUM NIOBIUM GALLIUM GARNET CRYSTALS
PHYSICS OF THE SOLID STATE 50(9), 1611-1618 (2008)
25. **VORON'KO, YK; ZHARIKOV, EV; LIS, DA; POPOV, AV; SMIRNOV, VA;
SUBBOTIN, KA.**
SPECTROSCOPY OF NALA(MOO₄)₂: TM³⁺ AND NAGD(MOO₄)₂: TM³⁺
CRYSTALS AS ADVANCED LASER MATERIALS
PHYSICS OF THE SOLID STATE 50(9), 1605-1610 (2008)
26. **RYABOCHKINA, PA; VORONKO, YK; MALOV, AV; MARYCHEV, MO; SOBOL,
AA; USHAKOV, SN; CHUPRUNOV, EV.**
THE STUDY OF SPECTROSCOPIC AND LUMINESCENCE PROPERTIES OF
DISORDERED LASER CRYSTALS CALCIUM NIOBIUM GALLIUM GARNET
DOPED WITH ER³⁺
SOLID STATE LASERS AND AMPLIFIERS III 6998, - (2008)
27. **VORONKO, YK; SOBOL, AA; SHUKSHIN, VE.**
MONOCLINIC-TETRAGONAL PHASE TRANSITION IN ZIRCONIUM AND
HAFNIUM DIOXIDES: A HIGH-TEMPERATURE RAMAN SCATTERING
INVESTIGATION
PHYSICS OF THE SOLID STATE 49(10), 1963-1968 (2007)
28. **VORON'KO, YK; MALOV, AV; NISHCHEV, KN; RYABOCHKINA, PA; SOBOL,
AA; USHAKOV, SN.**
INTENSITY PARAMETERS FOR ER³⁺ IONS IN CALCIUM-NIOBIUM-GALLIUM
GARNET CRYSTALS
OPTICS AND SPECTROSCOPY 102(5), 722-727 (2007)
29. **BOLSCHIKOV, FA; HROMOV, MN; POPOV, AV; RYABOCHKINA, PA; SOBOL,
AA; USHAKOV, SN; VORONKO, YK.**
SPECTRAL AND LASER PROPERTIES OF TM-DOPED CALCIUM-NIOBIUM-
GALLIUM GARNETS
INTERNATIONAL CONFERENCE ON LASERS, APPLICATIONS, AND
TECHNOLOGIES 2007: ADVANCED LASERS AND SYSTEMS 6731, - (2007)
30. **VORON'KO, YK; SUBBOTIN, KA; SHUKSHIN, VE; LIS, DA; USHAKOV, SN;
POPOV, A; ZHARIKOV, EV.**
GROWTH AND SPECTROSCOPIC INVESTIGATIONS OF YB³⁺-DOPED
NAGD(MOO₄)₂ AND NALA(MOO₄)₂-NEW PROMISING LASER CRYSTALS
OPTICAL MATERIALS 29(2-3), 246-252 (2006)

31. **VORONKO, YK; POPOV, AV; SOBOL, AA; USHAKOV, SN.**
 YB₃₊ ION IN CALCIUM NIOBIUM GALLIUM GARNET CRYSTALS: NEAREST
 NEIGHBOR ENVIRONMENT AND OPTICAL SPECTRA
 INORGANIC MATERIALS 42(10), 1133-1137 (2006) VORONKO, YK; POPOV, AV;
 SOBOL, AA; USHAKOV, SN.
 YB₃₊ ION IN CALCIUM NIOBIUM GALLIUM GARNET CRYSTALS: NEAREST
 NEIGHBOR ENVIRONMENT AND OPTICAL SPECTRA
 INORGANIC MATERIALS 42(10), 1133-1137 (2006)
32. **VORONKO, YK; SOBOL, AA; SHUKSHIN, VE.**
 RAMAN SPECTRA AND STRUCTURE OF SILICON-OXYGEN GROUPS IN
 CRYSTALLINE, LIQUID, AND GLASSY MG₂SIO₄
 INORGANIC MATERIALS 42(9), 981-988 (2006)
33. **VORON'KO, YK; LOMONOVA, EE; OSIKO, VV; SOBOL', AA; USHAKOV, SN;
 SHUKSHIN, VE.**
 ACTIVE LASER MEDIA BASED ON FIANITE CRYSTALS
 QUANTUM ELECTRONICS 36(7), 601-608 (2006)
34. **VORON'KO, YK; SUBBOTIN, KA; LIS, DA; POPOV, AV; SOBOL', AA;
 USHAKOV, SN; ZHARIKOV, EV.**
 SYNTHESIS AND SPECTROSCOPY OF SODIUM-GADOLINIUM TUNGSTATE
 NAGD(WO₄)₂ CRYSTALS ACTIVATED BY TM₃₊ IONS
 OPTICS AND SPECTROSCOPY 100(4), 602-608 (2006)
35. **VORON'KO, YK; GALAKTIONOV, LN; DMITRUK, LN; PETROVA, OB; POPOV,
 AV; USHAKOV, SN; SHUKSHIN, VE.**
 SPECTROSCOPIC STUDIES OF GLASSES BASED ON RARE-EARTH BORATES
 GLASS PHYSICS AND CHEMISTRY 32(1), 47-51 (2006)
36. **GALAKTIONOV, S.S.; DMITRUK, L.N.; PETROVA, O.B.; POPOV, A.V.;
 USHAKOV, S.N.; SHUKSHIN, V.E.; VORON'KO, Y.K..**
 SPECTROSCOPIC INVESTIGATION OF RARE EARTH BORATE GLASSES
 GLASS PHYS. CHEM. 32, 1 (2006)
37. **VORON'KO, YK; SOBOL', AA; SHUKSHIN, VE.**
 STRUCTURE OF VANADIUM-OXYGEN AND PHOSPHORUS-OXYGEN GROUPS IN
 MOLTEN ALKALI AND ALKALINE-EARTH VANADATES AND PHOSPHATES: A
 HIGH-TEMPERATURE RAMAN SCATTERING STUDY
 INORGANIC MATERIALS 41(10), 1097-1106 (2005)
38. **VORON'KO, YK; DZHURINSKII, BF; KOKH, AE; SOBOL', AA; SHUKSHIN, VE.**
 RAMAN SPECTROSCOPY AND STRUCTURE OF INBO₃
 INORGANIC MATERIALS 41(9), 984-989 (2005)
39. **VORON'KO, YK; LOMONOVA, EE; POPOV, AV; SOBOL', AA; USHAKOV, SN.**
 SPECTROSCOPY AND STRUCTURE OF ND₃₊ ACTIVATOR CENTERS IN
 STABILIZED CUBIC ZRO₂
 INORGANIC MATERIALS 41(8), 836-839 (2005)
40. **VORON'KO, YK; SOBOL', AA.**
 INFLUENCE OF CATIONS ON THE VIBRATIONAL SPECTRA AND STRUCTURE
 OF [WO₄] COMPLEXES IN MOLTEN TUNGSTATES
 INORGANIC MATERIALS 41(4), 420-428 (2005)
41. **BORIK, MA; LOMONOVA, EE; OSIKO, VV; PANOV, VA; PORODINKOV, OE;
 VISHNYAKOVA, MA; VORON'KO, YK; VORONOV, VV.**
 PARTIALLY STABILIZED ZIRCONIA SINGLE CRYSTALS: GROWTH FROM THE
 MELT AND INVESTIGATION OF THE PROPERTIES
 JOURNAL OF CRYSTAL GROWTH 275(1-2), E2173-E2179 (2005)
42. **VORON'KO, YK; KOCHURIKHIN, VV; SOBOL', AA; USHAKOV, SN;
 SHUKSHIN, VE.**
 GROWTH AND SPECTROSCOPIC STUDY OF YB₃₊-ACTIVATED YVO₄ CRYSTALS
 INORGANIC MATERIALS 40(10), 1083-1087 (2004)
43. **SOBOL, AA; VORONKO, YK.**
 STRESS-INDUCED CUBIC-TETRAGONAL TRANSFORMATION IN PARTIALLY

- STABILIZED ZRO₂: RAMAN SPECTROSCOPY STUDY
 JOURNAL OF PHYSICS AND CHEMISTRY OF SOLIDS 65(6), 1103-1112 (2004)
44. **VORON'KO, YK; VISHNYAKOVA, MA; LOMONOVA, EE; POPOV, AV; SOBOL, AA; USHAKOV, SN; SHUKSHIN, VE.**
 SPECTROSCOPY OF YB₃₊ IN CUBIC ZRO₂ CRYSTALS
 INORGANIC MATERIALS 40(5), 502-508 (2004)
 45. **VORON'KO, YK; ZHARIKOV, EV; LIS, DA; SOBOL, AA; SUBBOTIN, KA; USHAKOV, SN; SHUKSHIN, VE.**
 SPECTROSCOPIC INVESTIGATIONS OF NAGD(WO₄)₂ AND NALA(MOO₄)₂ SINGLE CRYSTALS, DOPED BY YB₃₊ IONS.
 LASER OPTICS 2003: SOLID STATE LASERS AND NONLINEAR FREQUENCY CONVERSION 5478, 60-68 (2004)
 46. **VORON'KO, YK; VESHNYAKOVA, MA; LOMONOVA, EE; POPOV, AV; SOBOL, AA; USHAKOV, SN; SHUKSHIN, VE.**
 SPECTROSCOPY YB(3+) IN YTTRIA-STABILIZED CUBIC ZIRCONIA CRYSTALS.
 LASER OPTICS 2003: SOLID STATE LASERS AND NONLINEAR FREQUENCY CONVERSION 5478, 69-77 (2004)
 47. **VORON'KO, YK; ZHARIKOV, EV; LIS, DA; SOBOL', AA; SUBBOTIN, KA; USHAKOV, SN; SHUKSHIN, VE; DROGE, S.**
 GROWTH AND LUMINESCENT PROPERTIES OF NAGD(WO₄)₂ : YB₃₊ CRYSTALS
 INORGANIC MATERIALS 39(12), 1308-1314 (2003)
 48. **VORONKO, YK; SOBOL, AA; KARASIK, AY; ESKOV, NA; RYABOCHKINA, PA; USHAKOV, SN.**
 CALCIUM NIOBIUM GALLIUM AND CALCIUM LITHIUM NIOBIUM GALLIUM GARNETS DOPED WITH RARE EARTH IONS - EFFECTIVE LASER MEDIA
 OPTICAL MATERIALS 20(3), 197-209 (2002)
 49. **BUZYNIN, AN; OSIKO, VV; VORONKO, YK; LOMONOVA, EE; LUK'YANOV, AE; BUZYNIN, YN; DANILTSEV, VM; DROZDOV, YN; KHRYKIN, OI; MUREL, AV.**
 EPITAXIAL STRUCTURES OF A(III)B(V) MATERIALS ON FIANITE
 IZVESTIYA AKADEMII NAUK SERIYA FIZICHESKAYA 66(9), 1345-1350 (2002)
 50. **VORON'KO, YK; SOBOL', AA; USHAKOV, SN; JIANG, GC; YOU, JL.**
 PHASE TRANSFORMATIONS AND MELT STRUCTURE OF CALCIUM METASILICATE
 INORGANIC MATERIALS 38(8), 825-830 (2002)
 51. **VORON'KO, YK; SOBOL', AA; USHAKOV, SN; SHUKSHIN, VE.**
 SPECTROSCOPY OF DISORDERED LASER CRYSTALS
 INORGANIC MATERIALS 38(4), 390-396 (2002)
 52. **VORONKO, YK; SOBOL, AA; USHAKOV, SN; SHUKSHIN, VE.**
 SPECTROSCOPY AND LASER ACTION OF THE DISORDERED CALCIUM-NIOBIUM AND CALCIUM-LITHIUM-NIOBIUM-GALLIUM GARNETS DOPED WITH RARE EARTH IONS
 XI FEOFILOV SYMPOSIUM ON SPECTROSCOPY OF CRYSTALS ACTIVATED BY RARE-EARTH AND TRANSITION METAL IONS 4766, 127-132 (2002)
 53. **VORON'KO, YK; ES'KOV, NA; PODSTAVKIN, AS; RYABOCHKINA, PA; SOBOL', AA; USHAKOV, SN.**
 CALCIUM-NIOBIUM-GALLIUM AND CALCIUM-LITHIUM-NIOBIUM-GALLIUM GARNET CRYSTALS AS ACTIVE MEDIA FOR DIODE-PUMPED LASERS
 QUANTUM ELECTRONICS 31(6), 531-533 (2001)
 54. **BASIEV, TT; SOBOL, AA; VORONKO, YK; ZVEREV, PG.**
 SPONTANEOUS RAMAN SPECTROSCOPY OF TUNGSTATE AND MOLYBDATE CRYSTALS FOR RAMAN LASERS
 OPTICAL MATERIALS 15(3), 205-216 (2000)
 55. **VORON'KO, YK; SOBOL', AA; USHAKOV, SN; TSYMBAL, LI.**
 RAMAN SPECTRA AND PHASE TRANSFORMATIONS OF THE MLN(WO₄)₂ (M =

- NA, K; LN = LA, GD, Y, YB) TUNGSTATES
INORGANIC MATERIALS 36(9), 947-953 (2000)
56. **VORON'KO, YK; SOBOL', AA; TSYMBAL, LI.**
PHASE TRANSFORMATIONS AND STRUCTURE OF GAMMA-PHASES OF HFO₂-
BASED SOLID SOLUTIONS
INORGANIC MATERIALS 34(11), 1098-1104 (1998)
57. **VORON'KO, YK; SOBOL, AA; TSYMBAL, LI.**
CUBIC-TO-TETRAGONAL PHASE TRANSITIONS IN ZRO₂-LN(2)O(3) AND HFO₂-
LN(2)O(3) SOLID SOLUTIONS
INORGANIC MATERIALS 34(4), 350-356 (1998)
58. **VORONKO, YK; ZUFAROV, MA; SOBOL, AA; USHAKOV, SN; TSYMBAL, LI.**
SPECTROSCOPY AND STRUCTURE OF EU³⁺ CENTERS IN PARTIALLY
STABILIZED ZIRCONIA AND HAFNIA
INORGANIC MATERIALS 33(4), 379-389 (1997)
59. **VORONKO, YK; ZUFAROV, MA; SOBOL, AA; TSYMBAL, LI.**
POLARIZED LUMINESCENCE OF ANISOTROPIC CENTERS OF EU³⁺ IN CUBIC
CRYSTALS OF ZRO₂-EU₂O₃ SOLID SOLUTIONS AND CAF₂
OPTIKA I SPEKTROSKOPIYA 81(5), 814-822 (1996)
60. **VORONKO, YK; ZUFAROV, MA; SOBOL, AA; TSYMBAL, LI.**
SITE-SELECTIVE SPECTROSCOPY AND NEAREST NEIGHBOR ENVIRONMENT
OF EU³⁺ IN MONOCLINIC ZRO₂-LN(2)O(3) AND HFO₂-LN(2)O(3) SOLID
SOLUTIONS
INORGANIC MATERIALS 32(10), 1063-1068 (1996)
61. **VORONKO, YK; GESSEN, SB; ESKOV, NA; OKHRIMCHUK, AG; SMOLIN, DV;
SOBOL, AA; USHAKOV, SN; TZYMBAL, LI; SHESTAKOV, AV.**
CONTINUOUS LASING AT THE WAVELENGTH OF 2 μm IN CALCIUM
NIOBIUM GALLIUM GARNET CRYSTALS AT ROOM TEMPERATURE.
KVANTOVAYA ELEKTRONIKA 23(3), 229-230 (1996)
62. **VORONKO, YK; BATYGOV, SK; MARGIANI, NG; KIRYUKHIN, AA; RYSKIN,
NN.**
LA³⁺ AND LU³⁺ ISOELECTRONIC CENTERS IN YAG
INORGANIC MATERIALS 32(2), 186-190 (1996)
63. **POLUKHIN, VP; VORONKO, YK; ANIKEEV, EF; NIKOLAEV, VA; LOMONOVA,
EE.**
USE OF SUPERHARD NONMETALLIC MATERIALS FOR MAKING MACHINE
PARTS AND TOOLS
METALLURGIST 39(11-12), 222-223 (1995)
64. **VORONKO, YK; GORBACHEV, AV; SOBOL, AA.**
RAMAN LIGHT SCATTERING AND THE STRUCTURE OF CUBIC SOLID
SOLUTIONS BASED ON ZIRCONIUM AND HAFNIUM DIOXIDES
FIZIKA TVERDOGO TELA 37(7), 1939-1952 (1995)
65. **VORONKO, YK; SOBOL, AA; USHAKOV, SN; TSYMBAL, LI.**
FORMATION OF A TETRAGONAL STRUCTURE IN PARTIALLY-STABILIZED
ZIRCONIA
INORGANIC MATERIALS 30(6), 747-752 (1994)
66. **VORONKO, YK; GORBACHEV, AV; SOBOL, AA; TSYMBAL, LI.**
RAMAN-SPECTRA AND THE STRUCTURE OF BORON OXYGEN GROUPS IN
CRYSTALS AND MELTS OF BARIUM METABORATE
INORGANIC MATERIALS 30(5), 603-609 (1994)
67. **VORONKO, YK; OSIKO, AV; OSIKO, VV; SOBOL, AA; USHAKOV, SN;
TSYMBAL, LI.**
MOBILITY OF INTERSTITIAL FLUORINE BOUND TO TR³⁺ ION ACTIVATOR
CENTERS IN THE FLUORITE STRUCTURE
FIZIKA TVERDOGO TELA 36(3), 748-753 (1994)
68. **VORONKO, YK; ESKOV, NA; KOROLEV, SV; SOBOL, AA; USHAKOV, SN.**
LUMINESCENCE OF EU³⁺ ACTIVATOR CENTERS IN CALCIUM-NIOBIUM-

- GALLIUM GARNET CRYSTALS
INORGANIC MATERIALS 30(1), 100-104 (1994)
69. **VORON'KO, YU.K.; OSIKO, A.V.; OSIKO, V.V.; SOBOL', A.A.; USHAKOV, S.N.; TSYMBAL, L.I.**
MOBILITY OF INTERSTITIAL FLUORINE BOUND IN ACTIVATOR CENTERS OF TR³⁺ IONS IN THE FLUORITE STRUCTURE
PHYSICS OF THE SOLID STATE 36(3), 410 (1994)
70. **VORONKO, YK; GORBACHEV, AV; OSIKO, VV; SOBOL, AA; FEIGELSON, RS; ROUTE, RK.**
STUDY OF THE BORON OXYGEN UNITS IN CRYSTALLINE AND MOLTEN BARIUM METABORATE BY HIGH-TEMPERATURE RAMAN-SPECTROSCOPY
JOURNAL OF PHYSICS AND CHEMISTRY OF SOLIDS 54(11), 1579-1585 (1993)
71. **VORON'KO, YU.K.; GESSEN, S.B.; ES'KOV, N.A.; KIRYUKHIN, A.A.; RYABOCHKINA, P.A.; SOBOL, A.A.; TATARINTSEV, V.M.; USHAKOV, S.N.; TSYMBAL, L.I.**
INTERACTION OF TM³⁺ IONS IN CALCIUM-NIOBIUM-GALLIUM AND YTTRIUM-ALUMINUM GARNET LASER CRYSTALS
QUANTUM ELECTRONICS 23(11), 958 (1993)
72. **VORONKO, YK; ESKOV, NA; OSIKO, VV; COBOL, AA; SYCHEV, SA; USHAKOV, SN; TSYMBAL, LI.**
STUDY OF LASING PROPERTIES OF CALCIUM-NIOBIUM-GALLIUM AND CALCIUM-LITHIUM-NIOBIUM GARNETS DOPED WITH NEODIMIUM AT 1.06 AND 1.33 MU-M WAVE-LENGTHES
KVANTOVAYA ELEKTRONIKA 20(6), 574-576 (1993)
73. **VORONKO, YK; GESSEN, SB; ESKOV, NA; RYABOCHKINA, PA; SOBOL, AA; USHAKOV, SN; TSYMBAL, LI.**
LASING AND SPECTROSCOPIC PROPERTIES OF CALCIUM-NIOBIUM-GALLIUM GARNET DOPED WITH TM³⁺
KVANTOVAYA ELEKTRONIKA 20(4), 363-365 (1993)
74. **VORON'KO, YU. K.; ES'KOV, N. A.; OSIKO, V. V.; SOBOL, A. A.; SYCHEV, S. A.; USHAKOV, S. N.; TSYMBAL, L. I.**
LASING PROPERTIES OF NEODYMIUM-DOPED CALCIUM-NIOBIUM-GALLIUM AND CALCIUM-LITHIUM-NIOBIUM-GALLIUM GARNETS AT WAVELENGTHS OF 1.06 AND 1.33 MM
QUANTUM ELECTRON. 20(6), 494 (1993)
75. **VORONKO, YK; GORBACHEV, AV; KUDRYAVTSEV, AB; SOBOL, AA.**
STUDY OF THE MELT STRUCTURE OF ALKALI-METAL BORATES WITH A HIGH BASIC OXIDE CONTENT USING HIGH-TEMPERATURE RAMAN-SCATTERING
INORGANIC MATERIALS 28(8), 1361-1367 (1992)
76. **VORONKO, YK; GORBACHEV, AV; KUDRYAVTSEV, AB; SOBOL, AA.**
RAMAN-SCATTERING STUDY OF THE STRUCTURE OF ALKALI-METAL BORATE MELTS RICH IN B₂O₃
INORGANIC MATERIALS 28(8), 1368-1372 (1992)
77. **VORONKO, YK; GORBACHEV, AV; KUDRYAVTSEV, AB; OSIKO, VV; SOBOL, AA.**
RAMAN-SCATTERING STUDY OF THE MELT STRUCTURE AND CRYSTALLIZATION PROCESSES IN CESIUM AND BARIUM METABORATE
INORGANIC MATERIALS 28(8), 1373-1378 (1992)
78. **VORONKO, YK; IVLEVA, LI; KUDRYAVTSEV, AB; OSIKO, VV; SOBOL, AA.**
RAMAN-SCATTERING SPECTRUM OF CRYSTALLINE ALPHA-BAB₂O₄
INORGANIC MATERIALS 28(8), 1357-1360 (1992)
79. **VORONKO, YK; GESSEN, SB; ESKOV, NA; ZVEREV, AA; RYABOCHKINA, PA; SOBOL, AA; USHAKOV, SN; TSYMBAL, LI.**
SPECTROSCOPIC AND LASING PROPERTIES OF CALCIUM NIOBIUM GALLIUM GARNET ACTIVATED WITH TM³⁺ AND CR³⁺ IONS
KVANTOVAYA ELEKTRONIKA 19(7), 631-633 (1992)

80. **ALEKSANDROV, VI; BASSIYEV, TT; VESELAGO, VG; VORONKO, YK; DENKER, BI; DIANOV, EM; ZHARIKOV, EV; PASHININ, PP; PROKHOROV, AM; SHCHERBAKOV, IA.**
OSIKO, VYACHESLAV, VASSILYEVICH (ON HIS 60TH BIRTHDAY)
USPEKHI FIZICHESKIKH NAUK 162(4), 165-167 (1992)
81. **VORONKO, YK; GORBACHEV, AV; SOBOL, AA.**
STRUCTURE OF CHAIN PHOSPHATE ANIONS IN CRYSTALS, GLASSES, AND
MELTS OF ALKALI-METAL POLYPHOSPHATES ACCORDING TO RAMAN-
SPECTROSCOPIC DATA
INORGANIC MATERIALS 28(3), 437-441 (1992)
82. **VORONKO, YK; GORBACHEV, AV; ZVEREV, AA; SOBOL, AA; MOROZOV, NN; MURAVEV, EN; NIYAZOV, SA; ORLOVSKII, VP.**
RAMAN-SCATTERING AND LUMINESCENCE SPECTRA OF COMPOUNDS WITH
THE STRUCTURE OF APATITE $Ca_5(PO_4)_3F$ AND $Ca_5(PO_4)_3OH$ ACTIVATED
WITH Eu^{3+} IONS
INORGANIC MATERIALS 28(3), 442-447 (1992)
83. **VORON'KO, YU.K.; GESSEN, S.B.; ES'KOV, N.A.; ZVEREV, A.A.; RYABOCHKINA, P.A.; SOBOL', A.A.; USHAKOV, S.N.; TSYMBAL, L.I.**
SPECTROSCOPIC AND LASING PROPERTIES OF CALCIUM NIOBIUM GALLIUM
GARNET ACTIVATED WITH Tm^{3+} AND Cr^{3+} IONS
SOVIET JOURNAL OF QUANTUM ELECTRONICS 22(7), 581 (1992)
84. **BASIEV, TT; VORONKO, YK; ESKOV, NA; KARASIK, AY; OSIKO, VV; SOBOL, AA; USHAKOV, SN; FEDOROV, VV; HELBIG, M.**
CALCIUM-NIOBIUM-GALLIUM GARNETS WITH ND - A NEW ACTIVE MEDIUM
FOR LASERS WITH ULTRASHORT PULSE DURATION
ICONO - SOLID STATE LASERS AND NEW LASER MATERIALS 1839, 91-103 (1992)
85. **VORON'KO, YU.K.; GORBACHEV, A.V.; KUDRYAVTSEV, A.B.; SOBOL, A.A..**
STRUCTURE OF MOLTEN B_2O_3 -RICH ALKALIMETAL BORATES STUDIED BY
RAMAN SPECTROSCOPY
NEORG. MATER. 28(8), 1707 (1992)
86. **VORONKO, YK; ESKOV, NA; ERSHOVA, LM; SOBOL, AA; USHAKOV, SN.**
POLARIZED LUMINESCENCE OF Eu^{3+} IONS IN CRYSTALS OF GARNET
STRUCTURE
OPTIKA I SPEKTROSKOPIYA 70(5), 1038-1045 (1991)
87. **VORONKO, YK; MAKSIMOVA, GV; SOBOL, AA.**
ANISOTROPIC CENTERS OF Tr^{3+} -ION LUMINESCENCE IN FLUOROAPATITE
CRYSTALS
OPTIKA I SPEKTROSKOPIYA 70(2), 346-351 (1991)
88. **VORON'KO, YU.K.; KUDRYAVTSEV, A.B.; OSIKO, V.V.; SOROKIN, E.V..**
INVESTIGATION OF THE STRUCTURE OF A MELT AND MOLECULAR
DYNAMICS OF ORTHO- AND PYROPHOSPHATES BY RAMAN SPECTROSCOPY
JOURNAL OF APPLIED SPECTROSCOPY 55(4), 953 (1991)
89. **BATYGOV, SK; VORONKO, YK; MARGIANI, NG; RYSKIN, NN.**
LUMINESCENCE OF Nd^{3+} IONS IN GARNETS UNDER HIGH-ENERGY
EXCITATION
OSA PROCEEDINGS ON ADVANCED SOLID-STATE LASERS / 10, 368-370 (1991)
90. **BATYGOV, S.K.; VORON'KO, Y.K.; MARGIANI, N.G.; RYSKIN, N.N.; DUBE, G.; CHASE, L.**
LUMINESCENCE OF Nd^{3+} IONS IN GARNETS UNDER HIGH-ENERGY
EXCITATION
ADVANCED SOLID STATE LASERS , MT6 (1991)
91. **VORONKO, YU.K.; KUDRYAVTSEV, A. B.; SOBOL, A.A.; SOROKIN, E. V..**
HIGH-TEMPERATURE RAMAN SPECTROSCOPY AS AN EFFECTIVE PROBE OF
PHASE TRANSFORMATIONS IN LASER CRYSTALS
BULL. GPI RAS 29, 50 (1991)

92. **VORONKO, YU.K.; MAKSIMOVA, G.V.; SOBOL, A.A.**
ANISOTROPIC LUMINESCENCE CENTERS OF TR³⁺ IONS IN FLUOROAPATITE CRYSTALS
OPTICS AND SPECTROSCOPY 70(2), 203 (1991)
93. **VORONKO, YK; GESSEN, SB; ESKOV, NA; OSIKO, VV; RYABOCHKINA, PA; SOBOL, AA; USHAKOV, SN; TSYMBAL, LI.**
CALCIUM-LITHIUM NIOBIUM GALLIUM GARNET CRYSTALS DOPED WITH CR-3+, TM-3+, HO-3+ AS A NEW MEDIUM FOR 2-MICRON LASERS
KVANTOVAYA ELEKTRONIKA 17(10), 1282-1283 (1990)
94. **VORONKO, YK; GESSEN, SB; GRIBKOV, IV; OSIKO, VV; RYABOCHKINA, PA; TATARINTSEV, VM; USHAKOV, SN; TSYMBAL, LI.**
SENSITIZING OF THE LUMINESCENCE FROM ER-3+ IN (YER)3AL5O12-CR-3+ CRYSTALS AND THE LASER ACTION AT THE WAVELENGTH OF 2.7 MU-M
KVANTOVAYA ELEKTRONIKA 17(8), 1007-1009 (1990)
95. **ALEKSANDROV, VI; VISHNYAKOVA, MA; VOITSITSKII, VP; VORONKO, YK; LOMONOVA, EE; MYZINA, VA; OSIKO, VV; SOBOL, AA; USHAKOV, SN; TSYMBAL, LI.**
SPECTROSCOPIC PROPERTIES OF SINGLE-CRYSTALS OF ZRO2-Y2O3 SOLID-SOLUTIONS ACTIVATED BY CHROMIUM AND NEODYMIUM
INORGANIC MATERIALS 26(6), 1061-1065 (1990)
96. **VORONKO, YK; GESSEN, SB; ESKOV, NA; OSIKO, AA; SOBOL, AA; USHAKOV, SN; TSYMBAL, LI.**
CALCIUM-LITHIUM-NIOBIUM-GALLIUM GARNET CRYSTALS DOPED WITH ER-3+ AND CR-3+ AS A NEW MEDIUM FOR 3-MICRON LASERS
KVANTOVAYA ELEKTRONIKA 17(6), 721-722 (1990)
97. **VORONKO, YK; GESSEN, SB; ESKOV, NA; SOBOL, AA; USHAKOV, SN; TSYMBAL, LI.**
EFFECTIVE LASER MEDIA UTILIZING CALCIUM-NIOBIUM-GALLIUM GARNETS DOPED WITH ND-3+
KVANTOVAYA ELEKTRONIKA 17(3), 307-310 (1990)
98. **VORON'KO, YU.K.; GESSEN, S.B.; GRIBKOV, I.V.; OSIKO, V.V.; RYABOCHKINA, P.A.; TATARINTSEV, V.M.; USHAKOV, S.N.; TSYMBAL, L.I.**
SENSITIZATION OF THE ER³⁺ LUMINESCENCE IN (YER)3AL5O12CR³⁺ CRYSTALS AND LASING AT THE 2.7 MUM WAVELENGTH
SOVIET JOURNAL OF QUANTUM ELECTRONICS 20(8), 923 (1990)
99. **VORON'KO, YU.K.; GESSEN, S.B.; ES'KOV, N.A.; SOBOL', A.A.; USHAKOV, S.N.; TYSMBAL, L.I.**
EFFICIENT ACTIVE MEDIA BASED ON ND³⁺-ACTIVATED CALCIUM NIOBIUM GALLIUM GARNETS
SOVIET JOURNAL OF QUANTUM ELECTRONICS 20(3), 246 (1990)
100. **VORON'KO, YU.K.; GESSEN, S.B.; ES'KOV, N.A.; OSIKO, V.V.; SOBOL', A.A.; USHAKOV, S.N.; TSYMBAL, L.I.**
CALCIUM LITHIUM NIOBIUM GALLIUM GARNET CRYSTALS ACTIVATED WITH ER³⁺ AND CR³⁺ AS A NEW ACTIVE MEDIUM FOR 3-MUM LASERS
SOVIET JOURNAL OF QUANTUM ELECTRONICS 20(6), 643 (1990)
101. **VORON'KO, YU.K.; GESSEN, S.B.; ES'KOV, N.A.; OSIKO, V.V.; RYABOCHKINA, P.A.; SOBOL', A.A.; USHAKOV, S.N.; TSYMBAL, L.I.**
CALCIUM LITHIUM NIOBIUM GALLIUM GARNET CRYSTALS ACTIVATED WITH CR³⁺, TM³⁺, AND HO³⁺ IONS AS A NEW ACTIVE MEDIUM FOR LAMBDAAP₂ MUM LASERS
SOVIET JOURNAL OF QUANTUM ELECTRONICS 20(10), 1189 (1990)
102. **BATYGOV, SK; VORONKO, YK; KIRYUKHIN, AA; MARGIANI, NG; MELIKHOV, DI; OSIKO, VV; RYSKIN, NN; TATARINTSEV, VM.**
X-RAY EXCITED LUMINESCENCE OF YTTRIUM SCANDIUM-ALUMINUM GARNET
OPTIKA I SPEKTROSKOPIYA 67(4), 839-844 (1989)

103. **VORONKO, YK; DYAKOV, VA; KUDRYAVTSEV, AB; OSIKO, VV; SOBOL, AA; SOROKIN, EV.**
RAMAN-STUDY OF PHASE-TRANSITIONS IN KTIPOPO4
FIZIKA TVERDOGO TELA 31(10), 150-156 (1989)
104. **BATYGOV, SK; VORONKO, YK; MARGIANI, NG; OSIKO, VV; RYSKIN, NN; STRELOV, VI; TIMOSHECHKIN, MI.**
X-RAY LUMINESCENCE OF YTTRIUM-GALLIUM GARNET
OPTIKA I SPEKTROSKOPIYA 67(3), 614-618 (1989)
105. **VORONKO, YK; GESSEN, SB; GRIBKOV, IV; KIRYUKHIN, AA; LAVRISHCHEV, SV; MELIKHOV, DI; OSIKO, VV; SOBOL, AA; TATARINTSEV, VM; USHAKOV, SN; TSYMBAL, LI.**
A 3 MICRON LASER UTILIZING GADOLINIUM-ERBIUM-SCANDIUM-ALUMINUM GARNET CRYSTALS COACTIVATED BY CR3+
KVANTOVAYA ELEKTRONIKA 16(9), 1785-1786 (1989)
106. **ALEKSANDROV, VI; VISHNYAKOVA, MA; VOITSITSKY, VP; VORONKO, YK; DANILOV, AA; LOMONOVA, EE; MYZINA, VA; USHAKOV, SN; TSVETKOV, VB; TSYMBAL, LI.**
SPECTROSCOPY OF TITANIUM IN ZIRCONIUM DIOXIDE CRYSTALS STABILIZED BY YTTRIUM
OPTIKA I SPEKTROSKOPIYA 66(4), 935-937 (1989)
107. **VORON'KO, YU.K.; GESSEN, S.B.; GRIBKOV, I.V.; KIRYUKHIN, A.A.; LAVRISHCHEV, S.V.; MELIKHOV, D.I.; OSIKO, V.V.; SOBOL', A.A.; TATARINTSEV, V.M.; USHAKOV, S.N.; TSYMBAL, L.I.**
LASER UTILIZING ERBIUM-ACTIVATED GADOLINIUM ALUMINUM SCANDIUM GARNET CRYSTALS COACTIVATED WITH CR3+ AND EMITTING IN THE THREE-MICRON WAVELENGTH REGION
SOVIET JOURNAL OF QUANTUM ELECTRONICS 19(9), 1147 (1989)
108. **VORON'KO, YU.K.; D'YAKOV, V.A.; KUDRYAVTSEV, A.B.; OSIKO, V.V.; SOBOL, A.A.; SOROKIN, E.V..**
RAMAN SCATTERING STUDY OF PHASE TRANSFORMATIONS IN KTIPOPO4
SOVIET PHYSICS - SOLID STATE 31(10), 1736 (1989)
109. **VORONKO, YK; GESSEN, SB; ESKOV, NA; OSIKO, VV; SOBOL, AA; TSYMBAL, LI.**
THERMODYNAMICS OF OPTICAL ND-3+-ION CENTERS IN CALCIUM GALLIUM GERMANIUM GARNET CRYSTALS
INORGANIC MATERIALS 24(5), 685-690 (1988)
110. **VORONKO, YK; ERSHOVA, LM; ESKOV, NA; KUDRYAVTSEV, AB; OSIKO, VV; SOBOL, AA; SOROKIN, EV.**
RAMAN-SCATTERING IN GARNET SOLID-SOLUTIONS
FIZIKA TVERDOGO TELA 30(2), 512-519 (1988)
111. **VORONKO, YK; GESSEN, SB; ESKOV, NA; OSIKO, VV; SOBOL, AA; TIMOSHECHKIN, MI; USHAKOV, SN; TSYMBAL, LI.**
SPECTROSCOPIC AND LASING PROPERTIES OF CALCIUM-NIOBIUM-GALLIUM GARNET DOPED WITH CR-3+ AND ND-3+
KVANTOVAYA ELEKTRONIKA 15(2), 312-317 (1988)
112. **VORON'KO, YU.K.; ERSHOVA, L.M.; ES'KOV, N.A.; KUDRYAVTSEV, A.B.; OSIKO, V.V.; SOBOL', A.A.; SOROKIN, E.V..**
RAMAN SCATTERING OF LIGHT IN SOLID SOLUTIONS HAVING THE GARNET STRUCTURE
SOVIET PHYSICS - SOLID STATE 30(2), 291 (1988)
113. **VORON'KO, YU.K.; KUDRYAVTSEV, A.B.; OSIKO, V.V.; SOBOL', A.A.; SOROKIN, E.V.; SPIRIDINOV, F.M..**
RAMAN-SCATTERING STUDIES OF THE CRYSTALLIZATION OF SUPERHEATED MELTS IN THE SM2O3-GA2O3 SYSTEM
SOVIET PHYSICS - DOKLADY 33(1), 61 (1988)

114. **VORON'KO, YU.K.; KUDRYAVTSEV, A.B.; OSIKO, V.V.; SOBOL, A.A.**
HIGH-TEMPERATURE RAMAN SCATTERING STUDIES OF MELT STRUCTURE
AND CRYSTALLIZATION PROCESSES
ROST KRIST. 16, 178 (1988)
115. **ALEKSANDROV, VI; BATYGOV, SK; VISHNYAKOVA, MA; VORONKO, YK;
LOMONOVA, EE; MYZINA, VA; OSIKO, VV.**
CO-2+-REVERSIBLE-CO-3+ TRANSITIONS IN ZRO2-Y2O3 CRYSTALS UNDER
VACUUM AND AIR ANNEALING
FIZIKA TVERDOGO TELA 29(11), 3511-3513 (1987)
116. **VORONKO, YK; ZUFAROV, MA; OSIKO, VV; SOBOL, AA.**
NEW ASPECTS OF PHASE FORMATION IN THE SYSTEMS HFO2-LN2O3
INORGANIC MATERIALS 23(6), 854-859 (1987)
117. **VORONKO, YK; KUDRYAVTSEV, AB; OSIKO, VV; SOBOL, AA; SOROKIN, EV.**
RAMAN-SCATTERING STUDY OF PHASE-TRANSITIONS IN LITHIUM-NIOBATE
AND TANTALLATE
FIZIKA TVERDOGO TELA 29(5), 1348-1355 (1987)
118. **BANISHEV, AF; VINOGRADOVA, NV; VORONKO, YK; SOBOL, AA;
CHUDINOVA, NN.**
INVESTIGATION OF THE THERMAL TRANSFORMATIONS IN THE DOUBLE
PHOSPHATES OF RARE-EARTH ELEMENTS AND ALKALI-METALS MILN(PO3)4
BY RAMAN-SPECTROSCOPY
INORGANIC MATERIALS 23(2), 254-259 (1987)
119. **VORONKO, YU. K.; KUDRJAVCEV, A.B.; OSIKO, V.V.; SOBOL, A.A.; SOROKIN,
E.V..**
THE RAMAN SPECTRA OF MELTS LI2O-NB2O5
PROCEEDINGS OF FIAI 2, 34 (1987)
120. **VORON'KO, YU.K.; KUDRYAVTSEV, A.B.; OSIKO, V.V.; SOBOL', A.A.;
SOROKIN, E.V..**
RAMAN SCATTERING STUDY OF PHASE TRANSITIONS IN LITHIUM NIOBATE
AND TANTALATE
SOVIET PHYSICS - SOLID STATE 29(5), 771 (1987)
121. **VORONKO, YU.K.; KUDRJAVTSEV, A. B.; OSIKO, V. V.; SOBOL, A.A.;
SOROKIN, E. V..**
RAMAN SPECTROSCOPY STUDY OF LI2O-NB2O5MELTS
BULLETIN OF THE LEBEDEV PHYSICS INSTITUTE (2), 34 (1987)
122. **BASIEV, TT; VAKHIDOV, FA; VORONKO, YK; MIROV, SB.**
A TUNABLE LONG-LIFE LASER UTILIZING LIF (F2) CRYSTALS
KVANTOVAYA ELEKTRONIKA 13(2), 422-425 (1986)
123. **BALAGINA, GM; BANISHEV, AF; VORONKO, YK; OSIKO, VV; SOBOL, AA;
CHUDINOVA, NN.**
STUDY OF PHASE-TRANSITIONS IN A SERIES OF POLYPHOSPHATES OF RARE-
EARTH-METALS LN(PO3)3 BY THE METHOD OF RAMAN-SCATTERING OF
LIGHT
INORGANIC MATERIALS 21(5), 618-625 (1985)
124. **ALEKSANDROV, VI; BATYGOV, SK; VISHNYAKOVA, MA; VORONKO, YK;
KALABUKHOVA, VF; LAVRISHCHEV, SV; LOMONOVA, EE; MYZINA, VA;
OSIKO, VV.**
COMPOSITION AND THERMAL TREATING EFFECT ON CHARGE STATES OF
INTRINSIC AND IMPURITY DEFECTS IN ZRO2-Y2O3 SOLID-SOLUTIONS
FIZIKA TVERDOGO TELA 26(5), 1313-1318 (1984)
125. **ALEKSANDROV, VI; VISHNYAKOVA, MA; VORONKO, YK; KALABUKHOVA,
VF; LOMONOVA, EE; MYZINA, VA; OSIKO, VV.**
GROWING OF SRTIO3 SINGLE-CRYSTALS BY CZOCHRALSKI METHOD FROM A
COLD CONTAINER
INORGANIC MATERIALS 19(1), 88-91 (1983)

126. **ALEKSANDROV, VI; BATYGOV, SK; VISHNYAKOVA, MA; VORONKO, YK; KALABUKHOVA, VF; LOMONOVA, EE; OSIKO, VV.**
OPTICAL-PROPERTIES OF STRONTIUM-TITANATE CRYSTALS GROWN BY THE CZOCHRALSKI METHOD FROM A COLD CONTAINER
INORGANIC MATERIALS 19(2), 238-242 (1983)
127. **AVANESOV, AG; BASIEV, TT; VORONKO, YK; DENKER, BI; MAKSIMOVA, GV; MYZINA, VA; OSIKO, VV; FYODOROV, VS.**
INVESTIGATION OF THE SPATIAL-DISTRIBUTION OF IMPURITIES IN SOLIDS BY KINETIC LUMINESCENT SPECTROSCOPY
ZHURNAL EKSPERIMENTALNOI I TEORETICHESKOI FIZIKI 84(3), 1028-1042 (1983)
128. **VORONKO, YK; KABACHENKO, VY; KRYSANOVA, LI; OSIKO, VV; SOBOL, AA; TOMOSHECHKIN, MI.**
SPECTROSCOPY OF ND-3+ ACTIVATOR CENTERS IN CALCIUM-GALLIUM-GERMANIUM GARNET SINGLE-CRYSTALS
INORGANIC MATERIALS 19(6), 863-868 (1983)
129. **ASHUROV, MK; VORONKO, YK; OSIKO, VV; SOBOL, AA.**
REVERSIBLE NONRADIATIVE ENERGY-TRANSFER IN A SYSTEM OF STRONGLY INTERACTING PARTICLES
ZHURNAL EKSPERIMENTALNOI I TEORETICHESKOI FIZIKI 83(3), 922-932 (1982)
130. **BANISHEV, AF; VORONKO, YK; KUDRYAVSTEV, AB; OSIKO, VV; SOBOL, AA.**
HIGH-TEMPERATURE INVESTIGATIONS OF RAMAN-SPECTRA OF CALCIUM TUNGSTATE IN CRYSTALLINE AND MELTED STATES
KRISTALLOGRAFIYA 27(3), 618-620 (1982)
131. **BASIEV, TT; VORONKO, YK; MIROV, SB; OSIKO, VV; PROKHOROV, AM.**
SOLID-STATE RETUNABLE LASERS ON COLORING CENTERS IN ION CRYSTALS
IZVESTIYA AKADEMII NAUK SSSR SERIYA FIZICHESKAYA 46(8), 1600-1610 (1982)
132. **BASIEV, TT; VORONKO, YK; MIROV, SB; OSIKO, VV; PROKHOROV, AM.**
EFFICIENT PASSIVE Q-SWITCHES OF NEODYMIUM LASERS UTILIZING LIF-F-2-CRYSTALS
KVANTOVAYA ELEKTRONIKA 9(4), 837-839 (1982)
133. **BASIEV, TT; VORONKO, YK; MIROV, SB; OSIKO, VV; PROKHOROV, AM; SOSKIN, MS; TARANENKO, VB.**
EFFICIENT TUNABLE LASERS UTILIZING LIF-F2- CRYSTALS
KVANTOVAYA ELEKTRONIKA 9(8), 1741-1743 (1982)
134. **VORONKO, YK; OSIKO, VV; SHCHERBAKOV, IA.**
LUMINESCENCE OF LASER CRYSTALS
IZVESTIYA AKADEMII NAUK SSSR SERIYA FIZICHESKAYA 46(5), 970-978 (1982)
135. **ALIMOV, OK; BASIEV, TT; VORONKO, YK.**
PHONON DISTRIBUTION FUNCTION STUDY IN STRUCTURE-DISORDERED SOLIDS BY MONOCHROMATIC EXCITATION OF LUMINESCENCE
FIZIKA TVERDOGO TELA 24(10), 3004-3007 (1982)
136. **AVANESOV, AG; VORONKO, YK; DENKER, BI; MAKSIMOVA, GV; OSIKO, VV; PIRUMOV, SS; SHCHERBAKOV, IA.**
AN INVESTIGATION OF MECHANISMS OF INTERACTION BETWEEN CHROMIUM AND NEODYMIUM IONS IN PHOSPHATE-GLASSES
KVANTOVAYA ELEKTRONIKA 8(7), 1442-1450 (1981)
137. **AVANESOV, AG; BASIEV, TT; VORONKO, YK; DENKER, BI; MAKSIMOVA, GV; OSIKO, VV; FYODOROV, VS.**
SELECTIVE LASER EXCITATION STUDY OF ELECTRON-PHONON INTERACTION OF SM3+ IONS IN GLASS
OPTIKA I SPEKTROSKOPIYA 51(1), 148-153 (1981)
138. **BASIEV, TT; VORONKO, YK; KIRPICHENKOVA, EO; MIROV, SB; OSIKO, VV; SOSKIN, MS; TARANENKO, VB.**
A TUNABLE LASER UTILIZING LIF-F2(+) COLOR-CENTERS WITH A

- HOLOGRAPHIC SELECTOR
KVANTOVAYA ELEKTRONIKA 8(2), 419-421 (1981)
139. **VORONKO, YU.K.; ZUFAROV, M.A.; IGNATEV, B.V.; OSIKO, V.V.; LOMONOVA, E.E.; SOBOL, A.A.**
RAMAN SCATTERING IN ZRO₂-GD₂O₃ AND ZRO₂-EU₂O₃ SINGLE CRYSTALS OF TETRAGONAL STRUCTURE
OPTICS AND SPECTROSCOPY 51(4), 315 (1981)
140. **VORONKO, YK; ZUFAROV, MA; IGNATEV, BV; OSIKO, VV; LOMONOVA, EE; SOBOL, AA.**
RAMAN LIGHT-SCATTERING IN ZRO₂-GD₂O₃ AND ZRO₂-EU₂O₃ SINGLE-CRYSTALS OF TETRAGONAL STRUCTURE
OPTIKA I SPEKTROSKOPIYA 51(4), 569-571 (1981)
141. **VORONKO, YK; IGNATEV, BV; LOMONOVA, EE; OSIKO, VV; SOBOL, AA.**
RAMAN-SCATTERING STUDY OF HIGH-TEMPERATURE PHASE-TRANSITIONS IN ZRO₂ AND HFO₂ SOLID-SOLUTIONS
FIZIKA TVERDOGO TELA 22(4), 1034-1038 (1980)
142. **ALIMOV, OK; BASIEV, TT; VORONKO, YK.**
A STUDY INTO FINE-STRUCTURE OF INHOMOGENEOUSLY BROADENED ABSORPTION-BANDS OF AN ND³⁺ ION IN GLASS BY THE SELECTIVE EXCITATION METHOD
KVANTOVAYA ELEKTRONIKA 7(11), 2477-2480 (1980)
143. **VORON'KO, YU.K.; IGNAT'EV, B.V.; LOMONOVA, E.E.; OSIKO, V.V.; SOBOL', A.A.**
RAMAN SCATTERING INVESTIGATION OF HIGH-TEMPERATURE PHASE TRANSITIONS IN SOLID SOLUTIONS BASED ON ZRO₂ AND HFO₂
SOVIET PHYSICS - SOLID STATE 22(4), 603 (1980)
144. **AVANESOV, AG; VASILEV, IV; VORONKO, YK; DENKER, BI; ZINOVEV, SV; KUZNETSOV, AS; OSIKO, VV; PASHININ, PP; PROKHOROV, AM; SEMYONOV, AA.**
STUDY INTO LASING CHARACTERISTICS OF ACTIVE ELEMENTS MADE OF LI-ND-LA-PHOSPHATE GLASS
KVANTOVAYA ELEKTRONIKA 6(7), 1586 (1979)
145. **BASIEV, TT; BORIK, MA; VORONKO, YK; OSIKO, VV; FEDOROVA, VS.**
SELECTIVE LASER EXCITATION OF LUMINESCENCE OF SM³⁺ IONS IN LANTHANOALUMOSILICATE GLASS
OPTIKA I SPEKTROSKOPIYA 46(5), 904 (1979)
146. **ALIMOV, OK; BASIEV, TT; VORONKO, YK; FEDOROV, VS.**
NEW METHOD OF LASER-SPECTROSCOPY INVESTIGATION OF SOLIDS WITH INHOMOGENEOUSLY BROADENED SPECTRA
JETP LETTERS 29(2), 127 (1979)
147. **ASHUROV, MK; VORONKO, YK; ZHARIKOV, EV; KAMINSKII, AA; OSIKO, VV; SOBOL, AA; TIMOSHECHKIN, MI; FEDOROV, VA; SHABALTAI, AA.**
STRUCTURE, SPECTROSCOPY, AND STIMULATED-EMISSION OF CRYSTALS OF YTTRIUM HOLMIUM ALUMINUM GARNETS
INORGANIC MATERIALS 15(7), 979 (1979)
148. **AVANESOV, AG; VORONKO, YK; DENKER, BI; MAKSIMOVA, GV; OSIKO, VV; PROKHOROV, AM; SHCHERBAKOV, IA.**
RADIATION ENERGY-TRANSFER FROM CR³⁺ IONS TO ND³⁺ IONS IN HIGH-CONCENTRATION NEODYMIUM-DOPED GLASSES
KVANTOVAYA ELEKTRONIKA 6(7), 1583 (1979)
149. **AVANESOV, AG; VORONKO, YK; DENKER, BI; OSIKO, VV; KUTENKOV, AA; MAKSIMOVA, GV; SIDOROVA, EI; TIMOFEEV, YP; SHCHERBAKOV, IA.**
MEASUREMENTS OF THE ABSOLUTE QUANTUM YIELD OF NEODYMIUM LUMINESCENCE IN HIGH-CONCENTRATION GLASSES CO-ACTIVATED WITH CHROME
KVANTOVAYA ELEKTRONIKA 6(10), 2253 (1979)

150. **BASIEV, TT; VORONKO, YK; MIROV, SB; OSIKO, VV; PROKHOROV, AM.**
KINETICS OF ACCUMULATION AND EXCITATION OF F₂₊ CENTERS IN LiF(F₂) CRYSTALS
JETP LETTERS 30(10), 626 (1979)
151. **BASIEV, TT; VORONKO, YK; MIROV, SB; PROKHOROV, AM.**
FREQUENCY SELECTION OF Nd³⁺ IONS IN GLASS EXCITED BY MONOCHROMATIC LASER-RADIATION AT THE RESONANT TRANSITION I-4(9/2)-]F-4(3/2)
JETP LETTERS 29(11), 639 (1979)
152. **ALEKSANDROV, VI; VORONKO, YK; IGNATEV, BV; LOMONOVA, EE; OSIKO, VV; SOBOL, AA.**
COMBINATIONAL LIGHT-SCATTERING STUDY OF STRUCTURE TRANSFORMATIONS IN SOLID-SOLUTIONS ON BASIS OF ZIRCONIUM AND HAFNIUM BIOXIDE
FIZIKA TVERDOGO TELA 20(2), 528 (1978)
153. **ALIMOV, OK; BASIEV, TT; VORONKO, YK; GRIBKOV, YV; KARASIK, AY; OSIKO, VV; PROKHOROV, AM; SHCHERBAKOV, IA.**
INVESTIGATION OF STRUCTURE OF INHOMOGENEOUSLY BROADENED SPECTRA OF Nd³⁺ IONS IN GLASS BY SELECTIVE LASER EXCITATION TECHNIQUE
ZHURNAL EKSPERIMENTALNOI I TEORETICHESKOI FIZIKI 74(1), 57 (1978)
154. **ASHUROV, MK; BASIEV, TT; VORONKO, YK; ZHARIKOV, EV; ZHEKOV, VI; MURINA, TM; OSIKO, VV; TIMOSHECHKIN, MI; SHCHERBAKOV, IA.**
NONRADIATIVE LOSSES AT I-4-11-2-I-4-13-2 LASER TRANSITION IN ER³⁺ ION IN CRYSTALS OF Y₃Al₅O₁₂, Gd₃Sc₂Al₃O₁₂, Y₃Ga₅O₁₂, Gd₃Ga₅O₁₂, CaF₂
KVANTOVAYA ELEKTRONIKA 5(5), 1028 (1978)
155. **BASIEV, TT; VORONKO, YK; KARASIK, AY; OSIKO, VV; SHCHERBAKOV, IA.**
SPECTRAL MIGRATION OF ELECTRONIC EXCITATION ALONG Nd³⁺ IONS IN CaF₂-YF₃ CRYSTALS ON SELECTIVE LASER EXCITATION
ZHURNAL EKSPERIMENTALNOI I TEORETICHESKOI FIZIKI 75(1), 66 (1978)
156. **ASHUROV, M.KH.; BASIEV, T.T.; VORONKO, YU.K.; ZHARIKOV, E.V.; ZHEKOV, V.I.; MURINA, T.M.; OSIKO, V.V.; TIMOSHECHKIN, M.I.; SHCHERBAKOV, I.A..**
NONRADIATIVE LOSSES DUE TO THE 4I_{11/2}-4I_{13/2} TRANSITION OF THE ER³⁺-ION IN Y₂Al₅O₁₂, Gd₃Sc₂Al₃O₁₂, Y₃Ga₅O₁₂, Gd₃Ga₅O₁₂, AND CaF₂ CRYSTALS
SOVIET JOURNAL OF QUANTUM ELECTRONICS 8(5), 588 (1978)
157. **ALIMOV, OK; BASIEV, TT; VORONKO, YK; GAIGEROVA, LS; DMITRYOUK, AV.**
LASER SPECTROSCOPY OF INHOMOGENEOUSLY BROADENED EU³⁺ LINES IN GLASSES AND MIGRATION OF ELECTRON-EXCITATION ALONG THEM
ZHURNAL EKSPERIMENTALNOI I TEORETICHESKOI FIZIKI 72(4), 1313 (1977)
158. **ASHUROV, M. H.; VORONKO, Y. K.; OSIKO, V. V.; SOLOL, A. A..**
SPECTROSCOPIC INVESTIGATION OF STRUCTURAL DISORDERING OF GARNET CRYSTALS WITH RARE-EARTH DOPANTS
SPECTROSCOPY OF CRYSTALS , 71 (1977)
159. **ASHUROV, MK; VORONKO, YK; OSIKO, VV; SOBOL, AA; TIMOSHECHKIN, MI.**
SPECTROSCOPIC STUDY OF STOICHIOMETRY DEVIATION IN CRYSTALS WITH GARNET STRUCTURE
PHYSICA STATUS SOLIDI A-APPLIED RESEARCH 42(1), 101 (1977)
160. **VORONKO, YK; DENKER, BI; ZLENKO, AA; KARASIK, AY; KUZMINOV, YS; MAKSIMOVA, GV; NEUSTRUYEV, VB; OSIKO, VV; PROKHOROV, AM; SYCHUGOV, VA; SHIPULO, GP; SHCHERBAKOV, IA.**
SPECTRAL AND LASING PROPERTIES OF Li-Nd PHOSPHATE GLASS
OPTICS COMMUNICATIONS 18(1), 88 (1976)

161. **VORONKO, YK; LARIONOV, AL; MALKIN, BZ.**
VIBRATIONAL STRUCTURE OF OPTICAL-SPECTRA OF CAF₂-TM₂⁺, CAF₂-YB₃⁺ CRYSTALS
OPTIKA I SPEKTROSKOPIYA 40(1), 86 (1976)
162. **ASHUROV, MK; VORONKO, YK; OSIKO, VV; SOBOL, AA; STARIKOV, BP; TIMOSHECHKIN, MI; YABLONSKII, AY.**
INEQUIVALENT LUMINESCENCE-CENTERS OF ER₃⁺ IN GALLIUM GARNET SINGLE-CRYSTALS
PHYSICA STATUS SOLIDI A-APPLIED RESEARCH 35(2), 645 (1976)
163. **BASIEV, TT; VORONKO, YK; OSIKO, VV; PROKHOROV, AM; SHCHERBAKOV, IA.**
EXPERIMENTAL-OBSERVATION OF EXCITATION TRAPPING IN A SYSTEM OF STRONGLY INTERACTING PARTICLES
ZHURNAL EKSPERIMENTALNOI I TEORETICHESKOI FIZIKI 70(4), 1225 (1976)
164. **VORONKO, YK; DENKER, BI; ZLENKO, AA; KARASIK, AY; KUZMINOV, YS; MAKSIMOVA, GV; OSIKO, VV; PROKHOROV, AM; SYCHUGOV, VA; SHIPULO, GP; SHCHERBAKOV, IA.**
SPECTRAL AND GENERATIVE PROPERTIES OF LI-ND-PHOSPHATIC GLASS
DOKLADY AKADEMII NAUK SSSR 227(1), 75 (1976)
165. **VORONKO, YK; MOMEDOV, TG; OSIKO, VV; PROKHOROV, AM; SAKUN, VP; SHCHERBAKOV, IA.**
INVESTIGATION OF NATURE OF NONRADIATIVE EXCITATION-ENERGY RELAXATION IN CONDENSED MEDIA WITH A HIGH ACTIVATOR CONCENTRATION
ZHURNAL EKSPERIMENTALNOI I TEORETICHESKOI FIZIKI 71(8), 478 (1976)
166. **VORON'KO, YU.K.; DENKER, B.I.; ZLENKO, A.A.; KARASIK, A.YA.; KUZ'MINOV, YU.S.; MAKSIMOVA, G.V.; OSIKO, V.V.; PROKHOROV, R.M.; SYCHUGOV, V.A.; SHIPULO, G.P.; SHCHERBAKOV, I.A..**
SPECTRAL AND GENERATION PROPERTIES OF (LI-ND) PHOSPHATE GLASS
SOVIET PHYSICS - DOKLADY 21(3), 146 (1976)
167. **VORONKO, YK; MAMEDOV, TG; OSIKO, VV; ET AL..**
LUMINESCENCE QUENCHING IN GARNETS DOPED WITH TRIVALENT RE
JETP 12, 478 (1976)
168. **VORONKO, YU.K.; LARIONOV, A.L.; MALKIN, B.Z..**
VIBRATIONAL STRUCTURE OF OPTICAL SPECTRA OF CAF₂.TM₂⁺, CAF₂.YB₃⁺ CRYSTALS
OPTICS AND SPECTROSCOPY 40(1), 47 (1976)
169. **BASIEV, TT; VORONKO, YK; MAMEDOV, TG; SHCHERBAKOV, IA.**
ENERGY MIGRATION AMONG YB₃⁺ IONS IN GARNET CRYSTALS
KVANTOVAYA ELEKTRONIKA 2(10), 2172 (1975)
170. **VORONKO, YK; SOBOL, AA.**
CLASSIFICATION AND ANALYSIS OF IMPURITY ION CLUSTERS IN Y₃AL₅O₁₂
PHYSICA STATUS SOLIDI A-APPLIED RESEARCH 27(1), 257 (1975)
171. **VORONKO, YK; SOBOL, AA.**
LOCAL INHOMOGENEITY OF GARNET CRYSTALS DOPED WITH RARE-EARTH IONS
PHYSICA STATUS SOLIDI A-APPLIED RESEARCH 27(2), 657 (1975)
172. **BASIEV, TT; VORONKO, YK; SHCHERBA.IA.**
INFLUENCE OF SPECTRAL-LINE BROADENING ON ELECTRON EXCITATION MIGRATION ALONG IMPURITY CENTERS IN CRYSTALS
ZHURNAL EKSPERIMENTALNOI I TEORETICHESKOI FIZIKI 66(6), 2118 (1974)
173. **BATYGOV, SK; VORONKO, YK; DENKER, BI; RADYUKHI.VS.**
THERMOLUMINESCENCE OF Y₃AL₅O₁₂-TR CRYSTALS
OPTIKA I SPEKTROSKOPIYA 36(1), 124 (1974)
174. **BATYGOV, SK; VORONKO, YK; GAIGEROV.LS; FEDOROV, VS.**
OPTICAL-SPECTRA AND INTERACTION OF RARE-EARTH IONS IN DOUBLY

- ACTIVATED FLUORITE CRYSTALS
OPTIKA I SPEKTROSKOPIYA 35(5), 868 (1973)
175. **VORONKO, YK; MURAVIEV, EN; SOBOL, AA.**
CRYSTAL-FIELD INVESTIGATION OF ER³⁺, EU³⁺, AND ND³⁺ IN GARNET HOST LATTICES
PHYSICA STATUS SOLIDI A-APPLIED RESEARCH 19(1), 193 (1973)
176. **VORONKO, YK; MAMEDOV, TG; OSIKO, VV; TIMOSHEC.MI; SHCHERBA.IA.**
EFFECT OF DONOR-DONOR AND DONOR-ACCEPTOR INTERACTIONS ON DECAY KINETICS OF METASTABLE STATE OF ND³⁺ IN CRYSTALS
ZHURNAL EKSPERIMENTALNOI I TEORETICHESKOI FIZIKI 65(3), 1141 (1973)
177. **VORONKO, YK; MAKSIMOVA, GV; OSIKO, VV; SOBOL, AA; STARIKOV, BP; TIMOSHECHKIN, MI.**
SPECTROSCOPIC PROPERTIES OF LA₂BE₂O₅ - ND³⁺ SINGLE-CRYSTALS
PHYSICA STATUS SOLIDI A-APPLICATIONS AND MATERIALS SCIENCE 17(1), K41 (1973)
178. **VORON'KO, YU.K.; OSIKO, V.V.; SAVOST'YANOVA, N.V.; FEDOROV, V.S.; SHCHERBAKOV, I.A..**
STUDY OF THE PROCESSES OF DEACTIVATION OF THE METASTABLE STATE OF EXCITED ND³⁺ IONS IN LAF₃ CRYSTALS
SOVIET PHYSICS - SOLID STATE 14(9), 2294 (1973)
179. **BATYGOV, SK; RADYUKHI.VS; MAIER, AA; DENKER, BI; TIMOSHEC.MI; VORONKO, YK; OSIKO, VV.**
COLOR CENTERS IN Y₃AL₅O₁₂ CRYSTALS
FIZIKA TVERDOGO TELA 14(4), 977 (1972)
180. **VORONKO, YK; SHCHERBA.IA; SAVOSTYA.NV; OSIKO, VV; FEDOROV, VS.**
STUDY OF DISACTIVATION PROCESSES FOR METASTABLE STATE OF ND³⁺ EXCITED IONS IN LAF₃ CRYSTALS
FIZIKA TVERDOGO TELA 14(9), 2656 (1972)
181. **VORONKO, YK; DENKER, BI; OSIKO, VV.**
X-RAY LUMINESCENCE OF CAF₂-TR³⁺ CRYSTALS
SOVIET PHYSICS SOLID STATE, USSR 13(8), 1842 (1972)
182. **VORONKO, YK; SOBOL, AA; TIMOSHEC.MI; SHIPULO, GP; MAKSIMOV.GV; OSIKO, VV; MIKHALEV.VG.**
SPECTRAL PROPERTIES AND INDUCED RADIATION OF YTTRIUM-LUTECIUM-ALUMINUM GARNET WITH ND³⁺
OPTIKA I SPEKTROSKOPIYA 33(4), 681 (1972)
183. **VORONKO, YK; OSIKO, VV; SHCHERBA.IA.**
INVESTIGATION OF ELEMENTARY CROSS-RELAXATION ACT OF ND³⁺ ION EXCITED-STATE IN CRYSTALS
ZHURNAL EKSPERIMENTALNOI I TEORETICHESKOI FIZIKI 63(2), 691 (1972)
184. **OSIKO, V. V.; VORONKO, Y. K.; PROKHOROV, A. M.; TSCHERBAKOV, I. A..**
INVESTIGATION OF THE MECHANISM OF THE ELEMENTARY ACT OF EXCITATION-ENERGY TRANSFER BETWEEN RARE-EARTH IONS IN CRYSTALS
SOV. PHYS. JETP 33, 510 (1971)
185. **VORONKO, YK; DENKER, BI; OSIKO, VV.**
X-RAY LUMINESCENCE OF ND³⁺ IN LASER CRYSTALS
SOVIET PHYSICS SOLID STATE, USSR 13(1), 141 (1971)
186. **ALEKSANDROV, VI; VORONKO, YK; MIKHALEV.VG; OSIKO, VV; PROKHOROV, AM; TATARINTSEV, VM; UDOVENCHIK, VT; SHIPULO, GP.**
SPECTROSCOPIC PROPERTIES AND GENERATION OF ND³⁺ IN ZRO₂ AND HFO₂ CRYSTALS
DOKLADY AKADEMII NAUK SSSR 199(6), 1282 (1971)
187. **VORON'KO, YU.K.; OSIKO, V.V.; PROKHOROV, A.M.; SHCHERBAKOV, I.A..**
INVESTIGATION OF THE ELEMENTARY MECHANISM OF EXCITATION ENERGY TRANSFER BETWEEN RARE EARTH IONS IN CRYSTALS
ZHURNAL EKSPERIMENTAL'NOI I TEORETICHESKOI FIZIKI 60(3), 943 (1971)

188. **VORONKO, YK; DMITRUK, MV; OSIKO, VV; SHCHERBA.IA.**
EQUILIBRIUM OF IMPURITY DEFECTS IN CRYSTALS OF $\text{CAF}_2\text{-YB}_3+$
SOVIET PHYSICS SOLID STATE, USSR 13(6), 1348 (1971)
189. **VORON'KO, YU.K.; DENKER, B.I.; OSIKO, V.V.; PROKHOROV, A.M.; TIMOSHECHKIN, M.I.**
X-RAY FLUORESCENCE OF RARE-EARTH IONS IN $\text{Y}_3\text{Al}_5\text{O}_{12}$ CRYSTALS
SOVIET PHYSICS - DOKLADY 14(10), 998 (1970)
190. **VORONKO, YK; DENKER, BI; OSIKO, VV; PROKHORO.AM; TIMOSHEC.MI.**
X-RAY LUMINESCENCE OF RARE-EARTH ELEMENTS IONS IN CRYSTALS
 $\text{Y}_3\text{Al}_5\text{O}_{12}$
DOKLADY AKADEMII NAUK SSSR 188(6), 1258 (1969)
191. **VORONKO, YK; OSIKO, VV; SCHERBAK.IA.**
INVESTIGATION OF INTERACTION OF ND_3+ IONS IN CAF_2 , SRF_2 , AND BAF_2
CRYSTALS (TYPE I)
SOVIET PHYSICS JETP-USSR 28(5), 838 (1969)
192. **VORONKO, YK; OSIKO, VV; SHCHERBA.IA.**
OPTICAL CENTERS AND INTERACTION OF YB_3+ IONS IN CUBIC FLUORITE
CRYSTALS
SOVIET PHYSICS JETP-USSR 29(1), 86 (1969)
193. **VORONKO, YK; SYCHUGOV, VA.**
STIMULATED EMISSION OF ER_3+ IONS IN CAF_2 AT $\lambda_1=8456 \text{ \AA}$ AND
 $\lambda_2=8548 \text{ \AA}$
PHYSICA STATUS SOLIDI 25(2), K119 (1968)
194. **VORONKO, Y.K.; DMITRUK, M.V.; KAMINSKII, A.A.; OSIKO, V.V.; SHPAKOV, V.N..**
CONTINUOUS STIMULATED RADIATION OF A $\text{LAF}_3\text{-ND}_3+$ LASER AT ROOM
TEMPERATURE
ZHURNAL EKSPERIMENTAL'NOI I TEORETICHESKOI FIZIKI 54(3), 751 (1968)
195. **VORONKO, Y; DMITRUK, MV; OSIKO, VV; UDOVENCH.VT.**
 ER^- HO AND ER^- TU EXCITATION ENERGY TRANSFERS IN CAF_2 CRYSTALS
SOVIET PHYSICS JETP-USSR 27(2), 197 (1968)
196. **VORONKO, YK; MIKAELYA.RG; OSIKO, VV.**
INVESTIGATION OF ND_3+ OPTICAL CENTER IN $\text{CAF}_2\text{-ND}_3\text{-TR}_3+$ CRYSTALS
(TYPE 1)
SOVIET PHYSICS JETP-USSR 26(2), 318 (1968)
197. **BRUK, ZM; VORONKO, YK; MAKSIMOVA, GV; OSIKO, VV; PROKHOROV, AM; SHPILOV, KF; SHCHERBAKOV, IA.**
OPTICAL PROPERTIES AND STIMULATED EMISSION OF ND_3+ IN FLUOR-
APATITE
JETP LETTERS-USSR 8(7), 221 (1968)
198. **KAMINSKII, AA; VORONKO, YK; OSIKO, VV.**
MIXED SYSTEMS ON BASIS OF FLUORIDES AS NEW LASER MATERIALS FOR
QUANTUM ELECTRONICS . OPTICAL AND EMISSION PARAMETERS
PHYSICA STATUS SOLIDI 21(1), K17 (1967)
199. **KAMINSKII, AA; OSICO, VV; PROKHOROV, AM; VORONKO, YK.**
SPECTRAL INVESTIGATION OF STIMULATED RADIATION OF ND_3+ IN $\text{CAF}_2\text{-YF}_3$
PHYSICS LETTERS 22(4), 419 (1966)
200. **VORONKO, YK; KAMINSKII.AA; OSIKO, VV.**
OPTICAL ER_3+ CENTERS IN CUBIC CRYSTALS OF FLUORITE TYPE
SOVIET PHYSICS JETP-USSR 23(1), 10 (1966)
201. **VORONKO, YK; KAMINSKII.AA; OSIKO, VV.**
ANALYSIS OF OPTICAL SPECTRA OF $\text{CAF}_2\text{-ND}_3+$ (TYPE 1) CRYSTALS
SOVIET PHYSICS JETP-USSR 22(2), 295 (1966)
202. **VORONKO, YK; KAMINSKII.AA; OSIKO, VV.**
ANALYSIS OF OPTICAL SPECTRA OF $\text{PR}_3+\text{ND}_3+\text{EU}_3+$ AND ER_3+ IN FLUORITE

- CRYSTALS (TYPE 1) BY CONCENTRATION SERIES METHOD
SOVIET PHYSICS JETP-USSR 22(3), 501 (1966)
203. **BAGDASAROV, KS; VORONKO, YK; KAMINSKI.AA; OSIKO, VV; PROKHORO.AM.**
ROOM-TEMPERATURE INDUCED EMISSION OF YTTROFLUORITE CRYSTALS
CONTAINING ND³⁺
SOVIET PHYSICS CRYSTALLOGRAPHY, USSR 10(5), 626 (1966)
204. **BAGDASAROV, KS; VORONKO, YK; KAMINSKII, AA; KROTOVA, LV; OSIKO, VV.**
MODIFICATION OF OPTICAL PROPERTIES OF CAF₂-TR³⁺ CRYSTALS BY
YTTRIUM IMPURITIES
PHYSICA STATUS SOLIDI 12(2), 905 (1965)
205. **VORON'KO, YU.K.; OSIKO, V.V.; UDOVENCHIK, V.T.; FURSIKOV, M.M..**
OPTICAL PROPERTIES OF CAF₂: DY³⁺ CRYSTALS
FIZIKA TVERDOGO TELA 7(1), 267 (1965)
206. **VORONKO, Y.K.; KAMINSKY, A.A.; OSIKO, V.V..**
ANALYSIS OF THE OPTICAL SPECTRA OF CAF₂-ND³⁺ CRYSTALS (TYPE I)
ZHURNAL EKSPERIMENTAL'NOI I TEORETICHESKOI FIZIKI 49(2(8)), 420 (1965)
207. **VORONKO, YU.K.; ZVEREV, G.M.; PROKHOROV, A.M..**
STIMULATED RADIATION FROM ER³⁺ IONS IN CAF₂
ZHURNAL EKSPERIMENTAL'NOI I TEORETICHESKOI FIZIKI 48(6), 1529 (1965)
208. **VORON'KO, Y.K.; KAMINSKII, A.A.; OSIKO, V.V.; PROKHOROV, A.M..**
STIMULATED EMISSION OF HO³⁺ IN CAF₂ AT LAMBDA = 5512 A
ZHURNAL EKSPERIMENTAL'NOI I TEORETICHESKOI FIZIKI, PIS'MA V
REDAKTSIYU 1(1), 5 (1965)
209. **VORON'KO, YU.K.; KAMINSKII, A.A.; OSIKO, V.V..**
AN ANALYSIS OF THE OPTICAL SPECTRA OF PR³⁺, ND³⁺, EU³⁺ AND ER³⁺ IN
FLUORITE CRYSTALS (TYPE 1) BY THE CONCENTRATION SERIES METHOD
ZHURNAL EKSPERIMENTAL'NOI I TEORETICHESKOI FIZIKI 49(3(9)), 724 (1965)
210. **VORON'KO, Y.K.; KANINSKII, A.A.; OSIKO, V.V.; PROKHOROV, A.N..**
SELECTIVE EXCITATION OF RARE EARTH ION CENTRES IN CRYSTALS
ZHURNAL EKSPERIMENTAL'NOI I TEORETICHESKOI FIZIKI, PIS'MA V
REDAKTSIYU 1(4), 33 (1965)
211. **VORONKO, YK; ZVEREV, GM; MESHKOV, BB; SMIRNOV, AI.**
INVESTIGATION OF OPTICAL AND PARAMAGNETIC RESONANCE SPECTRA OF
ER³⁺ IN CAF₂
SOVIET PHYSICS SOLID STATE,USSR 6(9), 2225 (1965)
212. **VORON' KO, YU K; KAMINSKII, A A; KORNIENKO, L S..**
INVESTIGATION OF STIMULATED EMISSION OF CAF₂-ND³⁺(TYPE 2)
CRYSTALS AT ROOM TEMPERATURE
SOVIET PHYS. JEPT-USSR 1(2), 39 (1965)