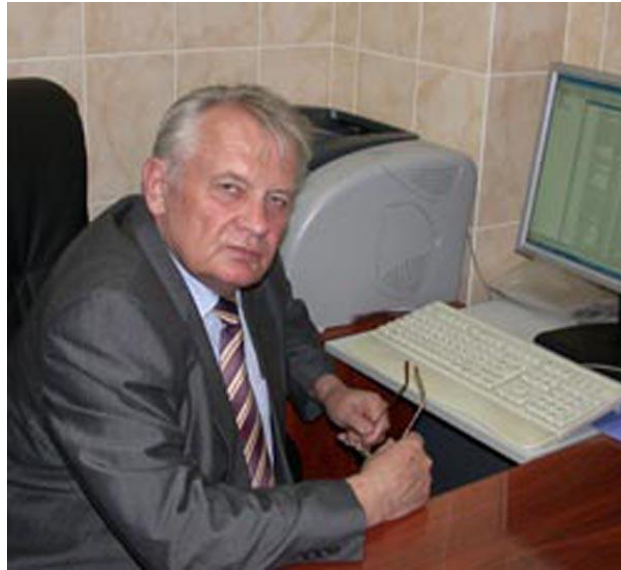


# Николай Иванович Леонюк



(21 ноября 1941 – 24 мая 2020)

Ушел из жизни доктор химических наук, профессор, заведующий лабораторией роста кристаллов геологического факультета МГУ Николай Иванович Леонюк.

Николай Иванович Леонюк родился в деревне Гневчицы Ивановского района Брестской области. В 1969 г. с отличием окончил геологический факультет МГУ им. М.В. Ломоносова по специальности "кристаллография и кристаллохимия". В 1969 г. поступил в аспирантуру геологического факультета. В 1972 г. защитил кандидатскую диссертацию: "Получение кристаллов иттрий-алюминиевого бората и его редкоземельных аналогов". С 1972 г. работал на кафедре кристаллографии и кристаллохимии геологического факультета МГУ. В 1985 г. защитил докторскую диссертацию: "Физико-химические основы выращивания монокристаллов тугоплавких боратов". Основное направление научной работы Николая Ивановича было связано с исследованием процессов кристаллизации, разработкой физико-химических основ управляемого синтеза и изучением тугоплавких монокристаллов с заданными свойствами. Николай Иванович Леонюк развил прецизионные методы изучения кинетики кристаллизации и определения фазовых границ в поликомпонентных системах при высоких температурах (до 1400 К), получил комплекс новых экспериментальных данных по сложным растворам-расплавам. Среди них были выявлены количественные соотношения между пересыщением, температурой и скоростями роста кристаллов ряда тугоплавких боратов. Николай Иванович разработал методику высоковоспроизводимого синтеза растворителей для этих кристаллов, изучил их кинетику испарения, термической устойчивости, установления температурно-концентрационных областей синтеза двойных боратов трехвалентных элементов и температурной зависимости их растворимости. Под руководством и при непосредственном участии Николая Ивановича были созданы лабораторные технологии выращивания в контролируемых условиях ряда перспективных

монокристаллов (более пятидесяти) — новых нелинейных активных и акустооптических материалов; установлены состав, структура, свойства и морфология кристаллов, формы вхождения примесей. Обосновал с кристаллохимических позиций и подтвердил спектроскопически и другими экспериментальными методами положение о перестройке боратных радикалов как лимитирующей стадии роста кристаллов из стеклообразующих растворов-расплавов; развил новый подход к систематике боратов, предложил полную усовершенствованную классификацию безводных соединений бора.

Николай Иванович Леонюк был членом Международного союза кристаллографов, Международного общества по оптической технике, почетным членом общества За прогресс науки о твердом состоянии вещества (Хайдарабад, Индия), членом специализированного совета по минералогии и кристаллографии при МГУ, членом Всесоюзного минералогического общества, членом МОИП, Совета отделения геохимии и Ученого совета по защите кандидатских диссертаций по кристаллографии и минералогии при геологическом факультете МГУ. В 2017 г. получил звание Заслуженного профессора Московского университета.

*По материалам страниц сайтов:*

<https://www.liveinternet.ru/users/kakula/post300408906/>

<http://letopis.msu.ru/peoples/6438>

<https://geo.web.ru/db/msg.html?mid=1160030>

## Основные научные труды

### Монографии

1. Н.И. Леонюк, В.В. Мальцев, Монокристаллы тугоплавких боратов. М.: ГЕОС, 2017.
2. Н.И. Леонюк, В.В. Мальцев, Кристаллогенезис в многокомпонентных расплавах (купраты, бораты, фосфаты, ванадаты, танталаты). М.: ГЕОС, 2014.
3. N.I. Leonyuk, L.I. Leonyuk, Growth and characterization of  $RM_3(BO_3)_4$  crystals. United Kingdom: Pergamon Press Ltd., 1995.
4. Н.И. Леонюк, Л.И. Леонюк, Кристаллохимия безводных боратов. М.: Изд-во МГУ, 1983.

### Обзоры

1. KHARISOVA, OV; KOPNIN, EM; MALTSEV, VV; LEONYUK, NI; LEON-ROSSANO, LM; PINUS, IY; KHARISOV, VI.  
RECENT ADVANCES ON BISMUTH-BASED 2223 AND 2212 SUPERCONDUCTORS: SYNTHESIS, CHEMICAL PROPERTIES, AND PRINCIPAL APPLICATIONS  
CRITICAL REVIEWS IN SOLID STATE AND MATERIALS SCIENCES 39(4), 253-276 (2014)
2. LEONYUK, NI.  
RECENT DEVELOPMENTS IN THE GROWTH OF  $RM_3(BO_3)_4$  CRYSTALS FOR SCIENCE AND MODERN APPLICATIONS  
PROGRESS IN CRYSTAL GROWTH AND CHARACTERIZATION OF MATERIALS 31(3-4), 279-312 (1995)
3. LEONYUK, NI; LEONYUK, LI.

### Учебные пособия

1. Н.И. Леонюк, Е.В. Копорулина, Е.А. Волкова, В.В. Мальцев. Кристаллография: зарождение, рост и морфология кристаллов. М.: МАКС Пресс, 2010; М.: Юрайт, 2017.
2. Н.И. Леонюк, В.И. Лютин, В.В. Мальцев, Выращивание монокристаллов и моделирование процессов минералообразования. М.: Изд-во МГУ, 2005.

### Статьи

1. KUZ'MIN, NN; BOLDYREV, KN; LEONYUK, NI; STEFANOVICH, SY; POPOVA, MN.  
LUMINESCENCE AND NONLINEAR OPTICAL PROPERTIES OF BORATES  $LN_3(BO_3)_4$  (LN = ND, SM, TB, ER, DY, OR HO)  
OPTICS AND SPECTROSCOPY 127(1), 107-112 (2019)
2. LEONYUK, NI.  
CRYSTAL GROWTH OF MULTIFUNCTIONAL BORATES AND RELATED MATERIALS  
CRYSTALS 9(3), - (2019)
3. RUDENKOV, AS; KISEL, VE; GORBACHENYA, KN; YASUKEVICH, AS; MALTSEV, VV; LEONYUK, NI; RUBTSOVA, NN; SEMYAGIN, BR; KOVALYOV, AA; PREOBRAZHENSKII, VV; KULESHOV, NV.  
GROWTH, SPECTROSCOPY AND HIGH POWER LASER OPERATION OF  $YB:YAL_3(BO_3)_4$  CRYSTAL: CONTINUOUS-WAVE, MODE-LOCKING AND CHIRPED PULSE REGENERATIVE AMPLIFICATION  
OPTICAL MATERIALS 89, 261-267 (2019)
4. GORBACHENYA, KN; KISEL, VE; YASUKEVICH, AS; DEINEKA, RV; LIPINSKAS, T; GALINIS, A; MIKSYS, D; MALTSEV, VV; LEONYUK, NI; KULESHOV, NV.  
MONOLITHIC 1.5  $\mu$ m ER, $YB:GDAL_3(BO_3)_4$  EYE-SAFE LASER  
OPTICAL MATERIALS 88, 60-66 (2019)
5. CAVALLI, E; LEONYUK, NI.  
COMPARATIVE INVESTIGATION ON THE EMISSION PROPERTIES OF  $RAL_3(BO_3)_4$  (R = PR, EU, TB, DY, TM, YB) CRYSTALS WITH THE HUNTITE STRUCTURE  
CRYSTALS 9(1), - (2019)
6. MALTSEV, VV; NAPRASNIKOV, DA; LYASNIKOV, AD; LEONYUK, NI; GORBACHENYA, KN; KISEL, VE; YASUKEVICH, AS; KULESHOV, NV.  
FLUX GROWTH, THERMAL PROPERTIES, AND LUMINESCENCE SPECTRA OF  $(ER,YB,LU)AL_3(BO_3)_4$  SOLID SOLUTIONS  
INORGANIC MATERIALS 54(8), 826-830 (2018)
7. BLUDOV, AN; SAVINA, YO; KOBETS, MI; PASHCHENKO, VA; GNATCHENKO, SL; KUZMIN, NN; MAL'TSEV, VV; LEONYUK, NI.  
ANTIFERROMAGNETIC RESONANCE IN A  $GDCR_3(BO_3)_4$  CRYSTAL  
LOW TEMPERATURE PHYSICS 44(5), 453-455 (2018)
8. BLUDOV, AN; SAVINA, YO; PASHCHENKO, VA; GNATCHENKO, SL; MAL'TSEV, VV; KUZMIN, NN; LEONYUK, NI.  
MAGNETIC PROPERTIES OF A  $GDCR_3(BO_3)_4$  SINGLE CRYSTAL  
LOW TEMPERATURE PHYSICS 44(5), 423-427 (2018)
9. LEONYUK, NI.  
HALF A CENTURY OF PROGRESS IN CRYSTAL GROWTH OF MULTIFUNCTIONAL BORATES  $RAL_3(BO_3)_4$  (R = Y, PR, SM-LU)

- JOURNAL OF CRYSTAL GROWTH 476, 69-77 (2017)
10. VOLKOVA, E; MARKIN, V; LEONYUK, NI.  
HIGH-TEMPERATURE GROWTH AND CHARACTERIZATION OF ( ER, YB): YAL3(BO3)(4) SINGLE CRYSTAL LAYERS  
JOURNAL OF CRYSTAL GROWTH 468, 258-261 (2017)
  11. GORBACHENYA, K; KISEL, V; YASUKEVICH, A; LOIKO, P; MATEOS, X; MALTSEV, V; LEONYUK, N; AGUILO, M; DIAZ, F; GRIEBNER, U; PETROV, V; KULESHOV, N.  
GRAPHENE Q-SWITCHED ER,YB:GDAL3(BO3)(4) LASER AT 1550 NM  
APPLIED OPTICS 56(16), 4745-4749 (2017)
  12. GORBACHENYA, KN; KISEL, VE; YASUKEVICH, AS; PRUDNIKOVA, MB; MALTSEV, VV; LEONYUK, NI; CHOI, SY; ROTERMUND, F; KULESHOV, NV.  
PASSIVELY Q-SWITCHED ER,YB:GDAL3(BO3)(4) LASER WITH SINGLE-WALLED CARBON NANOTUBE BASED SATURABLE ABSORBER  
LASER PHYSICS LETTERS 14(3), - (2017)
  13. VOLKOVA, EA; MALTSEV, VV; LEONYUK, NI.  
FLUX GROWTH OF NDAL3(BO3)(4) SINGLE CRYSTALS FROM A K2MO3O10 BASED SYSTEM  
CRYSTENGCOMM 19(7), 1071-1075 (2017)
  14. KONONETS, NV; VIAGIN, OG; SEMINKO, VV; MAKSIMCHUK, PO; KOPORULINA, EV; LEONYUK, NI; MALYUKIN, YV.  
QUANTUM SPLITTING IN PRASEODYMIUM-DOPED LANTHANUM ALUMINUM DIMETABORATE CRYSTALS AT X-RAY EXCITATION  
SPECTROSCOPY LETTERS 50(7), 359-363 (2017)
  15. NAPRASNIKOV, DA; MALTSEV, VV; LEONYUK, NI; GORBACHENYA, KN; KURILCHIK, SV; KISEL, VE; KULESHOV, NV.  
MICRO-CRYSTALLIZATION AND SPECTROSCOPIC PROPERTIES OF ER, YB:RAL-BORATES (R=Y, GD) OBTAINED IN RAL3(BO3)(4)-K2MO3O10-B2O3-R2O3 AND RAL3(BO3)(4)-B2O3 SYSTEMS  
JOURNAL OF CRYSTAL GROWTH 457, 302-306 (2017)
  16. GORBACHENYA, KN; KISEL, VE; YASUKEVICH, AS; MALTSEV, VV; LEONYUK, NI; KULESHOV, NV.  
EYE-SAFE 1.55 MU M PASSIVELY Q-SWITCHED ER,YB:GDAL3(BO3)(4) DIODE-PUMPED LASER  
OPTICS LETTERS 41(5), 918-921 (2016)
  17. MALTSEV, VV; LEONYUK, NI; NAPRASNIKOV, DA; GORBACHENYA, KN; KISEL, VE; YASUKEVICH, AS; KULESHOV, NV.  
FLUX GROWTH AND LASER-RELATED SPECTROSCOPIC PROPERTIES OF (ER,YB):LUAL3(BO3)(4) CRYSTALS  
CRYSTENGCOMM 18(15), 2725-2734 (2016)
  18. KUVANDIKOV, OK; LEONYUK, NI; SHAKAROV, KO; SHODIEV, ZM; AMONOV, BU.  
MAGNETIC PROPERTIES OF RARE-EARTH ALUMINOBORATES RAL3(BO3)(4) (R = TH, ER, OR HO) AT HIGH TEMPERATURES  
RUSSIAN PHYSICS JOURNAL 58(9), 1233-1236 (2016)
  19. NAPRASNIKOV, DA; MALTSEV, VV; LEONYUK, NI.  
YAL3(BO3)(4)- AND GDAL3(BO3)(4)-BASED GLASS-CERAMIC COMPOSITES  
INORGANIC MATERIALS 52(1), 68-75 (2016)
  20. BOROVIKOVA, EY; BOLDYREV, KN; AKSENOV, SM; DOBRETSOVA, EA; KURAZHKOVSKAYA, VS; LEONYUK, NI; SAVON, AE; DEYNEKO, DV; KSENOFONTOV, DA.  
CRYSTAL GROWTH, STRUCTURE, INFRARED SPECTROSCOPY, AND LUMINESCENT PROPERTIES OF RARE-EARTH GALLIUM BORATES RGA3(BO3)(4), R = ND, SM-ER, Y  
OPTICAL MATERIALS 49, 304-311 (2015)
  21. LOIKO, PA; FILIPPOV, VV; KULESHOV, NV; LEONYUK, NI; MALTSEV, VV; YUMASHEV, KV.  
THERMO-OPTIC CHARACTERIZATION OF YB:YAL3(BO3)(4) LASER CRYSTAL  
APPLIED PHYSICS B 117(2), 577-583 (2014)

22. MALTSEV, VV; KOPORULINA, EV; LEONYUK, NI; GORBACHENYA, KN; KISEL, VE; YASUKEVICH, AS; KULESHOV, NV.  
CRYSTAL GROWTH OF CW DIODE-PUMPED (ER<sup>3+</sup>,YB<sup>3+</sup>):GDAL<sub>3</sub>(BO<sub>3</sub>)(<sub>4</sub>) LASER MATERIAL  
JOURNAL OF CRYSTAL GROWTH 401, 807-812 (2014)
23. VOLKOVA, E; MALTSEV, V; KOLGANOVA, O; LEONYUK, NI.  
HIGH-TEMPERATURE GROWTH AND CHARACTERIZATION OF (ER,YB):YAI<sub>3</sub>(BO<sub>3</sub>)(<sub>4</sub>) AND NDAL<sub>3</sub>(BO<sub>3</sub>)(<sub>4</sub>) EPITAXIAL LAYERS  
JOURNAL OF CRYSTAL GROWTH 401, 547-549 (2014)
24. KUVANDIKOV, OK; LEONYUK, NI; SHAKAROV, KO; SHODIEV, ZM; AMONOV, BU; NURIMOV, UE; SULAIMONOV, OA.  
MAGNETIC PROPERTIES OF RARE-EARTH FERRO- AND ALUMINOBORATES RM<sub>3</sub>(BO<sub>3</sub>)(<sub>4</sub>) (M = FE OR AL AND R = Y, GD, ER, OR DY)  
RUSSIAN PHYSICS JOURNAL 56(12), 1398-1402 (2014)
25. DOBRETSOVA, EA; BOROVIKOVA, EY; BOLDYREV, KN; KURAZHKOVSKAYA, VS; LEONYUK, NI.  
IR SPECTROSCOPY OF RARE-EARTH ALUMINUM BORATES RAL<sub>3</sub>(BO<sub>3</sub>)(<sub>4</sub>) (R = Y, PR-YB)  
OPTICS AND SPECTROSCOPY 116(1), 77-83 (2014)
26. BOROVIKOVA, EY; DOBRETSOVA, EA; BOLDYREV, KN; KURAZHKOVSKAYA, VS; MALTSEV, VV; LEONYUK, NI.  
VIBRATIONAL SPECTRA AND FACTOR GROUP ANALYSIS OF RARE-EARTH CHROMIUM BORATES, RCR<sub>3</sub>(BO<sub>3</sub>)(<sub>4</sub>), WITH R = LA-HO  
VIBRATIONAL SPECTROSCOPY 68, 82-90 (2013)
27. GORBACHENYA, KN; KISEL, VE; YASUKEVICH, AS; MALTSEV, VV; LEONYUK, NI; KULESHOV, NV.  
HIGHLY EFFICIENT CONTINUOUS-WAVE DIODE-PUMPED ER, YB:GDAL<sub>3</sub>(BO<sub>3</sub>)(<sub>4</sub>) LASER  
OPTICS LETTERS 38(14), 2446-2448 (2013)
28. BOLDYREV, KN; POPOVA, MN; BETTINELLI, M; TEMEROV, VL; GUDIM, IA; BEZMATERNYKH, LN; LOISEAU, P; AKA, G; LEONYUK, NI.  
QUALITY OF THE RARE EARTH ALUMINUM BORATE CRYSTALS FOR LASER APPLICATIONS, PROBED BY HIGH-RESOLUTION SPECTROSCOPY OF THE YB<sup>3+</sup> ION  
OPTICAL MATERIALS 34(11), 1885-1889 (2012)
29. GROMALOVA, NA; MAL'TSEV, VV; DOROKHOVA, GI; LEONYUK, NI; URUSOV, VS.  
RECRYSTALLIZATION OF NATURAL CHRYSOBERYL IN MULTICOMPONENT MELTS  
CRYSTALLOGRAPHY REPORTS 57(4), 603-608 (2012)
30. KISEL, VE; GORBACHENYA, KN; YASUKEVICH, AS; IVASHKO, AM; KULESHOV, NV; MALTSEV, VV; LEONYUK, NI.  
PASSIVELY Q-SWITCHED MICROCHIP ER, YB:YAL<sub>3</sub>(BO<sub>3</sub>)(<sub>4</sub>) DIODE-PUMPED LASER  
OPTICS LETTERS 37(13), 2745-2747 (2012) 36
31. VOLKOVA, EA; KSENOFONTOV, DA; MALTSEV, VV; LEONYUK, NI; KABALOV, YK; BARILO, SN; BYCHKOV, GL; TOLSTIK, NA; KULESHOV, NV.  
LIQUID-PHASE EPITAXY OF SINGLE-CRYSTAL ERBIUM-YTTERBIUM CODOPED YAL<sub>3</sub>(BO<sub>3</sub>)(<sub>4</sub>) LAYERS AS KEY COMPONENTS OF PLANAR WAVEGUIDES  
INORGANIC MATERIALS 47(9), 979-982 (2011)
32. KURAZHKOVSKAYA, VS; DOBRETSOVA, EA; BOROVIKOVA, EY; MAL'TSEV, VV; LEONYUK, NI.  
INFRARED SPECTROSCOPY AND THE STRUCTURE OF RARE-EARTH CHROMIUM BORATES RCR<sub>3</sub>(BO<sub>3</sub>)(<sub>4</sub>) (R = LA-ER)  
JOURNAL OF STRUCTURAL CHEMISTRY 52(4), 699-707 (2011)
33. TOLSTIK, NA; KISEL, VE; KULESHOV, NV; MAL'TSEV, VV; KOPORULINA, EV; LEONYUK, NI.  
ENERGY TRANSFER BETWEEN YB<sup>3+</sup> AND ER<sup>3+</sup> IONS IN AN ER,YB:YAL<sub>3</sub>(BO<sub>3</sub>)(<sub>4</sub>) CRYSTAL  
OPTICS AND SPECTROSCOPY 111(1), 74-78 (2011)
34. CAPITELLI, F; CHITA, G; LEONYUK, NI; KOPORULINA, EV; BELLATRECCIA, F; DELLA VENTURA, G.

- REEL2.07(B4O10)O-0.60 DIMETABORATES (REE = LA, PR); SYNTHESIS AND X-RAY STRUCTURAL CHARACTERIZATION  
ZEITSCHRIFT FUR KRISTALLOGRAPHIE 226(3), 219-225 (2011)
35. TOLSTIK, N; HEINRICH, S; KAHN, A; VOLKOVA, E; MALTSEV, V; KULESHOV, N; HUBER, G; LEONYUK, N.  
HIGH-TEMPERATURE GROWTH AND SPECTROSCOPIC CHARACTERIZATION OF ER,YB:YAL3(BO3)(4)  
EPITAXIAL THIN LAYERS  
OPTICAL MATERIALS 32(10), 1377-1379 (2010)
36. TOLSTIK, NA; KISEL, VE; KULESHOV, NV; MALTSEV, VV; LEONYUK, NI.  
ER,YB:YAL3(BO3)(4)-EFFICIENT 1.5 MU M LASER CRYSTAL  
APPLIED PHYSICS B 97(2), 357-362 (2009)
37. CAVALLI, E; VOLKOVA, E; CALESTANI, G; LEONYUK, N.  
STRUCTURAL AND MORPHOLOGICAL CHARACTERIZATION OF FLUX GROWN YTA7O19, ND:YTA7O19,  
ND:LATA7O19 AND NDTA7O19 CRYSTALS  
MATERIALS RESEARCH BULLETIN 44(5), 1127-1131 (2009)
38. WANG, JY; ZHANG, HJ; JIANG, MH; NIKITINA, M; MALTSEV, V; LEONYUK, N.  
FLUX GROWTH AND EXTERNAL MORPHOLOGY OF KTIPO4 CRYSTALS  
CRYSTAL GROWTH & DESIGN 9(2), 1190-1193 (2009)
39. CAPITELLI, F; CHITA, G; LEONYUK, NI; KOPORULINA, EV; BELLATRECCIA, F; DELLA VENTURA, G.  
X-RAY CRYSTAL STRUCTURE OF SYNTHETIC REEL2.07(B4O10)O-0.60 (REE = (LA, CE); CE; ND)  
DIMETABORATES  
ZEITSCHRIFT FUR KRISTALLOGRAPHIE 224(10), 478-483 (2009)
40. NEFEDOV, PV; LEONYUK, NI.  
COMPOSITION, MORPHOLOGY, AND PROPERTIES OF SODIUM-BISMUTH TUNGSTATE CRYSTALS  
CRYSTALLOGRAPHY REPORTS 54(1), 141-145 (2009)
41. KARIPIDIS, T; CHUKICHEV, M; MAL'TSEV, V; VOLKOVA, E; LEONYUK, N.  
EFFECT OF ANNEALING ON CATHODOLUMINESCENCE OF SYNTHETIC ZINCITE SINGLE CRYSTALS  
INORGANIC MATERIALS 45(1), 43-46 (2009)
42. NEKRASOVA, LV; LEONYUK, NI.  
YBAL3(BO3)(4) AND YAL3(BO3)(4) CRYSTALLIZATION FROM K2MO3O10-BASED HIGH-TEMPERATURE  
SOLUTIONS: PHASE RELATIONSHIPS AND SOLUBILITY DIAGRAMS  
JOURNAL OF CRYSTAL GROWTH 311(1), 7-9 (2008)
43. KURAZHKOVSKAYA, VS; BOROVIKOVA, EY; LEONYUK, NI; KOPORULINA, EV; BELOKONEVA, EL.  
INFRARED SPECTROSCOPY AND THE STRUCTURE OF POLYTYPIC MODIFICATIONS OF RM3(BO3)(4)  
BORATES (R - ND, GD, Y; M - AL, GA, CR, FE)  
JOURNAL OF STRUCTURAL CHEMISTRY 49(6), 1035-1041 (2008)
44. MALTSEV, VV; VOLKOVA, EA; LEONYUK, NI; TOLSTIK, NA; KULESHOV, NV.  
HIGHLY EFFICIENT ER- AND YB-DOPED YAI(3)(BO3)(4) LASER MATERIALS: CRYSTAL GROWTH AND  
CHARACTERIZATION  
JOURNAL OF OPTOELECTRONICS AND ADVANCED MATERIALS 10(11), 2890-2893 (2008)
45. BOLDYREV, KN; CHUKALINA, EP; LEONYUK, NI.  
SPECTROSCOPIC INVESTIGATION OF RARE-EARTH CHROMIUM BORATES RCR3(BO3)(4) (R = ND, SM)  
PHYSICS OF THE SOLID STATE 50(9), 1681-1683 (2008)
46. TOLSTIK, NA; HUBER, G; MALTSEV, VV; LEONYUK, NI; KULESHOV, NV.  
EXCITED STATE ABSORPTION, ENERGY LEVELS, AND THERMAL CONDUCTIVITY OF ER3+: YAB  
APPLIED PHYSICS B 92(4), 567-571 (2008)
47. BODNAR, IT; FILIPPOV, VV; KULESHOV, NV; LEONYUK, NI; MAL'TSEV, VV; PILIPENKO, OV.  
OPTICAL PROPERTIES OF UNDOPED AND YB3+-DOPED YAL3(BO3)(4) CRYSTALS  
INORGANIC MATERIALS 44(8), 863-865 (2008)
48. LEONYUK, NI.  
GROWTH OF NEW OPTICAL CRYSTALS FROM BORON-CONTAINING FLUXED MELTS

- CRYSTALLOGRAPHY REPORTS 53(3), 511-518 (2008)
49. KORTUNOVA, EV; NIKOLAEVA, NG; CHVANSKI, PP; MALTSEV, VV; VOLKOVA, EA; KOPORULINA, EV; LEONYUK, NI; KUECH, TF.  
HYDROTHERMAL SYNTHESIS OF IMPROVED ZNO CRYSTALS FOR EPITAXIAL GROWTH OF GAN THIN FILMS  
JOURNAL OF MATERIALS SCIENCE 43(7), 2336-2341 (2008)
50. PILIPENKO, OV; MAL'TSEV, VV; KOPORULINA, EV; LEONYUK, NI; TOLSTIK, NA; KULESHOV, NV.  
GROWTH OF (ER,YB): YAL<sub>3</sub>(BO<sub>3</sub>)<sub>4</sub> LASER CRYSTALS  
CRYSTALLOGRAPHY REPORTS 53(2), 336-338 (2008)
51. KARIPIDIS, TK; MAL'TSEV, VV; VOLKOVA, EA; CHUKICHEV, MV; LEONYUK, NI.  
THERMAL STABILITY OF ZINCITE SINGLE CRYSTALS  
CRYSTALLOGRAPHY REPORTS 53(2), 326-330 (2008)
52. LAGATSKY, AA; KISEL, VE; TROSHIN, AE; TOLSTIK, NA; KULESHOV, NV; LEONYUK, NI; ZHUKOV, AE; RAFAILOV, EU; SIBBETT, W.  
DIODE-PUMPED PASSIVELY MODE-LOCKED ER, YB : YAL<sub>3</sub>(BO<sub>3</sub>)<sub>4</sub> LASER AT 1.5-1.6 μm  
OPTICS LETTERS 33(1), 83-85 (2008)
53. TOLSTIK, NA; KURILCHIK, SV; KISEL, VE; KULESHOV, NV; MALTSEV, VV; PILIPENKO, OV; KOPORULINA, EV; LEONYUK, NI.  
EFFICIENT 1 W CONTINUOUS-WAVE DIODE-PUMPED ER, YB : YAL<sub>3</sub>(BO<sub>3</sub>)<sub>4</sub> LASER  
OPTICS LETTERS 32(22), 3233-3235 (2007)
54. FILIPPOV, VV; BONDAR, IT; KULESHOV, NV; LEONYUK, NI; MAL'TSEV, VV; PILIPENKO, OV.  
DISPERSION AND TEMPERATURE DEPENDENCE OF THE REFRACTIVE INDICES OF PURE AND YB<sup>3+</sup>-DOPED CRYSTALS OF YAL<sub>3</sub>(BO<sub>3</sub>)<sub>4</sub>  
JOURNAL OF OPTICAL TECHNOLOGY 74(10), 717-719 (2007)
55. LEONYUK, NI; WANG, JY; DAWES, JM; KULESHOV, NV.  
NEW NONLINEAR OPTICAL AND LASER CRYSTALS OF BORATE FAMILY  
JOURNAL OF MATERIALS SCIENCE 18, S293-S297 (2007)
56. LEONYUK, NI; MALTSEV, VV; VOLKOVA, EA; PILIPENKO, OV; KOPORULINA, EV; KISEL, VE; TOLSTIK, NA; KURILCHIK, SV; KULESHOV, NV.  
CRYSTAL GROWTH AND LASER PROPERTIES OF NEW RAL<sub>3</sub>(BO<sub>3</sub>)<sub>4</sub> (R = YB, ER) CRYSTALS  
OPTICAL MATERIALS 30(1), 161-163 (2007)
57. VOLKOVA, EA; LEONYUK, NI; MOKHOV, AV.  
LIQUID-PHASE EPITAXY OF NDAL<sub>3</sub>(BO<sub>3</sub>)<sub>4</sub> AND YB-DOPED YAL<sub>3</sub>(BO<sub>3</sub>)<sub>4</sub>  
INORGANIC MATERIALS 43(9), 980-987 (2007)
58. NIKITINA, MN; MAL'TSEV, VV; LEONYUK, NI.  
EFFECT OF FLUX COMPOSITION ON THE MORPHOLOGY OF KTiOPO<sub>4</sub> CRYSTALS  
CRYSTALLOGRAPHY REPORTS 52(5), 914-917 (2007)
59. POPOVA, EA; LEONYUK, NI; POPOVA, MN; CHUKALINA, EP; BOLDYREV, KN.  
THERMODYNAMIC AND OPTICAL PROPERTIES OF NDCR<sub>3</sub>(BO<sub>3</sub>)<sub>4</sub>  
PHYSICAL REVIEW B 76(5), - (2007)
60. NEKRASOVA, LV; LEONYUK, NI.  
TEMPERATURE-CONCENTRATION FIELDS OF THE CRYSTALLIZATION OF YBAL<sub>3</sub>(BO<sub>3</sub>)<sub>4</sub> FROM HIGH-TEMPERATURE MELT SOLUTIONS BASED ON POTASSIUM TRIMOLYBDATE  
CRYSTALLOGRAPHY REPORTS 52(4), 728-734 (2007)
61. BENAYAS, A; JAQUE, D; SOLE, J; LEONYUK, NI; BOVERO, E; CAVALLI, E; BETTINELLI, M.  
EFFECTS OF NEODYMIUM INCORPORATION ON THE STRUCTURAL AND LUMINESCENCE PROPERTIES OF THE YAL<sub>3</sub>(BO<sub>3</sub>)<sub>4</sub>-NDAL<sub>3</sub>(BO<sub>3</sub>)<sub>4</sub> SYSTEM  
JOURNAL OF PHYSICS 19(24), - (2007)
62. LEONYUK, NI; CAVALLI, E; CALESTANI, G; KULESHOV, NV; DAWES, JM; MALTSEV, VV; KOPORULINA, EV; VOLKOVA, EA; PILIPENKO, OV.

A NEW GENERATION OF NONLINEAR OPTICAL AND LASER CRYSTALS OF RARE EARTH BORATE AND TANTALATE FAMILIES

JOURNAL OF OPTOELECTRONICS AND ADVANCED MATERIALS 9(5), 1206-1214 (2007)

63. CAVALLI, E; JAQUE, D; LEONYUK, NI; SPEGHINI, A; BETTINELLI, M.  
OPTICAL SPECTRA OF TM<sup>3+</sup>-DOPED YAL<sub>3</sub>(BO<sub>3</sub>)<sub>4</sub> SINGLE CRYSTALS  
PHYSICA STATUS SOLIDI C 4(3), 809 (2007)
64. CAVALLI, E; BOVERO, E; VOLKOVA, EA; RAMPONI, R; LEONYUK, NI.  
OPTICAL SPECTRA OF FLUX GROWN ND<sup>3+</sup>: YTA<sub>7</sub>O<sub>19</sub> AND ND<sup>3+</sup>: LATA<sub>7</sub>O<sub>19</sub> CRYSTALS  
OPTICAL MATERIALS 28(11), 1235-1237 (2006)
65. LEONYUK, NI; KOPORULINA, EV; MALTSEV, VV; MOKHOV, AV; PILIPENKO, OV.  
HIGH TEMPERATURE CRYSTALLIZATION OF NDAL<sub>3</sub>(BO<sub>3</sub>)<sub>4</sub> AND YAL<sub>3</sub>(BO<sub>3</sub>)<sub>4</sub> DOPED WITH SC<sup>3+</sup> AND GA<sup>3+</sup>  
JOURNAL OF CRYSTAL GROWTH 281(2-4), 587-591 (2005)
66. LEONYUK, NI; LYUTIN, AV; MALTSEV, VV; BARILO, SN; BYCHKOV, GL; KURNEVICH, LA; EMELCHENKO, GA; MASALOV, VM; ZHOKHOV, AA.  
GROWTH AND MORPHOLOGY OF RUBY CRYSTALS WITH UNUSUAL CHROMIUM CONCENTRATION  
JOURNAL OF CRYSTAL GROWTH 280(3-4), 551-556 (2005)
67. MALTSEV, V; LEONYUK, N; SZYMCAK, R.  
A NEW ADVANCE IN CRYSTAL GROWTH OF TWO-DIMENSIONAL STRONTIUM CUPRATE-BORATE  
JOURNAL OF CRYSTAL GROWTH 277(1-4), 541-545 (2005)
68. LEONYUK, NI; KOPORULINA, EV; MALTSEV, VV; LI, J; ZHANG, HJ; ZHANG, JX; WANG, JY.  
GROWTH AND CHARACTERIZATION OF (TM,Y)AL-3(BO<sub>3</sub>)<sub>4</sub> AND (YB,Y)AL-3(BO<sub>3</sub>)<sub>4</sub> CRYSTALS  
JOURNAL OF CRYSTAL GROWTH 277(1-4), 252-257 (2005)
69. VOLKOVA, EA; LEONYUK, NI.  
GROWTH OF YB:YAL<sub>3</sub>(BO<sub>3</sub>)<sub>4</sub> THIN FILMS BY LIQUID-PHASE EPITAXY  
JOURNAL OF CRYSTAL GROWTH 275(1-2), 2467-2470 (2005)
70. VOLKOVA, EA; ALEKSEEV, A; LEONYUK, NI.  
CRYSTALLIZATION OF NEODYMIUM HEPTATANTALATE FROM MOLYBDATE BASED FLUX SYSTEMS  
JOURNAL OF CRYSTAL GROWTH 270(1-2), 145-149 (2004)
71. MALTSEV, V; LEONYUK, N; KOPORULINA, E; DOROKHOVA, G.  
FLUX GROWTH AND MORPHOLOGY OF SRCU<sub>2</sub>(BO<sub>3</sub>)<sub>2</sub> CRYSTALS  
JOURNAL OF CRYSTAL GROWTH 270(1-2), 102-106 (2004)
72. LEONYUK, NI; KOPORULINA, EV; MALTSEV, VV; PILIPENKO, OV; MELEKHOVA, MD; MOKHOV, A.  
CRYSTAL GROWTH AND CHARACTERIZATION OF YAL<sub>3</sub>(BO<sub>3</sub>)<sub>4</sub> DOPED WITH SC, GA, PR, HO, TM, YB  
OPTICAL MATERIALS 26(4), 443-447 (2004)
73. MALTSEV, V; LEONYUK, NI.  
CRYSTALLIZATION, PHASE TRANSITIONS AND THERMAL STABILITY OF LADDER-TYPE (M<sub>2</sub>CU<sub>2</sub>O<sub>3</sub>)(M)(CUO<sub>2</sub>)(N) CUPRATESE TRANSITIONS AND THERMAL  
JOURNAL OF OPTOELECTRONICS AND ADVANCED MATERIALS 5(4), 1017-1021 (2003)
74. VOLKOVA, EA; MALTSEV, VV; LEONYUK, NI.  
PHASE FORMATION IN NEODYMIUM TANTALATE BASED FLUX SYSTEMS  
JOURNAL OF OPTOELECTRONICS AND ADVANCED MATERIALS 5(4), 881-885 (2003)
75. KOZHBAKHTEEVA, DE; LEONYUK, NI.  
HYDROTHERMAL SYNTHESIS AND MORPHOLOGY OF EULYTITE-LIKE SINGLE CRYSTALS  
JOURNAL OF OPTOELECTRONICS AND ADVANCED MATERIALS 5(3), 621-625 (2003)
76. KOPORULINA, EV; PILIPENKO, OV; MALTSEV, VV; LEONYUK, NI; MOKHOV, AV.  
FLUX GROWTH, MORPHOLOGY AND COMPOSITION OF YAL<sub>3</sub>(BO<sub>3</sub>)<sub>4</sub> CRYSTALS DOPED WITH PR, HO, YB, TM  
JOURNAL OF OPTOELECTRONICS AND ADVANCED MATERIALS 5(3), 615-620 (2003)
77. NEFYODOVA, IV; LEONYUK, NI; KAMENSKIKH, IA.



- HYDROTHERMAL SYNTHESIS AND OPTICAL PROPERTIES OF CALCITE SINGLE CRYSTALS  
JOURNAL OF OPTOELECTRONICS AND ADVANCED MATERIALS 5(3), 609-613 (2003)
78. LEONYUK, NI; KOPORULINA, E; WANG, JY; HU, XB; MOKHOV, AV.  
NEODYMIUM AND CHROMIUM SEGREGATION AT HIGH-TEMPERATURE CRYSTALLIZATION OF (ND,Y)AL-3(BO3)(4) AND (ND,Y)CA4O(BO3)(3) DOPED WITH CR3+  
JOURNAL OF CRYSTAL GROWTH 252(1-3), 174-179 (2003)
79. MALYUKIN, YV; ZHMURIN, PN; BORYSOV, RS; ROTH, M; LEONYUK, NI.  
SPECTROSCOPIC AND LUMINESCENT CHARACTERISTICS OF PRAL3(BO3)(4) CRYSTALS  
OPTICS COMMUNICATIONS 201(4-6), 355-361 (2002)
80. CAVALLI, E; LEONYUK, LI; LEONYUK, NI.  
FLUX GROWTH AND OPTICAL SPECTRA OF NDTA7O19 CRYSTALS  
JOURNAL OF CRYSTAL GROWTH 224(1-2), 67-73 (2001)
81. KOPORULINA, EV; LEONYUK, NI; PILIPENKO, OV; MOKHOV, AV; BOCELLI, G; RIGHI, L.  
CRYSTALLIZATION OF SOLID SOLUTIONS BASED ON DOUBLE BERATES WITH HUNTITE STRUCTURE  
MATERIALS LETTERS 47(3), 145-149 (2001)
82. MALYUKIN, YV; LEBEDENKO, AN; POGREBNIK, NL; LITVINOV, LA; ROTH, M; LEONYUK, NI.  
PECULIARITIES OF THE Tl3+ ION SPECTROSCOPY IN DEFECTIVE CORUNDUM CRYSTALS  
OPTICS COMMUNICATIONS 186(1-3), 121-125 (2000)
83. KOPORULINA, EV; LEONYUK, NI; MOKHOV, AV; PILIPENKO, OV.  
CRYSTAL GROWTH AND CHARACTERIZATION OF THE (Y, RE)AL-3(BO3)(4) SOLID SOLUTIONS (RE = ND, GD, HO, YB, LU)  
JOURNAL OF SOLID STATE CHEMISTRY 154(1), 317-320 (2000)
84. SHVANSKII, EV; LEONYUK, NI; BOCELLI, G; RIGHI, L.  
CRYSTALLIZATION AND STRUCTURAL CHARACTERISTICS OF NEW BOROSILICATES  
JOURNAL OF SOLID STATE CHEMISTRY 154(1), 312-316 (2000)
85. MALYUKIN, YV; BORISOV, RS; LEBEDENKO, AN; LEONYUK, NI; ROTH, M.  
FEATURES OF THE LUMINESCENCE KINETICS OF PR3+ IONS IN THE Y2SIO5 CRYSTAL  
LOW TEMPERATURE PHYSICS 26(5), 363-366 (2000)
86. MOTCHANY, AI; CHVANSKI, PP; LEONYUK, NI.  
SYNTHESIS AND SOLUBILITY OF GAPO4 CRYSTALS IN ACID SOLUTIONS UNDER HYDROTHERMAL CONDITIONS  
JOURNAL OF CRYSTAL GROWTH 211(1-4), 506-508 (2000)
87. KOPORULINA, EV; LEONYUK, NI; MOKHOV, AV; PILIPENKO, OV; BOCELLI, G; RIGHI, L.  
FLUX GROWTH OF (Y,RE)AL-3(BO3)(4) SOLID SOLUTIONS (RE = ND, GD, HO, YB, LU)  
JOURNAL OF CRYSTAL GROWTH 211(1-4), 491-496 (2000)
88. NEFYODOVA, IV; LYUTIN, VI; BORODIN, VL; CHVANSKI, PP; LEONYUK, NI.  
HYDROTHERMAL GROWTH AND MORPHOLOGY OF CALCITE SINGLE CRYSTALS  
JOURNAL OF CRYSTAL GROWTH 211(1-4), 458-460 (2000)
89. EVSEEVA, IB; KHADZHY, VE; SHVANSKY, PP; LEONYUK, NI.  
SYNTHESIS OF PIEZOQUARTZ Y-BARS  
PROGRESS IN CRYSTAL GROWTH AND CHARACTERIZATION OF MATERIALS 40(1-4), 273-283 (2000)
90. NEFYODOVA, IV; LYUTIN, VI; BORODIN, VL; CHVANSKI, PP; LEONYUK, NI.  
PINACOIDAL GROWTH AND OPTICAL PROPERTIES OF CALCITE CRYSTALS  
PROGRESS IN CRYSTAL GROWTH AND CHARACTERIZATION OF MATERIALS 40(1-4), 263-271 (2000)
91. MOTCHANY, AI; CHVANSKI, PP; LEONYUK, NI.  
MORPHOLOGY OF GALLIUM ORTHOPHOSPHATE CRYSTALS GROWN UNDER HYDROTHERMAL CONDITIONS  
PROGRESS IN CRYSTAL GROWTH AND CHARACTERIZATION OF MATERIALS 40(1-4), 243-251 (2000)
92. LEONYUK, NI.  
ACID-BASE PROPERTIES OF ANHYDROUS BORATE SYSTEMS

- CONTEMPORARY BORON CHEMISTRY (253), 96-99 (2000)
93. BOCELLI, G; RIGHI, L; LEONYUK, L; LEONYUK, N; ZHILYAEVA, A; BABONAS, GJ; REZA, A; SZYMCZAK, P; BARAN, M; SHERRIFF, B.  
STRUCTURAL FEATURES AND SUPERCONDUCTIVITY OF AL-DOPED Y(RE)-123-TYPE SINGLE CRYSTALS  
SUPERCONDUCTOR SCIENCE & TECHNOLOGY 12(12), 1150-1155 (1999)
94. LEONYUK, NI; BELOKONEVA, EL; BOCELLI, G; RIGHI, L; SHVANSKII, EV; HENRYKHSO, RV; KULMAN, NV; KOZHBAKHTEEVA, DE.  
HIGH-TEMPERATURE CRYSTALLIZATION AND X-RAY CHARACTERIZATION OF Y<sub>2</sub>SiO<sub>5</sub>, Y<sub>2</sub>Si<sub>2</sub>O<sub>7</sub> AND LBSiO<sub>5</sub>  
JOURNAL OF CRYSTAL GROWTH 205(3), 361-367 (1999)
95. KOPORULINA, EV; LEONYUK, NI; BARILO, SN; KURNEVICH, LA; BYCHKOV, GL; MOKHOV, AV; BOCELLI, G; RIGHI, L.  
FLUX GROWTH, COMPOSITION, STRUCTURAL AND THERMAL CHARACTERISTICS OF (R<sub>X</sub>Y<sub>1-X</sub>)AL-3(BO<sub>3</sub>)<sub>4</sub> (R = ND, GD; X = 1, 0.6, 0.65, 0.7 AND 0.75) CRYSTALS  
JOURNAL OF CRYSTAL GROWTH 198, 460-465 (1999)
96. LEONYUK, NI; BELOKONEVA, EL; BOCELLI, G; RIGHI, L; SKVANSKII, EV; HENRYKHSO, RV; KULMAN, NV; KOZHBAKHTEEVA, DE.  
CRYSTAL GROWTH AND STRUCTURAL REFINEMENTS OF THE Y<sub>2</sub>SiO<sub>5</sub>, Y<sub>2</sub>Si<sub>2</sub>O<sub>7</sub> AND LBSiO<sub>5</sub> SINGLE CRYSTALS  
CRYSTAL RESEARCH AND TECHNOLOGY 34(9), 1175-1182 (1999)
97. KOPORULINA, EV; LEONYUK, NI; HANSEN, D; BRAY, KL.  
FLUX GROWTH AND LUMINESCENCE OF HO : YAL<sub>3</sub>(BO<sub>3</sub>)<sub>4</sub> AND PRAL<sub>3</sub>(BO<sub>3</sub>)<sub>4</sub> CRYSTALS  
JOURNAL OF CRYSTAL GROWTH 191(4), 767-773 (1998)
98. LEONYUK, NI; KOPORULINA, EV; BARILO, SN; KURNEVICH, LA; BYCHKOV, GL.  
CRYSTAL GROWTH OF SOLID SOLUTIONS BASED ON THE YAL<sub>3</sub>(BO<sub>3</sub>)<sub>4</sub>, NDAL<sub>3</sub>(BO<sub>3</sub>)<sub>4</sub> AND GDAL<sub>3</sub>(BO<sub>3</sub>)<sub>4</sub> BORATES  
JOURNAL OF CRYSTAL GROWTH 191(1-2), 135-142 (1998)
99. LEONYUK, NI; KOPORULINA, EV; BARILO, SN; KURNEVICH, LA; BYCHKOV, GL.  
DISTRIBUTION OF NEODYMIUM AND GADOLINIUM IN THE FLUX GROWTH OF (ND,Y)AL-3(BO<sub>3</sub>)<sub>4</sub> AND (GD,Y)AL-3(BO<sub>3</sub>)<sub>4</sub> CRYSTALS  
INORGANIC MATERIALS 33(7), 715-718 (1997)
100. LEONYUK, NI.  
STRUCTURAL ASPECTS IN CRYSTAL GROWTH OF ANHYDROUS BORATES  
JOURNAL OF CRYSTAL GROWTH 174(1-4), 301-307 (1997)
101. BELOKONEVA, EL; SHUVAEVA, VA; ANTIPIN, MY; LEONYUK, NI.  
CRYSTAL STRUCTURE OF A HIGH-TEMPERATURE MODIFICATION OF LBSiO<sub>5</sub>, A SYNTHETIC ANALOG OF STILLWELLITE  
ZHURNAL NEORGANICHESKOI KHIMII 41(7), 1097-1101 (1996)
102. STEFANOVICH, SY; SIGAEV, VN; DECHEV, AV; MOSUNOV, AV; SAMYGINA, VR; LEONYUK, NI; SARKISOV, PD.  
FERROELECTRIC PROPERTIES OF LNBSiO<sub>5</sub> (LN=LA, PR) BOROSILICATES, STRUCTURAL ANALOGS OF STILLWELLITE  
INORGANIC MATERIALS 31(6), 756-759 (1995)
103. SAMYGINA, VR; GENKINA, EA; MAKSIMOV, BA; LEONYUK, NI.  
CRYSTALLINE-STRUCTURE OF STILBELLITE LA-ANALOG  
KRISTALLOGRAFIYA 38(6), 61-65 (1993)  
[SAMYGINA, VR; GENKINA, EA; MAKSIMOV, BA; LEONYUK, NI.  
CRYSTAL STRUCTURE OF THE LA-ANALOG OF STILLWELLITE  
CRYSTALLOGRAPHY REPORTS 38(6), 744 (1993)]
104. YAMNOVA, NA; TSOMIROVA, ES; LEONYUK, NI.

CRYSTALLINE-STRUCTURE OF SYNTHETIC LA-CONTAINING FERSMITE

KRISTALLOGRAFIYA 38(1), 232-232 (1993)

[YAMNOVA, NA; TSOMIROVA, ES; LEONYUK, NI.

CRYSTAL STRUCTURE OF SYNTHETIC LA-CONTAINING FERSMITE

CRYSTALLOGRAPHY REPORTS 38(1), 124 (1993)]

105. LEONYUK, LI; VETKIN, AG; BELOKONEVA, EL; LEONYUK, NI.  
PHASE-RELATIONS IN THE BI(PB)-SR-CA(Y, RE)-CU-O SYSTEM  
SUPERCONDUCTOR SCIENCE & TECHNOLOGY 5(11), 658-662 (1992)
106. BELOKONEVA, EL; LEONYUK, LI; LEONYUK, NI.  
PREPARATION OF SINGLE CRYSTALS AND CRYSTAL STRUCTURES OF  $\text{IN}_2\text{CUO}_4$ ,  $(\text{ND}, \text{CE})_2\text{CUO}_4$  AND  
TETRAGONAL COPPER-DEFICIENT RARE EARTH-SUPERFLUOUS PHASE  $\text{SM}(\text{BA}, \text{SR})_2\text{CUO}_4\text{CU}_3\text{-YO}_2$   
SVERKPROVODIMOST: FIZ. KHIM. TEKH. (4), 563 (1991)  
[BELOKONEVA, EL; LEONYUK, LI; VETKIN, AG; LEONYUK, NI.  
SYNTHESIS OF SINGLE CRYSTALS AND THE CRYSTAL STRUCTURE OF  $(\text{PB}_{0.6}\text{SR}_{0.4})\text{SR}_2(\text{YO}_{0.8}\text{CA}_{0.2})\text{CU}_2\text{O}_7$ -  
A POLYMORPH (12) FROM THE BI, TL, (PB) CUPRATE SERIES  
SUPERCONDUCTIVITY: PHYSICS, CHEMISTRY, TECHNOLOGY 5(5), 948 (1992)]
107. ZVEZDIN, AK; KADOMTSEVA, AM; KOVALEV, AA; KUZMIN, MD; LEONYUK, LI; LEONYUK, NI;  
MARKOSYAN, AS; MILOV, VN.  
MAGNETOSTRICTION IN  $\text{PRBA}_2\text{CU}_3\text{O}_7$ -DELTA SINGLE-CRYSTAL  
JETP LETTERS 51(3), 196-200 (1990)
108. BELOKONEVA, EL; LEONYUK, LI; LEONYUK, NI; MOSHCHALOV, VV; GIPPIUS, AA; NYAN, HH.  
NEW OXIDE SUPERCONDUCTOR -  $\text{CASR}_2(\text{CU}_{0.83}\text{BI}_{0.17})_3\text{O}_Z$   
JAPANESE JOURNAL OF APPLIED PHYSICS PART 2-LETTERS 28(2), 207-208 (1989)
109. BELOKONEVA, EL; LEONIUK, LI; LEONIUK, NI; URUSOV, VS.  
PRODUCTION OF SINGLE CRYSTALS AND A STRUCTURE MODEL OF BISMUTH-CONTAINING HIGH-  
TEMPERATURE SUPERCONDUCTING COMPOUNDS  
DOKLADY AKADEMII NAUK 306(2), 370-374 (1989)
110. BELOKONEVA, EL; LEONYUK, NI; PASHKOVA, AV; TIMCHENKO, TI.  
NEW MODIFICATIONS OF RARE-EARTH ALUMINUM BORATES  
KRISTALLOGRAFIYA 33(5), 1287-1288 (1988)  
[BELOKONEVA, EL; LEONYUK, NI; PASHKOVA, AV; TIMCHENKO, TI.  
NEW MODIFICATIONS OF RARE EARTH-ALUMINUM BORATES  
SOVIET PHYSICS - CRYSTALLOGRAPHY 33(5), 765 (1988)]
111. GULYAEV, YV; IVANOV, SN; KOTELYANSKII, IM; LEONYUK, NI; MAKLETSOV, AN; MEDVED, VV; POTKIN,  
LI; TIMCHENKO, TI.  
ACOUSTIC-WAVE ABSORPTION IN YTTRIUM-ALUMINUM BORATE AND YAB-ND CRYSTALS  
PISMA V ZHURNAL TEKHNIЧЕСКОИ ФИЗИКИ 12(1), 18-21 (1986)
112. BURKOV, VI; KIZEL, VA; LEONYUK, LI; LEONYUK, NI; SITNIKOV, NM.  
SPECTRAL AND GYROTROPY CHARACTERISTICS OF  $\text{EUAL}_3(\text{BO}_3)_4$  CRYSTALS  
KRISTALLOGRAFIYA 29(1), 101-105 (1984)  
[BURKOV, VI; KIZEL, VA; LEONYUK, LI; LEONYUK, NI; SITNIKOV, NM.  
SPECTRAL AND GYROTROPIC CHARACTERISTICS OF THE  $\text{EUAL}_3(\text{BO}_3)_4$  CRYSTAL  
SOVIET PHYSICS - CRYSTALLOGRAPHY 29(1), 58 (1984)]
113. AZIZOV, AV; LEONIUK, NI; REZVYI, VR; TIMCHENKO, TI; BELOV, NV.  
SOLUBILITY AND PECULIARITIES OF YTTRIUM-ALUMINUM BORATE CRYSTAL-GROWTH  
DOKLADY AKADEMII NAUK 262(6), 1384-1386 (1982)  
[AZIZOV, AV; LEONIUK, NI; REZVYI, VR; TIMCHENKO, TI; BELOV, NV.  
SOLUBILITY AND GROWTH CHARACTERISTICS OF YTTRIUM-ALUMINUM BORATE  
SOVIET PHYSICS - DOKLADY 27(2), 95 (1982)]
114. BURKOV, VI; KIZEL, VA; LEONYUK, NI; SITNIKOV, NM.

- GYROTROPY OF CRYSTALS OF DOUBLE BORATES WITH THE HUNTITE STRUCTURE  
KRISTALLOGRAFIYA 27(1), 196-197 (1982)  
[BURKOV, VI; KIZEL, VA; LEONYUK, NI; SITNIKOV, NM.  
GYROTROPY OF CRYSTALS OF DOUBLE BORATES WITH THE HUNTITE STRUCTURE  
SOVIET PHYSICS - CRYSTALLOGRAPHY 27(1), 121 (1982)]
115. DOROZHKIN, IM; KURATEV, II; LEONYUK, NI; TIMCHENKO, TI; SHESTAKOV, AV.  
GENERATION OF SECOND OPTICAL HARMONIC IN NYAB CRYSTALS, NEW ACTIVE-NONLINEAR MEDIUM  
PIS'MA V ZHETF 7(21), 1297-1299 (1981)  
[DOROZHKIN, IM; KURATEV, II; LEONYUK, NI; TIMCHENKO, TI; SHESTAKOV, AV.  
GENERATION OF SECOND OPTICAL HARMONIC IN NYAB CRYSTALS, NEW ACTIVE-NONLINEAR MEDIUM  
JETP LETTERS 7(11), 555 (1981)]
116. AZIZOV, AV; LEONYUK, NI.  
THE EFFECT OF SUPERSATURATION AND TEMPERATURE ON THE RATE OF GROWTH OF  $YAL_3(BO_3)_4$   
CRYSTALS FROM MOLTEN SOLUTION  
JOURNAL OF CRYSTAL GROWTH 54(2), 296-298 (1981)
117. PASHKOVA, AV; SOROKINA, OV; LEONIUK, NI; TIMCHENKO, TI; BELOV, NV.  
A NEW SERIES OF DOUBLE METABORATES  
DOKLADY AKADEMII NAUK 258(1), 103-106 (1981)
118. BELOKONEVA, EL; AZIZOV, AV; LEONYUK, NI; SIMONOV, MA; BELOV, NV.  
CRYSTAL STRUCTURE OF  $YAL_3[BO_3]_4$   
JOURNAL OF STRUCTURAL CHEMISTRY 22(3), 476-477 (1981)  
[BELOKONEVA, EL; AZIZOV, AV; LEONYUK, NI; SIMONOV, MA; BELOV, NV.  
 $YAL_3(BO_3)_4$  CRYSTAL STRUCTURE  
ZHURNAL STRUKT. KHIMII 22, 196 (1981)]
119. LEONYUK, NI; GALIULIN, RV; ALSHINSKAYA, LI; DELONE, BN.  
PRACTICAL DETERMINATION OF PERFECT HABITS OF CRYSTALS  
ZEITSCHRIFT FUR KRISTALLOGRAPHIE 151(3-4), 263-269 (1980)
120. LEONYUK, NI; PASHKOVA, AV; GOKHMAN, LZ.  
VOLATILITY OF POTASSIUM TRIMOLYBDATE MELT AND SOLUBILITY OF YTTRIUM-ALUMINIUM BORATE  
IN IT  
JOURNAL OF CRYSTAL GROWTH 49(1), 141-144 (1980)
121. MALTSEVA, LI; LEONYUK, NI; TIMCHENKO, TI.  
CRYSTALS OF RARE-EARTH-FERROUS BORATES  
KRISTALL UND TECHNIK 15(1), 35-42 (1980)
122. LEONYUK, NI; MALTSEVA, LI.  
THE WULF-DELAUNAY METHOD AS APPLIED TO THE ESTIMATION OF CRYSTAL HABITUS  
KRISTALLOGRAFIYA 25(5), 916-920 (1980)
123. TIMCHENKO, TI; LEONYUK, NI; BUTUZOVA, GS.  
SOLUBILITY OF NEODYMIUM-ALUMINIUM ORTHO-BORATE IN THE MELT  $BAO_2 \cdot 2BA_2O_3$   
KRISTALLOGRAFIYA 25(4), 895-896 (1980)  
[TIMCHENKO, TI; LEONYUK, NI; BUTUZOVA, GS.  
SOLUBILITY OF NEODYMIUM ALUMINIUM ORTHOBORATE IN A  $BAO_2 \cdot 2B_2O_3$  MELT  
SOVIET PHYSICS - CRYSTALLOGRAPHY 25(4), 515 (1980)]
124. ALSHINSKAYA, LI; LEONYUK, NI; TIMCHENKO, TI.  
HIGH-TEMPERATURE CRYSTALLIZATION, COMPOSITION, STRUCTURE, AND CERTAIN PROPERTIES OF  
RARE-EARTH GALLIUM BORATES  
KRISTALL UND TECHNIK 14(8), 897 (1979)
125. AZIZOV, AV; LEONIUK, NI; TIMCHENKO, TI; BELOV, NV.  
CRYSTALLIZATION OF YTTRIUM-ALUMINIUM BORATE FROM SOLUTION IN MELT ON THE BASE OF  
POTASSIUM TRIMOLYBDATE

- DOKLADY AKADEMII NAUK SSSR 246(1), 91 (1979)  
[AZIZOV, AV; LEONIUK, NI; TIMCHENKO, TI; BELOV, NV.  
CRYSTALLIZATION OF YTTRIUM-ALUMINUM BORATE FROM SOLUTION IN A MELT BASED ON  
POTASSIUM TRIMOLYBDATE  
SOVIET PHYSICS - DOKLADY 24(5), 313 (1979)]
126. BELOKONEVA, EL; ALSHINSKAYA, LI; SIMONOV, MA; LEONYUK, NI; TIMCHENKO, TI; BELOV, NV.  
CRYSTAL STRUCTURE OF (ND, BI)FE<sub>3</sub>[BO<sub>3</sub>]<sub>4</sub>  
JOURNAL OF STRUCTURAL CHEMISTRY 20(3), 461 (1979)
127. LEONIUK, NI; PASHKOVA, AV; TIMCHENKO, TI.  
CRYSTALLIZATION AND SOME CHARACTERISTICS OF (Y,ER)AL<sub>3</sub>[BO<sub>3</sub>]<sub>4</sub>  
DOKLADY AKADEMII NAUK SSSR 245(5), 1109 (1979)  
[LEONIUK, NI; PASHKOVA, AV; TIMCHENKO, TI.  
CRYSTALLIZATION AND SOME CHARACTERISTICS OF (Y,ER)AL<sub>3</sub>(BO<sub>3</sub>)<sub>4</sub>  
SOVIET PHYSICS - DOKLADY 24, 233 (1979)]
128. LEONYUK, NI; PASHKOVA, AV; BELOV, NV.  
NEODYMIUM INCORPORATION INTO YAL-BORATE CRYSTALS IN PREPARATION FROM SOLUTIONS IN  
MOLTEN POTASSIUM TRIMOLYBDATE  
KRISTALL UND TECHNIK 14(1), 47 (1979)
129. TIMCHENKO, TI; LEONIUK, NI; PASHKOVA, AV; ZHURAVLEVA, ON.  
REGION OF MONOPHASIC CRYSTALLIZATION OF NEODYMIUM-ALUMINUM ORTHO-BORATE IN THE  
MOLYBDATE SOLUTION-MELT  
DOKLADY AKADEMII NAUK SSSR 246(3), 613 (1979)  
[TIMCHENKO, TI; LEONIUK, NI; PASHKOVA, AV; ZHURAVLEVA, ON.  
THE REGION OF SINGLE-PHASE CRYSTALLIZATION OF NEODYMIUM-ALUMINIUM ORTHOBORATE FROM  
A MOLYBDATE SOLVENT MELT  
SOVIET PHYSICS - DOKLADY 24(5), 336 (1979)]
130. ALSHINSKAYA, LI; LEONYUK, NI; POZDNYAKOVA, NV; BELOV, NV.  
INVESTIGATION OF CRYSTALS OF RARE-EARTH-FERROUS AND RARE-EARTH-GALLOUS BORATES BY  
METHOD OF QUANTITATIVE X-RAY SPECTRAL ANALYSIS  
KRISTALLOGRAFIYA 23(3), 534 (1978)
131. BELOKONEVA, EL; AL'SHINSKAYA, LI; SIMONOV, MA; LEONYUK, NI; TIMCHENKO, TI; BELOV, NV.  
CRYSTAL STRUCTURE OF NDGA<sub>3</sub>[1303]<sub>4</sub>  
ZHURNAL STRUKT. KHIMII 19(2), 332-334 (1978)  
[BELOKONEVA, EL; ALSHINSKAYA, LI; SIMONOV, MA; LEONYUK, NI; TIMCHENKO, TI; BELOV, NV.  
CRYSTAL-STRUCTURE OF NDGA<sub>3</sub>[BO<sub>3</sub>]<sub>4</sub>  
JOURNAL OF STRUCTURAL CHEMISTRY 19(2), 332 (1978)]
132. AKHMETOV, SF; AKHMETOVA, GL; KOVALENKO, VS; LEONYUK, NI; PASHKOVA, AV.  
THERMAL DECOMPOSITION OF RARE EARTH ALUMINUM BORATES  
KRISTALLOGRAFIYA 23(1), 198 (1978)  
[AKHMETOV, SF; AKHMETOVA, GL; KOVALENKO, VS; LEONYUK, NI; PASHKOVA, AV.  
THERMAL DECOMPOSITION OF RARE EARTH ALUMINUM BORATES  
SOVIET PHYSICS - CRYSTALLOGRAPHY 23(1), 107-108 (1978)]
133. SERGEEV, VM; LEONYUK, NI.  
CAPTURE CENTERS IN YTTRIUM-ALUMINIUM BORATE CRYSTALS  
KRISTALL UND TECHNIK 13(11), 1297-1303 (1978)
134. SOKOLOVA, EV; AZIZOV, AV; SIMONOV, MA; LEONIUK, NI; BELOV, NV.  
CRYSTAL STRUCTURE OF SYNTHETIC ORTHO-3-BORATE, AL<sub>5</sub>(BO<sub>3</sub>)O<sub>6</sub>  
DOKLADY AKADEMII NAUK SSSR 243(3), 655-658 (1978)
135. PUSHCHAROVSKII, DI; KARPOV, OG; LEONIUK, NI; BELOV, NV.  
CRYSTAL STRUCTURE OF NONSTOICHIOMETRIC ND,AL-DIMETABORATE, NDAL<sub>2</sub>,07[B<sub>4</sub>O<sub>10</sub>]O<sub>0,6</sub>

- DOKLADY AKADEMII NAUK SSSR 241(1), 91-94 (1978)  
[SOKOLOVA, EV; AZIZOV, AV; SIMONOV, MA; LEONIUK, NI; BELOV, NV.  
CRYSTAL STRUCTURE OF SYNTHETIC ORTHO-3-BORATE  $Al_5(BO_3)O_6$   
SOVIET PHYSICS - DOKLADY 23(11), 814 (1978)]
136. LEONIUK, NI; AZIZOV, AV; BELOV, NV.  
EXPERIMENTAL INVESTIGATION OF RATE OF YTTRIUM-ALUMINIUM BORATE CRYSTAL-GROWTH  
DOKLADY AKADEMII NAUK SSSR 240(6), 1344 (1978)
137. BILAK, VI; KURATEV, II; LEONIUK, NI; PASHKOV, VA; PASHKOVA, AV; TIMCHENKO, TI; SHESTAKOV, AV.  
LUMINESCENT AND GENERATION CHARACTERISTICS OF NEODYMIUM-ALUMINIUM BORATE  
DOKLADY AKADEMII NAUK 240(3), 585 (1978)  
[BILAK, VI; KURATEV, II; LEONIUK, NI; PASHKOV, VA; PASHKOVA, AV; TIMCHENKO, TI; SHESTAKOV, AV.  
LUMINESCENCE AND LASING CHARACTERISTICS OF NEODYMIUM-ALUMINIUM BORATE CRYSTALS  
SOVIET PHYSICS - DOKLADY 23(5), 299 (1978)]
138. LEONYUK, NI; PASHKOVA, AV; GOKHMAN, LZ.  
VOLATILITY AND THERMAL-DECOMPOSITION OF POTASSIUM TRIMOLYBDATE MELT  
ZHURNAL NEORGANICHESKOI KHIMII 22(8), 2171-2174 (1977)
139. LEONYUK, NI.  
SOLUBILITY OF  $YAl_3(BO_3)$  SEEDING CRYSTAL GROWTH  
INORGANIC MATERIALS 12(3), 554-555 (1976)
140. LEONYUK, NI.  
SOLUBILITY OF  $YAl_3[BO_3]_4$  IN FUSED POTASSIUM TRIMOLYBDATE AND GROWTH OF CRYSTALS ON A SEED  
INORGANIC MATERIALS 12(3), 482 (1976)
141. LEONYUK NI, PASHKOVA AV, SEMENOVA TD.  
FLUX GROWTH AND MORPHOLOGY OF REAL-BORATE CRYSTALS  
INORGANIC MATERIALS 11(1), 181-183 (1975)
142. FILIMOHOV, AA; LEONYUK, NI; MEISSNER, LB; TIMCHENKO, TI; REZ, JS.  
NONLINEAR OPTICAL PROPERTIES OF ISOMORPHIC FAMILY OF CRYSTALS WITH YTTRIUM-ALUMINIUM  
BORATE (YAB) STRUCTURE  
KRISTALL UND TECHNIK 9(1), 63 (1974)
143. LEONYUK, NI; SEMENOVA, TD; TIMCHENKO, TI; SHEFTAL, NN.  
SYNTHESIS OF POTASSIUM TRIMOLYBDATE, NEW FLUX FOR  $YAl_3$ -BORATE  
VESTNIK MOSKOVSKOGO UNIVERSITETA, SER. GEOLOGIYA (2), 112 (1972)