

## Volume 68, Number 6, 2004

### Proceedings of the Conference “Shaped Crystal Growth by Stepanov Method, Plasticity and Strength of Crystals”

<b>S.P. Nikanorov</b> Study and Application Potential of Stepanov Method.....	859
<b>L.L. Kuandykov and V.S. Yuferev</b> Anisotropy of Free Surface Energy of Sapphire Single Crystals .....	861
<b>V.N. Kurlov and S.N. Rossolenko</b> Application of Noncapillary Shaping Method for Growth of Large-Scale Sapphire Crucibles.....	867
<b>V.N. Kurlov and S.V. Belenko</b> Growth of $Al_2O_3-Al_2O_3:Ti^{3+}$ Modulated Structures by Various Modifications of Stepanov Method .....	873
<b>P.I. Antonov, V.M. Krymov, Yu.G. Nosov, and I.L. Shulpina</b> Growth of Basal Facet Ribbon Sapphire Crystals and Study of Their Dislocation Structure .....	880
<b>L.L. Kuandykov, S.I. Bakholdin, I.L. Shulpina, and P.I. Antonov</b> Model of Block Structure Formation in Basal Facet Sapphire Ribbons.....	888
<b>A.V. Borodin, V.A. Borodin, D.N. Frantsev, and M.V. Yudin</b> Crystal Profile Control During Growth of Sapphire Domes 100 mm in Diameter by Local Dynamic Shaping .....	895
<b>V.A. Borodin, A.V. Zhdanov, and M.V. Yudin</b> Growth of Tubes with Small Inside Diameter from Melt by Stepanov Method.....	901
<b>L.L. Kuandykov, S.I. Bakholdin, and P.I. Antonov</b> Sliding Meniscus Method for Determination of Equilibrium Growth Angle.....	907
<b>L.L. Kuandykov, S.I. Bakholdin, and P.I. Antonov</b> Experimental Study of Thermal Field Jumps in Bulk Single-Crystal Sapphire Ribbons Grown by Stepanov Method .....	911
<b>A.B. Sinani, A.S. Vlasov, E.L. Zilberbrand, A.A. Kozhushko, A.I. Kozachuk, M.I. Stepanov, S.I. Bakholdin, and P.I. Antonov</b> Sapphire Plates for Transparent Protection Against High-Velocity Impact.....	916
<b>M.G. Vasiliev and V.S. Yuferev</b> Effect of Radiative Heat Transfer on Crystallization Front Shape During Growth of Basal Facet Sapphire Ribbons .....	921
<b>D.N. Borisenko, V.A. Borodin, A.V. Borodin, A.V. Zhdanov, M.V. Yudin, and D.N. Frantsev</b> Temperature Fields in Tubes Grown from Melt by Local Shaping.....	928
<b>V.A. Borodin, A.V. Zhdanov, and M.V. Yudin</b> Thermal Stresses in Tubes Grown from Melt by Stepanov Method under Exposure to Thermal Pulses.....	933
<b>P.I. Antonov, S.I. Bakholdin, V.M. Krymov, L.L. Kuandykov, and A.V. Moskalev</b> Experimental Study of Variations in Heater Power During Growth of Shaped Sapphire Single Crystals.....	936
<b>L.I. Ivleva, V.V. Voronov, I.S. Voronina, N.M. Polozkov, and P.A. Lykov</b> Crystallization Features and Actual Structure of Bulk-Shaped Oxide Single Crystals.....	942

<b>B.S. Redkin, D.B. Irzhak, and D.V. Roshchupkin</b> Formation of Regular Domain Structures in LiNbO <sub>3</sub> Crystals Grown by Stepanov Method .....	948
<b>V.N. Kurlov, N.V. Klassen, A.M. Dodonov, G.K. Strukova, S.Z. Shmurak, and I.M. Shmytko</b> Charge Synthesis and Growth of Shaped Y <sub>3</sub> Al <sub>5</sub> O <sub>12</sub> :Re <sup>3+</sup> Crystals (Re = Ce, Eu, Tb) .....	951
<b>N.V. Abrosimov, A.I. Erko, V.N. Kurlov, S.N. Rossolenko, I.G. Rasin, and H. Riemann</b> Control of Distribution Profile of Components During Growth of Si:Ge Single Crystals by Czochralski Method .....	955
<b>S.K. Brantov, V.V. Kveder, A.A. Kolchin, and N.N. Kuznetsov</b> Study of Structural and Electrical Characteristics of Silicon-Carbon Materials Grown by Method of Two Shaping Elements .....	960
<b>G.G. Khokhlov, B.N. Korchunov, V.N. Osipov, and V.V. Peller</b> Surface Tension-Induced Instability in Shape and Sizes of Products Grown by Stepanov Method .....	964
<b>V.Yu. Fedorov</b> Dependence of Microstructure Dispersity of Aluminum Alloys on Crystallization Parameters.....	969
<b>V.Yu. Fedorov, S.B. Kustov, and R. Schaller</b> Mechanical Properties of Ribbons Grown from Al-Si (11.7%) Alloy by Stepanov Method ..	976
<b>Yu.A. Fadin, V.V. Peller, G.G. Khokhlov, and M.M. Ibragimov</b> Influence of Structure of Directionally Solidified Aluminum Alloys on Friction Parameters.....	981
<b>G.S. Kazakevich, V.V. Peller, B.N. Korchunov, V.N. Osipov, G.G. Khokhlov, V.Yu. Yurov, and M.B. Klyukvin</b> Plastic Deformation of Al-12.5% Si Cast Alloy Grown by Stepanov Method.....	985
<b>A.V. Borodin, D.N. Frantsev, and M.V. Yudin</b> Development of Program-Technical Complex for Full Automation of Shaped Sapphire Crystal Growth.....	990
<b>S.I. Bakholdin, V.M. Krymov, and S.M. Molokovsky</b> Video Computer System for Measuring Transverse Size of Growing Shaped Sapphire Crystals .....	996
<b>A.V. Shkulkov</b> Attractor Formation in Induction Skull-Melting Systems and Its Effect on Crystal Structure.....	1000
<b>T.A. Kompan, A.S. Korenev, A.Ya. Lukin, P.I. Antonov, V.M. Krymov, and A.V. Moskalev</b> Shaped Sapphire as New Reference Material in Dilatometry .....	1007
<b>V.N. Kurlov, P.A. Gurzhiyants, A.M. Bilgiç, and E. Voges</b> Shaped Sapphire Crystals for Gas-Discharge Plasma Sources.....	1011
<b>V.I. Nikolaev, R.B. Timashev, S.I. Bakholdin, and V.M. Krymov</b> Epitaxial Growth of (Al, In)GaN Solid Solution Layers on Self-Faceted Sapphire Ribbons Grown by Stepanov Method .....	1015
<b>V.V. Peller</b> Application of Shaped Products of Aluminum Alloys and Prospects for Development of Competitive Technologies of Their Production.....	1020
<b>S.B. Alekseev and V.V. Peller</b> Potential of Using Plasma Technologies for Crystallization from Aluminum Melts .....	1025–1027