Informatics Inc

(12)

ADA029403

D D C
SEP 7 1976
RECEIVED
C

APPROVED FOR PUBLIC RELEASE; DISTRIBUTION UNLIMITED

(12)

# BIBLIOGRAPHY OF SOVIET DEVELOPMENTS IN SUPERCONDUCTIVITY

January 1975 - June 1976

Sponsored by
Defense Advanced
Research Projects Agency

D D C
RECEIVED
SEP 7 1976
C

DARPA Order No. 3097, Amendment 1

DARPA Order No. 3097, Amendment 1
Program Code No. 6L10, Program Element Code 62711E
Name of Contractor:
Informatics Inc.
Effective Date of Contract:
March 16, 1976
Contract Expiration Date:
September 17, 1976
Amount of Contract: $109, 724

Contract No. MDA-903-76C-0254
Principal Investigator:
Stuart G. Hibben
Tel: (301) 770-3000
Program Manager:
Ruth Ness
Tel: (301) 770-3000
Short Title of Work:
"Superconductivity"

This research was supported by the Defense Advanced Research Projects Agency and was monitored by the Defense Supply Service - Washington, under Contract No. MDA-903-76C-0254. The views and conclusions contained in this document are those of the author and should not be interpreted as necessarily representing the official policies, either express or implied, of the Defense Advanced Research Projects Agency or the United States Government.

informatics inc
6000 Executive Boulevard
Rockville, Maryland 20852
(301) 770-3000

Approved for public release; distribution unlimited.

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

# REPORT DOCUMENTATION PAGE

READ INSTRUCTIONS BEFORE COMPLETING FORM

1. REPORT NUMBER

2. GOVT ACCESSION NO.

3. RECIPIENT'S CATALOG NUMBER

4. TITLE (and Subtitle)

(6) Bibliography of Soviet Developments in Superconductivity, January 1975 - June 1976

5. TYPE OF REPORT & PERIOD COVERED

Scientific . . . ~~Interim~~

6. PERFORMING ORG. REPORT NUMBER

7. AUTHOR(s)

(10) John Kourilo Stuart G. Hibben

8. CONTRACT OR GRANT NUMBER(s)

MDA-903-76C-0099

9. PERFORMING ORGANIZATION NAME AND ADDRESS

Informatics Inc.
6000 Executive Boulevard
Rockville, Maryland 20852

10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS

DARPA Order No. 3097
Program Code No. P6L10
P6D10, P6E20, P6G10

11. CONTROLLING OFFICE NAME AND ADDRESS

Defense Advance Research Projects Agency/TAO
1400 Wilson Blvd.
Arlington, Va. 22209

12. REPORT DATE

31 August, 1976

13. NUMBER OF PAGES

83

14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office)

Defense Supply Service - Washington
Room 1D245, Pentagon
Washington, D. C. 20310

(12) 87p.

15. SECURITY CLASS. (of this report)

UNCLASSIFIED

15a. DECLASSIFICATION/DOWNGRADING SCHEDULE

16. DISTRIBUTION STATEMENT (of this Report)

~~Approved for public release; distribution unlimited.~~

(15) MDA903-76-C-0099 / ARPA Order-3097

17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)

18. SUPPLEMENTARY NOTES

Scientific . . . Interim

19. KEY WORDS (Continue on reverse side if necessary and identify by block number)

Superconductivity
Critical Temperature
Josephson Device
High Field Magnets
Cryogenics
Power Generation
Power Transmission
Niobium Alloys

20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

This is a bibliography of recent Soviet-bloc publications on the subject of superconductivity, covering the period of January, 1975 through June, 1976. The citations are taken from open-source literature received at the Informatics library during this interval.

DD FORM 1 JAN 73 1473 EDITION OF 1 NOV 65 IS OBSOLETE

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

# INTRODUCTION

This is a bibliography of recent Soviet-bloc publications on the subject of superconductivity, covering the period of January, 1975 through June, 1976. The citations are taken from open-source literature received at the Informatics library during this interval.

While there are numerous ways in which this material might logically be structured, we have used the general subject headings of the National Bureau of Standards' quarterly, Superconducting Devices and Materials, as a guideline, but with a less comprehensive breakdown.

To the extent that related research pertinent to superconductivity phenomena, e.g. high pressure studies, are omitted, this collection is not offered as a comprehensive coverage of the field. Nevertheless it gives a good indication of the level of Soviet interest in superconductivity research, and in the process cites a number of Soviet sources which are not routinely available to Western readers either in original or translated form.

We offer this as first attempt to organize Soviet publications on superconductivity in some systematic way, and would welcome readers' suggestions for expansion, reorganization or corrections. We hope ultimately to present this type of material in a way that it could be readily integrated into a world-wide data base on superconductivity research and applications.

Except for parenthesized source citations, all original material is available at the Informatics Library.

## Table of Contents


1. Theory . . . . . 1
2. High $T_c$ Materials . . . . . 25
3. High-Field Materials. . . . . 35
4. Other Superconductor Materials . . . . . 37
5. Josephson Devices . . . . . 50
6. High-Field Magnets . . . . . 56
7. Power Generators . . . . . 59
8. Miscellaneous Devices . . . . . 61
9. Books, Reviews, Conferences. . . . . 72
10. Source Abbreviations . . . . . 78

## 1. Theory


1. Abraimov, V. V., V. P. Soldatov, and V. I. Startsev. Effect of nickel paramagnetic admixture on weakening of lead during transition to superconducting state. ZhETF P, v. 21, 1975, 705-708.

2. Agapov, Yu. I., V. G. Drozhenko, V. I. Dudin, and V. N. Mikhaylov. Relation between magnetization and critical current density in hard type II superconductors. Fiz. nizk. temp., no. 4, 1975, 428-434.

3. Agranovich, V. M., Yu. Ye. Lozovik, and A. G. Mal'shukov. Electron reordering at the boundary of a dielectric-metal and the problem of searching for high-temperature superconductivity. UFN, v. 117, no. 3, 1975, 570-572.

4. Antonyuk, B. P. Instability of a metallic filament surrounded by polarizing molecules. FTP, no. 6, 1976, 1564-1567.

5. Antsygina, T. N. Paraconductivity of one-dimensional granular systems. FNT, vo. 1, no. 9, 1975, 1094-1097.

6. Antsygina, T. N., Ye. N. Bratus', and A. V. Svidzinskiy, Josephson current across an SNS junction in the presence of a magnetic field. Fiz. nizk. temperatur, v. 1, no. 1, 1975, 49-56. (RZhF, 6/75, no. 6E1091).

7. Aronov, A. G. Photoelectric and acoustoelectric fields in superconductors. ZhETF, v. 70, no. 4, 1976, 1477-1485.

8. Aronov, A. G., and B. Z. Spivak. Stability of superconductors with a negative superfluid density. FTT, no. 9, 1975, 2806-2808.

9. Aronov, A. G., and B. Z. Spivak. Properties of superconductors with nonequilibrium excitation. FTT, no. 2, 1976, 541-553.

10. Aronov, A. G., and R. Katilyus. Kinetics of fluctuations in pure superconductors. ZhETF, v. 68, no. 6, 1975, 2208-2223.

11. Aronov, A. G., and V. L. Gurevich. Electron sound of finite amplitude in superconductors. ZhETF, v. 70, no. 3, 1976, 955-970.

12. Artemenko, S. N., and A. F. Volkov. Thermoelectric field in superconductors. ZhETF, v. 70, no. 3, 1976, 1051-1060.

13. Artemenko, S. N., and A. F. Volkov. Thermal e.m.f. in superconductors. ZhETF P, v. 21, no. 11, 1975, 662-665.

14. Artemenko, S. N., and A. F. Volkov. Collective excitation with a sonic spectrum in superconductors. ZhETF, v. 69, no. 5, 1975, 1764-1767.

15. Askar'yan, G. A., and I. N. Arutyunyan. R.f. emission during transit of relativistic particles through low-dispersion superconducting media in a magnetic field, or through media in a strong electric field. ZhTF P, v. 1, no. 18, 1975, 817-820.

16. Aslamazov, L. G., and A. I. Larkin. Superconducting contacts with nonequilibrium electron distribution functions. ZhETF, v. 70, no. 4, 1976, 1340-1349.

17. Barabanov, A. F., K. A. Kikoin, and L. A. Maksimov. Effect of f-levels on the critical temperature of transition metals. ZhETF, v. 69, no. 2, 1975, 688-694.

18. Baru, V. G., and A. A. Sukhanov. Novyye tipy neustoychivosti pri neravnovesnom vozbuzhdenii sverkhprovodnika. (New type of instability during nonequilibrium excitation of a superconductor). AN SSSR, In-t radiotekhn. i elektroniki. Preprint no. 7, Moskva, 1975, 11 p. (RZhF, 9/75, #9Ye1129).

19. Baru, V. G., and A. A. sukhanov. New types of instability from nonequilibrium excitation of superconductors. ZhETF P, v. 21, no. 4, 1975, 209-212.

20. Bar'yakhtar, V. G., and V. P. Seminozhenko. Electron relaxation in superconductors under current. IN: Sb. Mekhanizmy relaksatsion. yavleniy v tverd. telakh. Kaunas, 1974, 36-38. (RZhF, 3/75, no. 3E1026).

21. Belogolovskiy, M. A. Effect of the topological changes of a Fermi surface on superconducting characterists of metallic films. FNT, v. 2, no. 2, 1976, 184-188.

22. Belogolovskiy, M. A., A. A. Galkin, and V. M. Svistunov. Appearance of effects of band structure during tunneling in metals. ZhETF, v. 69, no. 5, 1975, 1795-1803.

23. Belogolovskiy, M. A., A. A. Galkin, and V. M. Svistunov. Relation between $2[Gr]_0T$ and phonon spectrum of a superconductor. FTT, no. 1, 1975, 145-149.

24. Belogolovskiy, M. A., Yu. M. Ivanchenko, and Yu. V. Medvedev. Evidence of electron-phonon interactions on tunneling curves of normal junctions. ZhETF P, v. 21, no. 12, 1975, 701-704.

25. Belogolovskiy, M. A., Yu. M. Ivanchenko, and Yu. V. Medvedev. Many-particle effects of tunneling in solids. FTT, no. 10, 1975, 2907-2914.

26. Belonogov, S. A., B. V. Krotkov, and N. R. Novikova. Computer modelling of the characteristics of superconducting weakly-coupled contacts. IN: Tr. Mosk. energ. in-ta, no. 251, 1975, 91-94. (RZh Radiot, 4/76, #4Ye580).

27. Bezuglyy, Ye. V. Effect of superconducting coating on the thermal conductivity of a normal metal. FNT, no. 5, 1976, 571-581.

28. Bezuglyy, A. I., I. O. Kulik, and Yu. N. Mitsay. Theory of superconducting junctions with an interlayer of normal metal. Fiz. nizk. temperatur, v. 1, no. 1, 1975, 57-67. (RZhF, 6/75, no. 6E1092).

29. Bezuglyy, A. I., and Yu. N. Mitsay. On the theory of the Tomash effect in SINS contacts. Fiz. nizk. temperatur, no. 4, 1975, 451-457.

30. Blazhin, V. D. Electron spectra of a crystal in a powerful optical field. FTT, no. 8, 1975, 2325-2539.

31. Blazhin, V. D. Peierls transitions in a strong optical field. ZhETF P, v. 23, no. 8, 1976, 449-451.

32. Bogachek, E. N., G. A. Gogodze, and I. O. Kulik. Doubling of the period of flux quantization in hollow superconducting cylinders, due to quantum effects in the normal state. Phys. st. solidi (b), v. 67, no. 1, 1975, 287-290. (RZhF, 6/75, no. 6E1047).

33. Bohdziewicz, A., and B. Makiej. Dependence of the Ginzburg-Landau parameter $\varkappa$ on the thickness of thin cylindrical superconducting In films near $T_c$. Acta physica polonica, A47, no. 3, 1975, 323-327.

34. Borisyuk, V. A. Velocity and absorption of sound in superconductors. Fiz. nizk. temp., no. 3, 1975, 321-335.

35. Botoshan, N. I., M. I. Vladimir, and V. A. Moskalenko. Density of the electron state in a two-band superconductor with paramagnetic impurity. The case of weak exchange and strong interband scattering. TMF, v. 25, no. 3, 1975, 382-394.

36. Brankov, I. G., and N. S. Tonchev. Model' sverkhprovodnika s uchetom strukturnoy neustoychivosti tipa udvoyeniya perioda (A superconductor model, taking into account structural instability of the doubled period type) Dubna, 1975, 25 p. (RZhF, 12/75, #12Ye 1195)

37. Brankov, I. G. and N. S. Tonchev. An exact solution for a superconductor model with allowance for electron-hole pairing. IN: Ob'yedin. institut yader. issled. Lab. teor. fiz. Preprint R4-8150. Dubna, 1974, 16 p. (RZhF, 2/75, no. 2E741).

38. Brankov, I. G., and N. S. Tonchev. Effect of structural instability of the doubled period type on the superconducting phase transition. OIYaI, Dubna, 1975, 24 p. (RZhF, 11/75, no. 11Ye1018).

39. Brazovskiy, S. A., and I. Ye. Dzyaloshinskiy. Type one transition in MnO and renormalization group ("scaling"). ZhETF P, v. 21, no. 6, 1975, 360-364.

40. Bulayevskiy, L. N., and A. A. Guseynov. Effect of impurities on the existence of an inhomogeneous state in layered superconductors. FNT, no. 3, 1976, 282-288.

41. Bulayevskiy, L. N., and A. I. Rusinov. Absence of paramagnetic threshold of $H_{c211}$ in layered superconductors without inversion center. ZhETF P, v. 21, no. 2, 1975, 147-149.

42. Bulayevskiy, L. N., and D. I. Khomskiy. Three-dimensional ordering of charge density waves in layered compounds. ZhETF P, v. 23, no. 10, 1976, 581-584.

43. Bulyzhenkov, I. E., and B. I. Ivlev. Nonlinearity of acoustic attenuation in nonequilibrium superconductors. ZhETF, v. 70, no. 4, 1976, 1405-1411.

44. Bychkova, N. N. Electromagnetic generation of sound in superconductors. FMiM, no. 1, 1975, 1127-1132.

45. Chernov, V. M. Origin of the effect of changing dislocation mobility under conditions of a superconducting transition. FTT, no. 4, 1976, 1194-1196.

46. Cheyshvili, O. D. Absorption of sound in metals in magnetic fields above $T_c$. IN: Sb. Elektron. i ionnyye protsessy v tverd. telakh, no. 8, Tbilisi, Izd-vo Metsniyereba, 1975 89-99. (RZhF, 1/76, #1Ye1154).

47. Cheyshvili, O. D. Surface fluctuation conductivity in bulk superconductors. Fiz. nizk. temperatur, v. 1, no. 2, 1975, 177-182. (RZhF, 6/75, no. 6E1079).

48. Cheyshvili, O. D. Fluctuation phenomena in superconductors below $T_c$. FNT, no. 12, 1975, 1508-1515.

49. Churilov, G. Ye., V. M. Dmitriyev, A. P. Beskorsyy and V. N. Svetlov. Kinetic inductance of superconducting thin films at SHF. RiE, no. 8, 1975, 1759-1961.

50. Churilov, G. Ye., V. M. Dmitriyev, and V. N. Svetlov. Thin superconductive films in high-frequency fields. Fizika kondensirovannogo sostoyaniya, no. 28, 1973, 65-73. (LZhS, 40/75, 133375).

51. Darinskiy, B. M., V. S. Postnikov, and G. Ye. Shunin. Structure of superconductor T-matrix in the region of superconducting transition. IN: Sb. Mekhanizmy relaksatsion. yavleniy v tverd. telakh. Kaunas, 1974, 42-43. (RZhF, 2/75, no. 2E788).

52. Denisov, Yu. P. Interaction of vertix lines with a Josephson junction. FTT, no. 1, 1976, 119-123.

53. Do Chan Kat. Superconductor-dielectric phase transition in unalloyed semimetals. UFZh, no. 4, 1976, 555-557.

54. Dobrosavljevic, L. Penetration of flux in superconducting alloys with concentration modulation. J. phys., v. 37, no. 1, 1976, 23-33. (RZhMetal, 6/76, #6I250).

55. Dolocan, V. Tunneling effects in superconductors and their application. Stud. si cerc. fiz., v. 27, no. 1, 1975, 23-40. (RZhF, 12/75, #12Ye1245).

56. Dubovsky, L. B., and A. N. Kozlov. Description of coulomb interaction in superconductivity theory and calculation of $T_c$. ZhETF, v. 68, no. 6, 1975, 2224-2235.

57. Dzhikayev, Yu. K. Thermoelectric phenomena in the mixed state of superconductors. ZhETF, v. 68, no. 1, 1975, 295-307.

58. Estrin, Yu. Z. Inertial model of the plasticity increase effect at superconducting transition. Fiz. nizk. temperatur, v. 1, no. 1, 1975, 91-97. (RZhMetal 151, 5/75, no. 51319).

59. Fogel', N. Ya., A. A. Moshenskiy, A. M. Glukhov, and I. M. Dmitrenko. Critical decoupling currents of thin superconducting films in a perpendicular magnetic field. ZhETF P, v. 22, no. 9, 1975, 450-454.

60. Gabovich, A. M., and D. P. Moiseyev. Superconductivity in laminated semiconductor structures. FTT, no. 1, 1975, 269-273.

61. Gabovich, A. M., and E. A. Pashitsky. Co-existence of superconducting and dielectric phases in quasi-unidimensional systems. UFZh, no. 6, 1975, 1041-1043.

62. Gabovich, A. M., and E. A. Pashitskiy. Existence of mixed phase of "superconductor-exciton dielectrics" in intrinsic semimetals. FTT, no. 6, 1975, 1584-1591.

63. Gabovich, A. M., and E. A. Pashitskiy. Superconductivity of multiple-trough semiconductors. UFZh, no. 11, 1975, 1814-1823.

64. Gabovich, A. M., and S. K. Uvarova. Plasmon and exciton mechanisms of superconductivity in layered structures. Fiz. nizk. temp., no. 8, 1975, 984-995.

65. Galayko, V. P. Kinetic equations for relaxation processes in superconducting alloys. TMF, v. 23, no. 1, 1975, 111-120.

66. Galayko, V. P. Microscopic theory of resistive current states in superconducting channels. ZhETF, v. 68, no. 1, 1975, 223-237

67. Galayko, V. P. Relaxation of electrons on the admixtures in superconductors. TMF, v. 22, no. 3, 1975, 375-390.

68. Galayko, V. P., and V. S. Shumeyko. Nonlinear absorption of e-m waves in type I superconductors. FNT, no. 10, 1975, 1253-1264.

69. Galkin, A. A., V. M. Svistunov, A. I. D'yachenko, and V. Yu. Tarenkov. New possibilities of tunnelling effects in high pressure physics. ZhETF P, v. 21, no. 5, 1975, 259-263.

70. Gal'perin, Yu. M., and V. I. Kozub. Nonstationary acousto-electric effects during propagation of transverse sound in superconductors. ZhETF, v. 69, no. 2, 1975, 582-589.

71. Gandel'man, G. M., O. Yu. Itskovich, and V. M. Finkel'berg. High-temperature electrical resistance and superconductivity in cesium under high pressure. FTT, no. 4, 1975, 1214-1216.

72. Gasparyan, R. A. Nuclear spin relaxation in superconductors with magnetic impurities. FMM, v. 39, no. 4, 1975, 686-690.

73. Gasparyan, R. A., and V. Z. Kresin. Thermal dissipation mechanism in type II superconductors. ZhETF, v. 69, no. 1, 1975, 377-385.

74. Genkin, V. M. Multiquantum absorption in thin superconducting films. ZhETF, v. 70, no. 6, 1976, 2318-2325.

75. Genkin, V. M., and A. P. Protogenov. Nonequilibrium states during tunneling in superconductors. FTT, no. 1, 1976, 24-32.

76. Geylikman, B. T. Critical temperatures of superconducting compounds. FTT, no. 1, 1976, 98-101.

77. Geylikman, B. T., and M. Yu. Reyzer. Thermoelectric effect in superconductors with magnetic impurities. FTT, no. 7, 1975, 2002-2007.

78. Geylikman, B. T., and V. R. Chechetkin. Role of drag effects in pure superconductors. ZhETF, v. 70, no. 5, 1976, 1884-1890.

79. Geylikman, B. T., V. Z. Kresin, and N. F. Masharov. Critical temperature and energy gap in strongly coupled superconductors. Part 2. Fiz. nizk. temperature, v. 1, no. 2, 1975, 154-165. (RZhF, 6/75, no. 6E1041)

80. Ginzburg, V. L. High-temperature superconductivity - dream on reality? UFN, v. 118, no. 2, 1976, 315-324.

81. Golub, A. A. Excitation of sound in a superconductor by an e-m wave. ZhETF, v. 69, no. 3, 1975, 1007-1012.

82. Golub, A. A. Conductivity fluctuation in layered superconductors. Fiz. nizk. temperature, no. 8, 1975, 996-1000.

83. Golub, A. A., and V. A. Chernobay. Effect of fluctuations on nuclear spin relaxation rate in layered superconductors in the presence of a constant magnetic field. IN: Sb. stat. Metody issled. sistem mnogikh chastits. Kishinev, 1974, 3-5. (RZhF, 4/75, no. 4E1136)

84. Gorin, Yu. N., and G. I. Mayevskiy. Nonlinear kinetic inductance in superconducting thin films in the case of gapless superconductivity. IN: Izv. Leningr. elektroteklhn. in-ta, no. 161, 1975, 59-62. (RZhF, 6/75, no. 6E1080)

85. Gor'kov, L. P., and N. B. Kopnin. Vortex motion and electric resistance of type II superconductors in a magnetic field. UFN, v. 116, no. 3, 1975, 413-448.

86. Gor'kov, L. P., and O. N. Dorokhov. Temperature dependence of phonon frequency in $Nb_3Sn$ and $V_3Si$. ZhETF P, v. 21, no. 11, 1975, 656-660.

87. Grigor'yev, F. V., S. B. Kormer, O. L. Mikhaylova, A. P. Tolochko, and V. D. Urlin. Equation of state of the molecular phase of hydrogen in solid and liquid states at high pressures. ZhETF, v. 69, no. 2, 1975, 743-749.

88. Gurevich, L. E., and Ye. T. Krylov. Effect of intensified excitation by phonons on thermoelectric effects in pure superconductors. ZhETF P, v. 22, no. 9, 1975, 467-469.

89. Gurevich, L. E., and Ye. T. Krylov. Influence of excitation dragging by phonons on the thermal conductivity of pure superconductors. ZhETF, v. 68, no. 4, 1975, 1337-1348.

90. Gurgenishvili, G. Ye., A. A. Nersesyan, and G. A. Kharadze. Relaxation of nuclear spin doped superconductors. IN: Sb. Elektron. i ionnyye protsessy v tverdykh telakh, no. 7, Tbilisi, Metsniyereba, 1974, 164-171. (RZhF, 7/75, #7Y1009)

91. Gvozdikov, V. M., and I. I. Fal'ko. Energy spectrum of superconductors with defects possessing spherical and cylindrical symmetry of the potential of interaction with conductivity electrons. TMF, v. 22, no. 2, 1975, 269-277.

92. Gvozdikov, V. M., and I. I. Fal'ko. A specific dissipation mechanism in inhomogeneous superconductors. FMiM, v. 40, no. 2, 1975, 425-426.

93. Gvozdikov, V. M., and I. I. Fal'ko. Structural fluctuations in superconducting paramagnetic alloys. FNT, no. 12, 1975, 1501-1507.

94. Gvozdikov, V. M., and I. I. Fal'ko. Effect of structural and electromagnetic fluctations on the critical temperature of superconductors. UFZh, no. 5, 1976, 859-861.

95. Hejnowicz, K., and B. Makiej. Displacement of an intermediate state core in a lateral magnetic field. Acta phys. pol., v. A47, no. 1, 1975, 99-102. (RZhF, 7/75, #7Y31007)

96. Ivlev, B. I. Threshold phenomena in superconductors. ZhETF, v. 69, no. 2, 1975, 656-661.

97. Izyumov, Yu. A., V. Ye. Naysh, and V. N. Syromyatnikov. Lattice anomalies in high-temperature superconducting compounds of A15 and C15 types. FMM, v. 39, no. 3, 1975, 455-460.

98. Kadigrobov, A. M. On the appearance of coupled states in the Kondo effect. Fiz. nizk. temp., no. 4, 1975, 420-427.

99. Kan, Ya. S., and V. A. Frolov. Structure of an interim state generated by a constant current. IN: Sb. Voprosy atomn. nauki i tekhn. Ser. Fundament. i prikl. sverkhprovodimost' No. 1, Khar'kov, 1974, 3-7. (RZhRadiot, 8/75, no. 8Ye237)

100. Kanev, A. S., and A. M. Dobrotvorskiy. Calculating band structures of the model crystals tetrathiofulvaline-tetracyanquinomethene (TTF-TCNQ). Sb. Kvant. khimiya. Kishinev, Shtiintsa, 1975, K-110 (RZhKh, 19AB, 20/75, #20B672)

101. Kanev, A. S., and A. M. Dobrotvorskiy. Calculating the electron structure of quasi-one-dimensional organic crystals and their molecular fragments. VLU, Fiz-kh, no. 1, 1976, 141-143.

102. Karakozov, A. Ye., Ye. Maksinev, and S. A. Mashkov. Effect of the frequency dependenceof the electron-phonon interaction spectral function on thermodynamic properties of superconductors. ZhETF, v. 68, no. 5, 1975, 1937-1950.

103. Kasatkin, A. L., and E. A. Pashitskiy. Josephson effect in presence of a weak e-m field. ZhETF P, v. 22, no. 10, 1975, 500-502.

104. Kasatkin, A. L., and E. A. Pashitskiy. Josephson effect in two-zone superconductors. UFZh, no. 4, 1976, 578-587.

105. Kharrasov, M. I. Higher-order superconductivity in one- and two-level systems. OIYaI, Dubna, 1975, 16 p. (RZhF, 11/75, no. 11Ye1017)

106. Khlus, V. A., E. A. Kel'man, and I. O. Kulik. Coherent phenomena in weakly-coupled superconducting systems. IN: Sb. Krioelektron. v vychisl. tekhn. Kiyev, 1975, 39-43. (RZhF, 1/76, no. 1Ye1173)

107. Khmel'nitskiy, D. Ye., and V. L. Shneyerson. Phase transition in a compressed lattice. ZhETF, v. 69, no. 3, 1975, 1100-1107.

108. Khriplovich, I. B., and A. I. Vaynshteyn. Neytral'nyye potoki pri slabykh i effekt Dzhozefsona (Neutral currents in weak interactions, and the Josephson effect). SOAN SSSR, Novosibirsk, 1974, 8 p. (KLDV, 7/75, no. 11920)

109. Kirschner, I. Flux creep dynamics of the quasi-elastically bound vortices in type II superconductors. Acta phys. Acad. sci. hung, v. 36, no. 2, 1974, 149-153. (RZhF, 2/75, no. 2E758)

110. Kirschner, I., K. Martinas, and R. Toros. Total entropy density in superconductors. Acta phys. Acad. sci. hung., v. 37, no. 1-2, 1974, 17-29. (RZhF, 7/75, #7Ye1000)

111. Kon, L. Z. Thermoelectric effect in superconductors with paramagnetic impurity. FTT, no. 6, 1975, 1711-1714.

112. Kon, L. Z. Thermoelectric effect in superconductors with nonmagnetic localized states. ZhETF, v. 70, no. 1, 1976, 286-291.

113. Kon, L. Z., and V. A. Moskalenko. Electron state density of superconducting alloys with non-magnetic transition metal impurities. FMM, v. 39, no. 5, 1975, 926-931.

114. Kopayev, Yu. V. Theory of the correlation between electron and structural transitions and superconductivity. IN: Tr. Fiz. in-ta. AN SSSR, no. 86, 1975, 3-100. (RZhRadiot, 5/76, #5Ye382)

115. Kopnin, N. B. Problem of heat transfer in type II superconducting alloys. ZhETF, v. 69, no. 1, 1975, 364-376.

116. Kopnin, N. B., and V. Ye. Kravtsov. Conductivity and Hall effect in type II pure superconductors at low temperatures. ZhETF P, v. 23, no. 11, 1976, 631-634.

117. Kremlev, M. G., R. G. Mints, and A. L. Rakhmanov. Stability of the critical state in composite superconductors. DAN SSSR, v. 228, no. 1, 1976, 85-87.

118. Kresin, V. Z., and V. A. Litovchenko. Anisotropic thermal effect in superconductors. ZhETF P, v. 21, no. 1, 1975, 42-45.

119. Kresin, V. Z., and V. A. Litovchenko. Electromagnetic properties of superconductors with strong coupling. FTP, no. 6, 1976, 1511-1518.

120. Kristofel', N. N. Possible relationship between dynamic lattice instability and superconductivity in semiconductors. FTT, no. 5, 1975, 1414-1416.

121. Krivnov, V. Ya, and A. A. Ovchinnikov. Paramagnetism of TTF-TCNQ high-conductivity crystals. ZhETF P, v. 21, no. 12, 1975, 696-700.

122. Krivnov, V. Ya., I. A. Misurkin, A. A. Ovchinnikov, and A. F. Shvets. Thermodynamics of quasi-one-dimensional high-conductivity systems. FMM, v. 34, no. 2, 1975, 250-256.

123. Krivoshey, I. V. Organic quasi-one-dimensional metals: the problem of selecting structures. IN: Sb. Kvant. khimiya. Kishinev, Izd-vo Shtintsa, 1975, K-130. (RZhKh, 1/76, #1B114)

124. Krivoshey, I. V., Fan-Lyong, and L. N. Savenkova. Elektronnoye stroyeniye kvaziodnomernykh organicheskikh provodnikov (Electron structure of quasi-one-dimensional organic conductors). Khar'kov un-t. Khar'kov, 1975, 33 p. (RZhKh, 1/76, #1B79 Dep)

125. Kulik, I. O. Spin fluctuations and superconductivity: properties of Pd-H solution. FNT, no. 4, 1976, 486-499.

126. Kulik, I. O. Possibility of the transition of a Peierls dielectric into a metallic state in a strong electric field. ZhETF P, v. 22, no. 2, 1975, 73-76.

127. Kulik, I. O., and A. N. Omel'yanchuk. Current flow in long superconducting bridges. ZhETF, v. 68, no. 6, 1975, 2139-2148.

128. Kulik, I. O., and A. N. Omel'yanchuk. Microscopic theory of Josephson effect in superconducting bridges. ZhETF P, v. 21, no. 4, 1975, 216-219.

129. Kulik, I. O., and R. I. Shekhter. Effect of charge discreteness and the superconductivity of small particles. FNT, no. 1, 1976, 21-29.

130. Kulik, I. O., and Yu. N. Mitsay. Effect of admixtures on Josephson current in SNS contacts. Fiz. nizk. temperatur, no. 7, 1975, 906-913.

131. Kulik, I. O., and Ye. V. Minenko. Magnetic properties of layered superconductors. FNT, no. 5, 1976, 559-570.

132. Kupriyanov, M. Yu., and K. K. Likharev. UHF impedance of superconductors in the mixed state. ZhETF, v. 68, no. 4, 1975, 1506-1513.

133. Kuz'min, Yu. M. Superconductivity and ferromagnetism in a narrowband semiconductor with population inversion. FTT, no. 12, 1975, 3473-3479.

134. Kuz'min, Ye. V., and S. G. Ovchinnikov. Effectof the dynamic intermixing of collective and localized conditons on the critical temperature of a superconductor. ZhETF, v. 69, no. 5, 1975, 1688-1696.

135. Lapir, G. M., K. K. Likharev, L. A. Maslova, and V. K. Semenov. Critical currents in superconducting bridges of variable thickness. FNT, no. 10, 1975, 1235-1243.

136. Larkin, A. I., and Yu. N. Ovchinnikov. Eddy viscosity in pure superconductors. ZhETF P, v. 23, no. 4, 1976, 210-213.

137. Larkin, A. I., and Yu. N. Ovchinnikov. Nonlinear conductivity of superconductors in the mixed state. ZhETF, v. 68, no. 5, 1975, 1915-1927.

138. Likharev, K. K. Effect of channelizing magnetic field in a Josephson junction. FNT, v. 2, no. 2, 1976, 209-211.

139. Likharev, K. K. The relationship $J_s(\varphi)$ for SNS bridges of variable thickness. ZhTF P, v. 2, no. 1, 1976, 29-34.

140. Likharev, K. K. Transition from an Abrikosov to a Josephson vortex. FTT, no. 9, 1975, 2787-2789.

141. Likharev, K. K., and L. A. Yakobson. Dynamic properties of finite-length superconducting filaments. ZhETF, v. 68, no. 3, 1975, 1150-1160.

142. Lisitsyn, S. G. Energy relaxation in superconducting alloys. FNT, no. 12, 1975, 1516-1521.

143. Lozovik, Yu. Ye., and V. I. Yudson. Possible superfluidity from pairing of spatially separated electrons and holes: a new mechanism for superconductivity. ZhETF P, v. 22, no. 11, 1975, 556-559.

144. Lukin, V. P. Possible metal-insulator transitions in quasi-one-dimensional systems, based on TCNQ molecules. IN: Sb. Kvant. khimiya. Kishinev, Izd-vo Shtintsa, 1975, L-162. (RZhKh, 24/75, no. 24B74)

145. Maksimov, Ye. G. Electron-phonon interaction and superconductivity. IN: Tr. Fiz. in-ta, AN SSSR, no. 86, 1975, 101-130. (RZhRadiat, 5/76, #5Ye387)

146. Mal'chuzhenko, K. V., and Ye. I. Tarasova. Effect of electromagnetic fluctuations on conductivity of thin superconductive films at above-critical temperatures. Fizika kondensirovannogo sostoyaniya, no. 28, 1973, 25-29. (LZhS, 40/75, no. 133267)

147. Mayevskiy, G. I. Disruption of superconductivity in thin films by a high frequency field. Izv. Leningr. elektrotekh in-ta, no. 163,
148. 1975, 87-90. (RZhRadiot, 7/75, no. 7Ye218)

149. Melik-Barkhudarov, T. K. Superconductors with small dimensions in alternating magnetic fields. IAN Arm, no. 10, 1975, 457-462.

150. Minenko, Ye. V. Critical fields and lattice structure of a "tilted vortex" in the superconducting sheath and in thin films. FNT, no. 1, 1976, 5-13.

151. Minenko, Ye. V. Fluctuation phenomena in hollow current-carrying superconductive cylinders. Fizika kondensirovannogo sostoyaniya, no. 28, 1973, 30-37. (LZhS, 40/75, 133275).

152. Minenko, Ye. V. The structure of a vortex lattice of a surface superconductive layer in an inclined field. Fizika kondensirovannogo sostoyaniya, no. 28, 1973, 45-49. (LZhS, 40/75, 133274).

153. Mitsay, Yu. N. Theory of superconducting bridges. FNT, no. 2, 1976, 189-199.

154. Mitsay, Yu. N. A microscopic theory of tunneling current. Fizika kondensirovannogo sostoyaniya, no. 28, 1973, 20-24. (LZhS, 40/75, 133278).

155. Mkrtchyan, G. S., and V. V. Shmidt. Pinning of a vortex lattice at the interface of two superconductors and the critical current. ZhETF, v. 68, no. 1, 1975, 186-195.

156. Moskalenko, V. A. Energy gap degeneration in a two-band superconductor. FMM, v. 39, no. 6, 1975, 1145-1149.

157. Moskalenko, V. A., M. I. Vladimir, and Yu. N. Nika. Effect of paramagnetic impurities on the amplitude of tunneling current. IN: Sb. Vliyaniye vnesh. vozdeystiviy na sverkhprovodyashchiye svoystva met. Kishinev, Izd-vo Shtiintsa, 1975, 13-17. (RZh Radiot, 5/76, #5Ye400).

158. Palistrant, M. Ye. Effect of topological change of the Fermi surface on thermodynamic properties of a two-band superconductor. IN: Sb. Stat. metody issled. sistem mnogikh chastits. Kishinev, 1974, 8-24. (RZhF, 4/75, no. 4E1102).

159. Palistrant, M. Ye., A. T. Trifan, and K. K. Gudima. Effect of pressure on paramagnetic susceptibility and Knight shift in thin $AuGa_2$ superconducting films. FNT, no. 4, 1976, 452-459.

160. Panasenkov, M. A., and G. G. Rekus. The problem of superconductivity. IN: Tr. Mosk. Khim.-tekhnol. in-ta im. D.I. Mendeleyeva, no. 84, 1975, 304-308. (RZhF, 1/76, #1Ye1097).

161. Pashitskiy, E. A., and A. S. Shpigel'. "Zero sound" in superconductors. UFZh, no. 3, 1975, 514-516.

162. Pavlyuk, V. A., V. A. Bystrov, V. M. Dmitriyev, and V. M. Butorin. On the theory of quantum generators with weakly-coupled superconductors. Fizika kondensirovannogo sostoyaniya, no. 28, 1973, 74-81. (LZhS, 40/75, 134290).

163. Popov, A. Yu. Destruction of superconductivity by an a-c electric field in gapless superconductors. FTT, no. 2, 1976, 587-588.

164. Pyatiletov, Yu. S. Isotopic effect in superconductors with complex lattice. FMM, v. 39, no. 5, 1975, 932-936.

165. Pyatiletov, Yu. S. Relation of gap to temperature of a superconducting transition. FMM, V. 40, no. 1, 1975, 219-221.

166. Sal'nikov, B. V., and A. N. Men'. Concentration dependence of properties of superconducting compounds. FTT, no. 1, 1975, 158-160.

167. Savitskiy, Ye. M., and V. B. Gribulya. Computer prediction of double chemical compounds with type A15 crystalline structure. DAN SSSR, v. 223, no. 6, 1975, 1383-1386.

168. Seminozhenko, V. P. Relaxation and thermal conductivity of superconductors with dislocations. IN: Sb. Mekhanizmy relaksation. yavleniy v tverd. telakh. Kaunas, 1974, 39-42. (RZhF, 2/75, no. 2E776).

169. Seminozhenko, V. P. Thermal conductivity of nonequilibrium superconductors. FTT, no. 10, 1975, 2895-2898.

170. Shablo, A. A., S. A. Tyurin, T. P. Narbut, and I. M. Dmitrenko. Quantization of magnetic flux in solid microcylinders of type I superconductors. Fizika kondensirovannogo sostoyaniya, no. 28, 1973, 38-44. (LZhS, 40/75, 133228).

171. Shekhter, R. I., and I. O. Kulik. Current states in granular media. Fiz. nizk. temperatur, no. 4, 1975, 435-450.

172. Shevchenko, S. I. Superconductivity theory of systems with spatially separated electron and hole pairing. FNT, no. 4, 1976, 505-516.

173. Shevchenko, S. I., and I. O. Kulik. Electrodynamics of exciton pairing in small-size crystals without inversion centers. ZhETF P, v. 23, no. 3, 1976, 171-173.

174. Shikina, N. I. Slightly overheated states of type I superconductors. FNT, no. 12, 1975, 1522-1526.

175. Shklovskiy, V. A. Absorption of ultrasound in a pure current-carrying superconductor. Fiz. nizk. temp., no. 3, 1975, 313-315.

176. Shklovskiy, V. A. Heating of electrons as a result of the hysteresis of critical currents in the resistive state of superconductors. FTT, no. 10, 1975, 3076-3078.

177. Shklyarevskiy, O. I., I. K. Yanson, and A. A. Lysykh. Inelastic tunneling effect in thin films of condensed gases. Fiz. nizk. temp., no. 4, 1975, 502-510.

178. Shumeyko, V. S. Nonlinear absorption of electromagnetic radiation in a London superconductor. Fiz. nizk. temperatur, v. 1, no. 2, 1975, 166-177. (RZhF, 6/75, no. 6E1073).

179. Slyusarev, V. A., and I. A. Burakhovich. On an exciton mechanism of superconductivity in organic ion-radical salts. Fizika kondensirovannogo sostoyaniya, no. 2, 1973, 50-60. (LZhS, 40/75, 133340).

180. Takacs, S. Pinning in superconductors with attractive and repulsive interaction defect-flux line. Czech. j phys., v. 25, no. 10, 1975, 1155-1175.

181. Tekiel, P. Theory of the one dimensional "mixed" state in type I superconductors. Acta physica polonica, A 47, no. 3, 1975, 339-346.

182. Trifan, A. T. Effects of pressure and paramagnetic impurity on properties of superconductors. IN: Sb. Stat. metody issled. sistem mnogikh chastits. Kishinev, 1974, 24-31. (RZhF, 4/75, no. 4E1132).

183. Tyutyulkov, N. N., and G. D. Neykov. Electron structure of cyanine-substituted polyenes. DBAN, v. 29, no. 1, 1976, 89-91.

184. Vardanyan, R. A., and S. G. Lisitsyn. Attenuation of longitudinal sound in superconductors. ZhETF, v. 69, no. 4, 1975, 1267-1274.

185. Vaynshteyn, A. I., and I. B. Khriplovich. Neutral currents of weak interactions and the Josephson effect. ZhETF, v. 68, no. 1, 1975, 3-7.

186. Vedeneyev, S. I., A. I. Golovashkin, Ye. V. Koshel'kova, and G. P. Motulevich. Programma dlya obrabotki rezul'tatov tunnel'nykh issledovaniy i vosstanovleniya fononnykh spektrov sverkhprovodnikov (Programma Makmillana-Rouella-Kh'yumbina) [Program for processing results of tunnel investigations and recovering phonon spectra of superconductors (Macmillan-Rowell-Kh'yubin program)]. Moskva, 1975, 46 p. (RZhF, 1/76, #1Yel166).

187. Vereshchagin, L. F., Ye. N. Yakovlev, and Yu. A. Timofeyev. Possible hydrogen transition to the metallic state. ZhETF P, v. 21, no. 3, 1975, 190-193.

188. Vinetskiy, V. L., and E. A. Pashitskiy. Superfluidity of a charged Bose gas and bipolar mechanism of superconductivity. UFZh, no. 2, 197 , 338-341.

189. Vinetskiy, V. L., and T. I. Semenets. Bipolarons of the intermediate coupling and superconductivity of non-metallic crystals. UFZh, no. 3, 1975, 353-359.

190. Vladimir, M. I. Electron states density of a single-band superconductor with paramagnetic impurity. IN: Sb. Stat. metody issled. sistem mnogikh chastits. Kishinev, 1974, 31-42. (RZhF, 4/75, no. 4E1118).

191. Vladimir, M. I., and V. A. Moskalenko. Spin splitting of the density of electron states of thin superconductors in a magnetic field. TMF, v. 25, no. 2, 1975, 213-229.

192. Vladimir, M. I., and V. A. Moskalenko. Thermal conductivity of two-band superconductors. TMF, v. 23, no. 1, 1975, 104-110.

193. Vladimir, M. I., V. A. Moskalenko, and Yu. N. Niki. Kinetic coefficients of superconducting alloys. TMF, v. 24, no. 1, 1975, 115-128.

194. Vladimir, M. I., V. A. Moskalenko and Yu. N. Niki. Thermal conductivity of a two-band superconductor with a low concentration of paramagnetic impurity. IN: Sb. Stat. metody issled. sistem mnogikh chastits. Kishinev, 1974, 42-46.

195. Volkov, A. F. Nonequilibrium states in superconducting tunnel structures. ZhETF, v. 68, no. 2, 1975, 756-765.

196. Volkov, A. F., and A. V. Zaytsev. Asymmetry of quasiparticle distribution in superconductors and normal metals. ZhETF, v. 69, no. 6, 1975, 2222-2230.

197. Voloshkevich, A. G., and V. A. Moyseyenko. Subharmonic structure of the volt-ampere characteristic of superconducting tunneling transitions. Fiz. nizk. temp., no. 3, 1975, 336-340.

198. Vugal'ter, G. A., and V. Ya. Demikhovskiy. Nonlinear threshold effects in superconductors. FNT, no. 10, 1975, 1244-1252.

199. Yefetov, K. B., and A. I. Larkin. Correlation functions in one-dimensional systems with strong interaction. ZhETF, v. 69, no. 2, 1975, 764-776.

200. Yefetov, K. B., and A. I. Larkin. Nonzero spin pairing in layer superconductors and in quasi-one-dimensional superconductors. ZhETF, v. 68, no. 1, 1975, 155-163.

201. Yeru, I. I., and S. A. Peskovatskiy. Shift of SHF signals with amplification by thin and long superconductors in a resistive state. IVUZ Radiofiz, no. 11, 1975, 1713-1715.

202. Zhernov, A. P., and Yu. A. Malov. Transition temperature in superconductors with an intermediate bond. FTT, no. 7, 1975, 2095-2098.

203. Zhernov, A. P., Yu. A. Malov, and G. Kh. Panova. Effect of impurity modes with quasilocal and local frequencies on the temperature of superconducting transition. ZhETF, v. 69, no. 1, 1975, 255-265.

## 2. High $T_c$ Materials


204. Ageyev, N. V., N. Ye. Alekseyevskiy, and V. F. Shamray. Ordering - disordering processes in $Nb_3Al$ - $Nb_3Ge$ alloy systems. IAN. Metally, no. 1, 1976, 170-176.

205. Alekseyevskiy, N. Ye., N. M. Dobrovol'skiy, V. I. Nizhankovskiy, and V. I. Tsebro. Effect of pressure on properties of molybdenum sulfide ($Mo_5SnGa_{0.5}S_6$) in superconducting and normal states. ZhETF, v. 69, no. 2, 1975, 662-665.

206. Alekseyevskiy, N. Ye., N. M. Dobrovol'skiy, and V. I. Tsebro. Superconductivity of multicomponent molybdenum sulfides. ZhETF P, v. 23, no. 12, 1976, 694-697.

207. Alekseyevskiy, N. Ye., and Ye. P. Krasnoperov. Influence of quenching on critical temperatures of $Nb_3Al_{1-x}Ge_x$ alloys. FMM, v. 34, no. 4, 1975, 872-873.

208. Alekseyevskiy, N. Ye., Ye. P. Krasnoperov, and V. L. Sedov. Interaction between positrons and chains of niobium atoms in $Nb_3Al$. DAN SSSR, v. 222, no. 5, 1975, 1061-1063.

209. Alekseyevskiy, N. Ye, A. V. Mitin, and N. M. Matveyeva. Investigating superconducting properties in V-Al and N-Sn solid solutions. ZhETF, v. 69, no. 6, 1975, 2124-2131.

210. Andriyenko, Yu. N., N. N. Mikhaylov, and G. V. Sotnikov. Effect of proton radiation damage on critical current of a superconducting $Nb_3Sn$ compound. IN: Sb. Voprosy atomn. nauki i tekhn. Ser. Fundament. i prikl. sverkprovodimost'. No. 1, Kharkov, 1974, 34-42. (RZhRadiot, 8/75, no. 8Ye239)

211. Antonowicz, K. Effect of microwaves on d-c current in an Al-C-Al sandwich. PSS(a) v. 28, no. 2, 1975, 497-502. (RZhRadiot, 11/75, #11Ye333)

212. Atovmyan, L. O., V. V. Tkachev, M. L. Khidekel', and L. A. Shchepinov. Synthesis and crystal structure of niobium (IV) tetrakis (O, O' - diisopropyl dithio-phosphate). Koordinatsionnaya khimiya, no. 3, 1975, 342-343.

213. Balabanov, Ye. I., B. P. Bespalov, V. R. Gekel', R. V. Isayeva and V. V. Titov. Influence of defects on electrical conductivity of single crystals of the tetrathiofulvalene - 7, 7, 8, 8-tetracyanoquinodimethane complex. Fiz. nizkikh temperatur, no. 4, 1975, 535-539. (RZhKh, 19AB, 18/75, no. 18B573)

214. Berlin, A. A., Yu. I. Khimchenko, V. M. Pan, T. I. Fil', and A. G. Popov. Superconducting metallic polymers. DAN SSSR, v. 227, no. 4, 1976, 892-895.

215. Bulayevskiy, L. N., A. A. Gusseynov, O. N. Yeremenko, V. N. Topnikov, and I. F. Shchegolev. Low-temperature specific heat of TCNQ complexes with asymmetric cations. FTT, no. 3, 1975, 781-786.

216. Buravov, L. I., A. I. Kotov, M. L. Khidekel', I. F. Shchegolev, and E. B. Yagubskiy. Chloride and bromide of tetraselenotetracene: organic metals in a wide range of temperature (300-4.2 K). IAN Kh, no. 2, 1976, 475.

217. Buravov, L. I., R. N. Lyubovskaya, R. B. Lyubovskiy, and M. L. Khidekel'. Electrical and magnetic properties of TSeF-TCNQ organic metal. ZhETF, v. 70, no. 5, 1976, 1982-1986.

218. Cernusko, V., F. Chovanec, M. Jergel, and D. Sabelka. Superconducting $Nb_3Sn$ deposited from the gas phase: preparation and properties. Electrotechn. casopis, no. 4, 1975, 271-281. (RZhRadiot, 9/75, no. 9Ye418)

219. Dekhtyar, I. Ya., L. I. Ivanov, N. V. Karlov, G. P. Kuz'min, M. M. Nishchenko, A. M. Prokhorov, N. N. Rykalin, and V. A. Yanushkevich. Effect of laser irradiation of niobium-based superconducting materials on the character of critical temperature variations. KE, no. 4, 1976, 844-847.

220. Dmitrenko, I. M., I. S. Shchetkin, I. O. Kulik, T. V. Sil'vestrova, Ye. A. Osika, and G. I. Tarasenko. Conductivity of an ammonia-metal solid solution. IN: Sb. Voprosy atomn. nauki i tekhn. Ser. Fundament. i prikl sverkhprovodimost'. No. 1, Kharkov, 1974, 16-22. (RZhRadiot, 8/75, no. 8Ye236)

221. Dmitrenko, I. M., I. S. Shchetkin, Ye. A. Osika, T. V. Sil'vestrova, G. I. Tarasenko, and G. M. Tsoy. Temperature and time dependence of electric conductivity in the solid phase of metal-ammonia solutions. FNT, no. 10, 1975, 1341-1351.

222. Dmitriyev, V. P., A. K. Milay, and A. F. Orlov. Superconductivity transition temperature in rhenium and molybdenum films. Fiz. nizk. temperature, no. 7, 1975, 914-918. (RZhMetal, 12/75, #12I279)

223. Drys, M., and N. Iliew. The niobium- aluminu-gallium system. Pt. 2. Superconducting transition temperatures. J. Less-Common Metals, no. 44, 1976, 235-238. (RZhMetal, 5/76, #5I289)

224. Dubrovskaya, L. B., and S. Z. Nazarova. Superconductivity of niobium monocarbide-molybdenum solid solutions and the effect of high hydrostatic pressure. ZhETF, v. 68, no. 1, 1975, 238-240.

225. Fedorova, M. A., M. I. Turchinskaya, and Ye. M. Sokolovskaya. Efect of group IV elements on the structure and superconducting properties of $Nb_3Al$ intermetallides. VMU, Khimiya, v. 16, no. 2, 1975, 238-240. (RZhF, 12/75, #12Ye1225)

226. Golovashkin, A. I., I. S. Levchenko, and G. P. Motulevich. Characteristics of superconducting alloys with type A15 lattices obtained by vaporization in vacuum. Tr. fiz. in-ta AN SSSR, no. 82, 1974, 72-102. (RZhMetal, 9/75, no. 9I343)

227. Golovashkin, A. I., I. S. Levchenko, and G. P. Motulevich. Properties of the superconducting three-component alloys Nb-Sn-Gd and Nb-Sn-Cu. FMM, v. 40, no. 4, 1975, 743-747.

228. Golovashkin, A. I., K. V. Mitsen, and G. P. Motulevich. Experimental investigation of a nonequilibrium state of superconductors excited by lasers. ZhETF, v. 68, no. 4, 1968, 1408-1412.

229. Gruzin, P. L., Yu. F. Bychkov, I. A. Yevstyukhina, and L. A. Alekseyev. Nuclear gamma resonance study of the state of $Sn^{119}$ nuclei in Nb-base superconducting compounds. IN: Sb. prikl. yader. spektroskopiya. Moskva, 1974, no. 4, 12-16. (RZhF, 3/75, no. 3E1025)

230. Heim, J., and H. Bretschneider. Some experimental studies of the TCNQ charge-transfer complexes with a high electrical conductivity. IN: Pr. nauk. inst. chem. organ. i fiz. PWr, no. 7, 1974, 264-268. (RZhKh 19AB, 11/75, no. 11B763)

231. Igoshin, F. F., A. P. Kir'yanov, V. N. Topnikov, and I. F. Shchegolev. Metal--dielectric transition in the (NMP)(TCNQ) complex. ZhETF, v. 68, no. 3, 1975, 1203-1207.

232. Kaminskiy, G. G., V. A. Komashko, V. M. Pan, A. G. Popov, and V. I. Popov. Superconductivity of $Nb_3Sn$ films on a dielectric substrate. Sb. Vopr. atom. nauki i tekhn. Ser. Fundament. i prikl. sverkhprovodimost', no. 1(2). Kharkov, 1974, 30-33. (RZhMet, 8/75, #8I327)

233. Kaplunov, M. G., Yu. M. Shul'ga, K. I. Pokhodnya, O. N. Yeremenko, E. B. Yagubskiy, M. L. Khidekel', and Yu. G. Borod'ko. Optical and x-ray electron spectra of electrically conducting organic compounds, based on tetracyanoquinodimethane and tetrathiotetracene. TiEKh, v. 11, no. 6, 1975, 797-802.

234. Khalatnikov, I. M. High-temperature superconductivity. Priroda, no. 10, 1975, 67-69.

235. Khidekel, M. L., and E. B. Yagubskiy. New organic metals represented by the complexes of tetraselenotetracene with 7,7,8,8-tetracyanoquinodimethane. IAN Khim, no. 5, 1975, 1213.

236. Khimchenko, Yu. I., V. M. Pan, A. A. Berlin, T. I. Fil', A. G. Popov, M. M. Khvorov, Ye. P. Zhelibo, and V. G. Kushnir. Superconductivity of metal and metal-filled-polymer organosols. FNT, no. 10, 1975, 1229-1234. (RZhKh, 8/76, #85127)

237. Koshkin, V. M., A. P. Mil'ner, V. V. Kukol', Yu. R. Zabrodskiy, Yu. N. Dmitriyev, and F. I. Brintsev. New intercalated crystals: $PbI_2$ and $BiI_3$. FTT, no. 2, 1976, 609-611.

238. Kosygin, M. Yu., Yu. N. Novikov, and R. A. Stukan. Application of shock waves in structure determination of layered graphite compounds. FTT, no. 6, 1975, 1803-1805.

239. Leonov, A. N., and A. K. Fedotov. Correlation between temperature of superconducting transition, heat content, and specific electric resistance in niobium-vanadium alloys. FNT, no. 5, 1976, 555-558.

240. Lyubovskaya, R. N., M. Z. Aldoshina, V. Ya. Rodionov, T. A. Chibisova, and M. L. Khidekel'. Complexes of dibenzotetrathiafulvalene with tetracyanoquinodimethane. IAN Khim., no. 1, 1975, 177-179.

241. Lyubovskaya, R. N., Ya. D. Lipshan, O. N. Krasochka, and L. O. Atovmyan. Synthesis and structure of 1.3-diselenol-2-selenone. IAN Kh, no. 1, 1976, 179-181.

242. Marchenko, V. A., L. G. Shabel'nikov, and V. Sh. Shekhtman. Low-temperature structural transition and orientation of domains in $V_3Si$. FTT, no. 10, 1975, 2883-2888.

243. Matsakova, A. A., B. G. Lazarev, and L. F. Belyak. Characteristics of $Nb_3Sn$ intermetallide formation in niobium-tin alloys. IN: Sb. Vopr. atom. nauki i tekhn. Ser: Fundament. i prikl sverkhprovodimost', no. 1(3). Khar'kov, 1975, 13-22. (RZhMetal, 6/76, #6I59)

244. Mel'nikov, O. B., and D. P. Moiseyev. A method for determining the temperature of a superconducting transition. PTE, no. 3, 1975, 246.

245. Metallic hydrogen and superconductivity: an interview with L. F. Vereshchagin. Tekhnika i nauka, no. 8, 1975, 22-23; see also Vereshchagin, Tekhnika molodezhi, no. 3, 1975, 14-17.

246. Motulevich, G. P., A. I. Golovashkin and A. A. Shubin. Optically determined electronic characteristics of certain superconducting transition metals and their alloys. IN: Sb. Elektron. struktrura perekhod. met., ikh splavov i soyedin. Kiyev, 1974, 311-314. (RZhF, 4/75, no. 4E1100)

247. Nikulin, Yu. M., V. Ye. Arkhipov, B. N. Goshchitskiy, A. Ye. Kar'kin, S. K. Sidorov, and T. A. Ugol'nikova. Mechanism of radiation disordering in superconducting niobium-tin compounds with a $\beta$-tungsten structure. FMiM, no. 1, 1976, 202-203.

248. Osipov, K. A. Criteria for determining $T_c$ of chemical elements and compounds with an A15 structure. DAN SSSR, v. 225, no. 3, 1975, 609-612.

249. Pan, V. M., V. P. Alekseyevskiy, A. G. Popov, Yu. I. Beletskiy, L. M. Yupko, and V. V. Yarosh. $Nb_3Si$, a new high-temperature superconductor. ZhETF P, v. 21, no. 8, 1975, 494-496.

250. Pan, V. M., Yu. I. Beletskiy, V. S. Flis, S. A. Firstov, and G. F. Sarzhan. Dislocation structure, ageing processes and critical currents of vanadium-gallium alloys. FMM, v. 40, no. 2, 1975, 281-288.

251. Pan, V. M., and V. I. Latysheva. Superconductivity of niobium-aluminum-titanium alloys. IN: Metallofizika. Resp. mezhved. sb. no. 57, 1975, 74-77. (RZhMetal 151, 7/75, no. 71336)

252. Pan, V. M., V. I. Latysheva, Ye. N. Khusid, V. N. Minakov, and Ye. V. Turtsevich. Critical currents of deformed, ageing superconducting niobium-aluminum alloys. FMM, v. 40, no. 3, 1975, 512-517.

253. Pan, V. M., V. S. Mikhalenkov, Yu. I. Biletskiy, and V. G. Prokhorov. Critical temperature and electron concentration in superconducting V-Ga alloys. Dopovidi AN UkrSSR, A, no. 5, 1975, 467-469.

254. Pan, V. M., and V. G. Prokhorov. Cause of high $T_c$ in superconducting compounds with $\beta$-W (A15) type structures. FMM, v. 40, 1975, 920-928.

255. Pan, V. M., A. Ts. Spektor, Yu. I. Beletskiy, and V. S. Flis. Vanadium-based alloys. Author's certificate, USSR, #494424, published May 24, 1974, (Otkr izobr, 45/75, p. 73)

256. Pan, V. M., A. Ts. Spektor, Yu. I. Beletskiy, and V. S. Flis. Phase composition, structure and superconductivity of V-Ga-Al and V-Ga-In alloys. IAN Metally, no. 6, 1975, 209-213.

257. Pivovar, T. L., I. V. Svechkarev, P. V. Gel'd, and V. L. Zagryazhskiy. Effect of pressure on magnetic susceptibility of $V_3Si_{1-x}Ge_x$ solid solutions. FMiM, no. 5, 1975, 1090-1093.

258. Savitskiy, Ye. M., V. V. Baron, A. A. Korostelin, A. R. Kadyrbayev, V. N. Sumarokov, and V. A. Gusev. Effect of deformation on transition temperature to the superconducting state of an $Nb_3Sn$ compound. DAN SSSR, v. 227, no. 4, 1976, 840-843.

259. Semenenko, V. Ye., V. I. Tutov, and A. I. Somov. Superconductivity in an Al-Si composite. Khar'kov un-t, Khar'kov, 1975, 8 p. (Deposited at VINITI) (RZhF, 10/75, no. 10Ye1155 DEP)

260. Shamray, V. F., and A. M. Postnikov. Study of three-component solid solutions based on $Nb_3Al$ compounds. DAN SSSR, v. 224, no. 5, 1975, 1130-1133.

261. Shamray, V. F., and A. M. Postnikov. Superconductivity of some three-component solid solutions based on $V_3Si$ compounds. DAN SSSR, v. 226, no. 5, 1976, 1129-1132.

262. Shibayeva, R. P., and L. P. Rozenberg. Crystalline and molecular structure of a 1:2 complex of tetrathiotetracene and 7,7,8,8-tetracyanoquinodimethane $TTT^{+}TTsKhM^{-}2$. Kristallografiya, no. 5, 1975, 943-948.

263. Shikov, A. A., N. A. Chernoplekov, G. Kh. Panova, B. N. Samoylov, and A. P. Zhernov. Thermodynamic properties and temperature of weak solutions of Hf, Ta and W in V during transition into the superconducting state. ZhETF, v. 69, no. 5, 1975, 1825-1833.

264. Sirota, N. N., and N. M. Shimanskaya. Superconductivity and structure of alloys of the vanadium-niobium-tantalum system. DAN SSSR, v. 222, no. 5, 1975, 1089-1092.

265. Sirota, N. N., and Ye. K. Stribuk. Superconductive properties of vanadium-niobium-molybdenum alloys. DAN SSSR, v. 222, no. 6, 1975, 1329-1331.

266. Surikov, V. I., G. I. Kalishevich, and P. V. Gel'd. Thermodynamic characteristics of $Cr_3Si$, $Cr_3Ge$, $V_3Si$ and $V_3Ge$ compounds. ZhFKh, no. 2, 1975, 555-556.

267. Surikov, V. I., S. V. Verkhovskiy, A. F. Prekul, A. K. Shtol'ts, and P. V. Gel'd. Physical properties of $(V, Nb)_3Si$; $(V, Nb)_3Ga$ and $(V, Nb)_3Ge$ solid solutions. NM, no. 11, 1975, 2085-2086.

268. Vedeneyev, S. I. Tunneling studies of superconducting $Nb_3Al$ films. FTT, no. 3, 1975, 939-942.

269. Vedeneyev, S. I., A. I. Golovashkin, I. S. Levchenko, T. A. Leskova and G. P. Motulevich. Study of electronic characteristics of niobium-tin superconducting alloy films. IN: Sb. Elektron. struktura perekhod. met., ikh splavov i soyedin. Kiyev, 1974, 315-319. (RZhF, 4/75, no. 4E1142)

270. Vedeneyev, S. I., A. I. Golovashkin, and G. P. Motulevich. Investigating electron-phonon interaction in a superconducting $Nb_3Sn$ alloy. IN: Tr. Fiz. in-ta, AN SSSR, no. 86, 1975, 140-160. (RZhRadiot, 5/76, #5Ye384)

271. Vereshchagin, L. F., Yu. S. Konyayev, E. M. Berzon, and O. B. Tarutin. Structural characteristics of extruded superconducting niobium-aluminium alloys. FMiM, no. 3, 1976, 517-521.

272. Verkhovskiy, S. V., and A. P. Stepanov. Change in the density of state in Nb-doped quasibinary alloys. FMiM, no. 3, 1976, 522-528.

273. Verkhovskiy, S. V., A. P. Stepanov, and A. K. Shtol'ts. Nuclear magnetic resonance in $V_3Si_xGa_{1-x}$. FMM, v. 40, no. 3, 1975, 529-536.

274. Vlasova, R. M., A. I. Gutman, N. F. Kartenko, V. N. Semkin, V. V. Titov, S. M. Khursandova, and A. I. Sherle. Preparation and study of sprayed films of tetracyanoquinodimethane ion-radical salts. IAN Khim., no. 1, 1975, 102-108.

## 3. High-Field Materials


275. Alekseyevskiy, N. Ye., S. Bazan, K. H. Berthel, V. A. Yermolov, R. R. Hesske, and G. S. Zaytsev. Enhancement of the current-carrying capacity of $Nb_3Sn$ foils in magnetic fields above 100 koe. PSS, v. (a)31, no. 1, 1975, 283-288.

276. Alekseyevskiy, N. Ye., N. M. Dobrovol'skiy, A. V. Dubrovik, Ye. P. Krasnoperov, and V. A. Marchenko. Critical current in $V_3Si$ single crystals. FTT, no. 7, 1975, 2065-2071.

277. Alekseyevskiy, N. Ye., M. Glinskiy, N. M. Dobrovol'skiy, and V. I. Tsebro. Critical currents of some superconducting molybdenum sulfides. ZhETF P, v. 23, no. 8, 1976, 455-458.

278. Bogomolov, V. N., N. A. Klushin, Yu. A. Kumzerov, and P. A. Cheremnykh. Critical magnetic fields of mercury filaments of pentatomic diameter. TT, no. 5, 1976, 1476-1477.

279. Bogomolov, V. N., Yu. A. Kumzerov, D. D. Prokof'yev, A. P. Smirnov, and S. I. Tsypkin. Effect of fluctuations in the superconducting transition in ultrathin mercury filaments. FTT, no. 4, 1976, 971-973.

280. Krasnov, Yu. K., and V. A. Shukhman. Critical current density in type II superconductors in a mixed state. ZhETF, v. 69, no. 1, 1975, 311-318.

281. Lazarev, B. G., L. S. Lazareva, V. A. Poltavets, and N. A. Chernyak. $Nb_3Sn$ film with high current carrying capacity. IN: Sb. Voprosy atomn. nauki i tekhn. Ser. Fundament. i prikl. sverkhprovodimost', no. 1, Kharkov, 1974, 50-51. (RZhRadiot, 8/75, no. 8Ye235).

282. Lazarev, B. G., Ye. Ye. Semenenko, and V. I. Tutov. Limiting critical magnetic field in tin. IN: Sb. Vopr. atom. nauki i tekhn. Ser: Fundament. i prikl. sverkhprovodimost', no. 1(3). Khar'kov, 1975, 3-4. (RZhMetal, 6/76, #6I254).

283. Matsakova, A. A. Critical current of intermetallides with an A15 structure. Sb. Vopr. atom. nauki i tekhn. Ser. Fundament i prikl. sverkhprovodimost', no. 1(2), Khar'kov, 1974, 43-49. (RZhMet, 8/75, #8I319).

284. Nikulin, Ye. I. Critical magnetic field of superconducting lutetium. FTT, no. 9, 1975, 2795-2796.

285. Okolotin, V. S., and D. Ye. Rumyantsev. Increasing the critical currents of superconductors in external magnetic fields. ZhTF P, v. 1, no. 20, 1975, 942-945. (RZh Radiot, 4/76, #4Ye484).

286. Teplov, A. A., M. N. Mikheyeva, and V. M. Golyanov. Critical magnetic fields for superconducting technetium films. ZhETF, v. 68, no. 3, 1975, 1108-1116.

## 4. Other Superconductor Materials


287. Abraamov, Yu. S., V. V. Baron, M. I. Bychkova, S. A. Medvedev, Ye. M. Savitskiy, and V. A. Sein. Magnetization level of single-crystal Nb-Ti mixtures. IVUZ Chern. metallurgiya, no. 5, 1975, 146-151.

288. Abraimov, V. V., V. P. Soldatov, and V. I. Startsev. Temperature dependence of the weakening effect in pure lead involved in the superconducting transition. ZhETF, v. 68, no. 6, 1975, 2185-2194.

289. Alekseyevskiy, N. Ye, I. V. Anokhina, V. A. Yermolov, M. M. Nikitin, and G. N. Tarasov. Obtaining superconducting thin niobium films by the method of thermovacuum deposition. FiKhOM, no. 6, 1974, 140-143.

290. Alekseyevskiy, N. Ye., O. A. Balakhovskiy, and I. V. Kirillov. Superconductivity of technetium and some of its alloys. FMM, v. 40, no. 1, 1975, 50-54.

291. Anders, E. Ye., and B. Ya. Sukharevskiy. Energy gap and mechanism of heat transfer in superconductors with high content of impurity atoms. FNT, v. 2, no. 5, 1976, 592-605.

292. Anders, E. Ye., B. Ya. Sukharevskiy, and L. S. Shestachenko. Thermal conductivity and temperature dependence of energy gap in superconductors with a high content of impurity atoms. IN: Fiz. -tekhn. institut nizk. temperatur AN UkSSR. Trudy, no. 30, 1974, 65-92. (RZhF, 3/75, no. 3E1061).

293. Andratskiy, V. P., V. N. Gubankov. K. K. Likharev, and N. B. Pavlov. Investigating the SHF conductivity of thin superconducting films as a function of current. ZhETF, v. 70, no. 1, 1976, 292-299.

294. Astaf'yeva, T. N., V. M. Dmitriyev, Ye. L. Kravchenko, et al. Certain characteristics of preparing thin tin films. Fizika kondensirovannogo sostoyaniya, no. 28, 1973, 99-102. (LZhS, 40/75, 133285).

295. Belevtsev, B. I., N. B. Brandt, and Yu. F. Komnik. Characteristics of resistance variation at phase transitions in bismuth and gallium films. ZhETF P, v. 22, no. 10, 1975, 510-513.

296. Bobrovskiy, V. I., B. N. Goshchitskiy, A. V. Mirmel'shteyn, and Yu. N. Mikhaylov. Effect of the superconducting transition on the frequency and damping of transverse phonons in lead. ZhETF, v. 70, no. 5, 1976, 1820-1825.

297. Brandt, N. B., D. V. Gitsu, N. S. Popovich, V. I. Sidorov, and S. M. Chudinov. Superconductivity of PbTe and PbSe compounds at high pressures. ZhETF P, v. 22, no. 4, 1975, 225-229.

298. Brandt, N. B., I. V. Berman, and Yu. P. Kurkin. Investigating critical field curves in lead at pressures up to 130 kbar and temperatures down to 0.1 K. ZhETF, v. 69, no. 5, 1975, 1710-1722.

299. Bukh, Yu., and N. I. Balalykin. Rentgenovskiy analiz sverkhprovodyashchikh tonkikh plenok na osnoveniobiya (X-ray analysis of superconducting thin films based on niobium). OIYaI, Dubna 1975, 9 p. (RZhF, 7/75, no. 7Ye1032).

300. Chakal'skiy, B. K., V. M. Azhazha, N. A. Red'ko, and S. S. Shalyt. Thermal conductivity of vanadium at low temperatures. ZhETF P, v. 23, no. 9, 1976, 513-515.

301. Chigvinadze, Dzh. G. Crystal lattice drag by moving Abrikosov vortices. IN: Sb. Elektron. i ionnyye protsessy v tverd. telakh, no. 8, Tbilisi, Izd-vo Metsniyereba, 1975, 78-81 (RZhF, 1/76, #1Ye1116).

302. Chistyakov, Yu. D., S. V. Potapov, L. A. Yermolayev, and V. P. Polyakov. Heteroepitaxial niobium film on sapphire. IN: Sb. Splavy redk. met. s osobymi fiz.-khim. svoystvami. Moskva, Izd-vo Nauka, 1975, 15-17. (RZh Radiot, 3/76, #Ye382).

303. Chubov, P. N. Effect of inhomogeneities and measured current on V-A characteristics of tunnel contacts. FNT, no. 1, 1976, 14-20.

304. Danilov, V. V., V. A. Preyzendorf, and N. B. Rubin. On transition of double-bonded specimens into the superconducting state in a magnetic field. OIYaI, Dubna. Preprint, 1975, 28 p. (RZhF, 8/75, no. 8 Ye1069).

305. Darinskiy, B. M., I. V. Zolotukhin, V. Ye. Miloshenko and G. Ye. Shunin. Anomalous absorption of sound in metals in the n-s transition region. IN: Sb. Vopr. fiz. tverd. tela, no. 4. Voronezh, 1975, 45-63. (RZhF, 2/76, #2Ye1072).

306. Didenko, A. N., G. Ya. Starodub, L. M. Sevryukova, and A. A. Yatis. Using nuclear physics methods for studying the surface state of superconducting materials. IN: Tr. NII Yader. fiz. elektron. i avtomatiki pri Tomsk. politekhn. in-te, no. 5, 1975, 23-32. (RZh Radiot, 4/76, #4Ye560).

307. Didenko, A. N., L. M. Sevryukova, V. Ye. Masyagin, V. S. Red'kin, N. V. Komitsevich, and N. V. Gavrilov. Investigating the state of a superconducting material surface by Auger electron spectroscopy. IN: Tr. NII Yader. fiz. elektron. i avtomatiki pri Tomsk. politekhn. in-te, no. 5, 1975, 32-36. (RZh Radiot, 4/76, #4Ye559).

308. Didenko, D. A., and V. V. Pustovalov. Effect of changes in plasticity of metals and alloys during the superconducting transition on yield point above $T_c$. FNT, no. 11, 1975, 1428-1433.

309. Dmitriyev, V. M., Ye. G. Kostin, and Ye. L. Kravchenko. On the technology of obtaining superconductive niobium films. Fizika kondensirovannogo sostoyaniya, no. 28, 1973, 94-98. (LZhS, 40/75, 133176).

310. Fedorov, N. F., O. P. Sharkova, and A. L. Shelankov. A powder method of visualizing current state in type I superconductors. FTT, no. 2, 1976, 607-609.

311. Fil', V. D., V. I. Denisenko, and P. A. Bezuglyy. Nonlinear absorption of sound in superconducting gallium. ZhETF P, v. 21, no. 12, 1975, 693-696.

312. Galayko, V. P., V. M. Dmitriyev, and G. Ye. Churilov. Resistive current states and nonstationary properties of superconducting channels. FNT, no. 3, 1976, 299-317.

313. Galkin, A. A., V. M. Svistunov, Yu. F. Revenko, and V. M. Mostovoy. Tunneling studies of superconducting In-Sn Alloys. FTT, no. 5, 1975, 1490-1493.

314. Galkin, A. A., V. M. Svistunov, Yu. F. Revenko, V. M. Mostovoy, and M. A. Belogolovskiy. Anomalous behavior of phonon spectra near a type 2 1/2 phase transition. ZhETF P, v. 23, no. 4, 1976, 189-192.

315. Gindin, I. A., Ya. D. Starodubov, and V. K. Aksenov. Structure of niobium single crystals deformed in normal and superconducting states. FTT, no. 4, 1975, 1012-1015.

316. Gindin, I. A., Ya. D. Starodubov, V. P. Lebedev, and N. S. Gubin. Influence of size factor on weakening of lead in superconducting state. FTT, no. 4, 1975, 1190-1192.

317. Gindin, I. A., Ya. D. Starodubov, V. P. Lebedev, and N. S. Gubin. Sensitivity of disordering effects of Pb in a superconducting state, as a function of dimensional factors. UFZh, no. 9, 1975, 1516-1523.

318. Golubenko, Yu. G., and V. F. Reztsov. Effective static thermal, electrical, and magnetic characteristics of a composite superconductor. ZhTFP, v. 1, no. 17, 1975, 786-791.

319. Golyanov, V. M., M. I. Mikheyeva, and M. B. Tsetlin. Oscillations of the critical temperature in superconductor-dielectric thin film layered structures. ZhETF, v. 68, no. 2, 1975, 736-742.

320. Goncharov, I. N., and I. S. Khukhareva. Measurement of the viscous friction coefficient of the vortices in Nb-80% Zr superconducting alloy near $T_c$. PSS (b), v. 65, no. 1, K67-K69. (RZhF, 4/75, no. 4E1131).

321. Goncharov, I. N., G. D. Dorofeyev, A. Nikitin, I. V. Petrov, D. Frichevski, and I. S. Khukhareva. Study of $\rho_f$ (H, T) of type II superconductors. Ob'yedin. institut yader. issled. Lab. vysok, energ. Preprint 8-8015, Dubna, 1974, 23 p. (RZhF, 2/75, no. 2E766).

322. Govorkov, S. A., and V. A. Tulin. Impedance of superconducting tin in a magnetic field at frequencies of 300-1200 MHz. ZhETF, v. 70, no. 3, 1976, 1044-1049.

323. Ibragimova, A. F., G. N. Kadykova, and S. I. Mar'yasina. Method of depositing copper films on superconducting titanium-niobium based alloys. Zavodsk. laboratoriya, v. 41, no. 1, 1975, 50-51. (RZhF, 5/75, #5Ye1113).

324. Ignat'yev, O. M. Effect of S-type switching in SDS tunneling systems doped with naphthalene. Mikroelektronika, no. 3, 1975, 254-257. (RZhF, 10/75, no. 10Yel190).

325. Il'ina, G. G., F. F. Voronov, and L. N. Dzhavadov. Absorption of ultrasound in the intermediate state of lead. FMiM, no. 1, 1976, 210-211.

326. Il'ina, M. A. Superconducting properties in a bismuth-antimony system at high pressures. FTT, no. 4, 1976, 1051-1055.

327. Il'ina, M. A., and Y. S. Itskevich. Superconductivity of bismuth telluride at high pressure. FTT, no. 1, 1975, 154-157.

328. Il'ina, M. A., and Ye. S. Itskevich. Superconductivity of tellurium under high pressures. FTT, no. 11, 1975, 3461-3463.

329. Indenbom, V. L., and Yu. Z. Estrin. Comparative role of dynamic and quasistatic effects in improving plasticity during superconducting transition. IN: Dinamika dislokatsii. Kiyev, Izd-vo Nauk. dumka, 1975, 300-304. (RZh Metal, 5/76, #5I400).

330. Ivanov, V. Ye., V. A. Finkel', and Ye. A. Pushkarev. Structured instability of a $HfV_2$ superconducting compound. DAN SSR, v. 228, no. 1, 1976, 119-122.

331. Kadykova, G. N., and M. M. Gadzoyeva. Effect of zirconium on phase transitions in Ti-Nb alloys. IAN Metally, no. 2, 1975, 198-204.

332. Kaminskiy, G. G., V. M. Pan, V. G. Prokhorov, and V. F. Taborov. Cause of an anomaly in superconducting transition curves. FNT, no. 5, 1976, 589-591.

333. Kozhevnikov, A. V., L. V. Mikhaylov, and N. A. Timchenko. Using synchrotron radiation to study surface properties of superconductors. Tr. NII Yader. fiz. elektron i automatiki pri Tomsk. politekhn. in-te, no. 5, 1975, 36-39. (RZh Radiot, 5/76, #5Ye392).

334. Kreydenko, F. S., Ye. M. Sokolovskaya, V. S. Zubchenko, and V. Ya. Markiv. Study of the Zr-V-Ga system. IAN Metally, no. 2, 1975, 205-208.

335. Krylov, I. P. Resistance of indium in the intermediate state involving a nonuniform concentration of the normal phase. ZhETF, v. 68, no. 4, 1975, 1556-1568.

336. Krylov, I. P. Measuring drift velocity of domains in the intermediate state of superconductors. ZhETF, v. 69, no. 3, 1975, 1058-1062.

337. Krylov, I. P., and A. A. Konyukhov. Surface impedance in the mixed state and surface superconductivity of niobium. FNT, no. 10, 1975, 1265-1281.

338. Landau, I. L. Characteristics of the superconducting transition during destruction of superconductivity of a hollow cylindrical specimen by current. ZhETF P, v. 23, no. 9, 1976, 516-519.

339. Lazarev, B. G., O. N. Ovcharenko, and I. V. Bogoyavlenskiy. Direct observation of heat evolution from magnetization of niobium-based superconducting compounds. IN: Sb. Voprosy atomn. nauki i tekhn. Ser. Fundament. i prikl. sverkhprovodimost'. no. 1, Kharkov, 1974, 27-29. (RZhF, 8/75, no. 8Ye1077).

340. Lazarev, B. G., O. N. Ovcharenko, I. S. Martynov, and A. L. Seryugin. Microstructural study of current paths in superconducting wires of Nb-60% at Ti. IN: Sb. Voprosy atom. nauki i tekhn. Ser. Fundament. i prikl. sverkhprovodimost'. no. 1, Kharkov, 1974, 23-26. (RZhF, 8/75, no. 8Ye1079).

341. Lazarev, B. G., Ye. Ye. Semenenko, V. I. Tutov, and A. A. Chupikov. Superconducting properties of stabilized modification of beryllium. Sb. Vopr. atom. nauki i tekhn. Ser. Fundament. i prikl sverkhprovodimost', no. 1, Kar'kov, 1974, 12-15. (RZhMet, 8/75, no. 8I326).

342. Lazarev, B. G., Ye. Ye. Semenenko, V. I. Tutov, and S. A. Pogorelova. Limiting critical magnetic fields of lead and aluminum. IN: Sb. Voprosy atomnoy nauki i tekhniki. Seriya Fundamental'naya i prikladnaya sverkhprovodimost'. no. 1, Khar'kov, 1974, 8-11. (RZh Radiot, 8/75, no. 8Ye281).

343. Lazarev, B. G., Ye. Ye. Semenenko, V. I. Tutov, L. A. Korniyenko, and S. A. Deyneko. Structural state of the superconducting modification of beryllium, stabilized by aluminum mixture. DAN SSSR, v. 223, no. 4, 1975, 838-840.

344. Malyshevskiy, V. F. Superconductivity of zirconium-vanadium alloys. IN: Sb. fiz. tverdogo tela i poluprovodn, Minsk, 1974, 56-57. (RZh Radiot, 5/75, no. 5Ye295).

345. Mamaluy, A. A., V. A. Pervakov, and V. I. Khotkevich. Vacancy effect on superconducting transition temperature in aluminum and molybdenum. Fiz. nizk temperatur, v. 1, no. 3, 1975, 318-320.

346. Mash, I. D., and G. P. Motulevich. Spectrum and attenuation of excitation in superconducting lead, based on the results of tunnel measurements. KSpF, no. 2, 1975, 15-19.

347. Mikhaylov, Yu. N., V. I. Bobrovskiy, B. N. Goshchitskiy, A. V. Mirmel'shteyn, and Yu. S. Ponosov. Damping of frequency and attenuation of lateral phonons in lead at 4.2 K. ZhETF p, v. 22, no. 1, 1975, 39-42.

348. Miloshenko, V. Ye., V. S. Postnikov, G. Ye. Shunin, and Ye. I. Shukhalov. Characteristics of dislocation inhibition in superconductors at the n-s transition. IN: Dinamika dislokatsii. Kiyev, Izd-vo Nauk. dumka, 1975, 304-307. (RZhMetal, 5/76, #5I347)

349. Mints, R. G., and A. L. Rakhmanov. Critical current of a superconducting wire. ZhTF P, v. 2, no. 11, 1976, 492-496.

350. Moiseyev, D. P., Ye. L. Semyonova, and S. K. Uvarova. Superconductivity in a Zr-Ir system. FMM, v. 39, no. 6, 1975, 1163-1167.

351. Morozov, Yu. G., I. G. Naumenko, and V. I. Petinov. Effect of magnetic field on the superconductivity of small spherical tin particles. FTT, no. 8, 1975, 2273-2278.

352. Musiyenko, L. Ye., V. I. Shnyrkov, V. G. Voltoskaya, and I. M. Dmitrenko. Resistive state of thin Sn films on interruption of superconducting current. Fiz. nizk. temp., no. 4, 1975, 413-419.

353. Natsik, V. D., Effect of admixtures, pre-deformation and temperature on plasticity of superconductors. Fiz. nizk. temp., no. 4, 1975, 488-501.

354. Nikitin, V. P., V. I. Novikov, V. S. Neshpor, and V. V. Popov. Superconductivity of zirconium-carbon alloys. FTT, no. 11, 1975, 3406-3408.

355. Orlov, A. F., A. K. Milay, and V. P. Dmitriyev. Effect of semiconducting coatings on $T_c$ of superconducting Pb films. FTT, no. 5, 1976, 1470-1472.

356. Pal-Val', L. N., and V. Ya. Platkov. Effect of lead additive on amplitude-dependent ultrasonic absorption in normal and superconducting indium. FNT, no. 9, 1975, 1098-1104.

357. Peskovatskiy, S. A., and L. P. Strizhko. Operating conditions and shunting effects in superconductors of small dimensions. FTT, no. 4, 1976, 1160-1162.

358. Peskovatskiy, S. A., I. I. Yeru, and A. V. Poladich. Rate of "current" transitions between superconducting and resistive states in specimens of small dimensions. IN: Sb. Krioelektron v vychisl. tekhn. Kiyev, 1975, 44-47. (RZhF, 1/76, #1Ye1158)

359. Pompe, G., and K. Schmidt. Vapor-deposited lead films and their transport characteristics at low temperature. Part 2. Thermal conductivity. PSS, v. (a) 31, no. 1, 1975, 37-46.

360. Postnikov, V. S., V. Ye. Miloshenko, D. V. Davydov, and I. N. Panteleyev. Internal drag of multilayered films in the range of 4.2 - 100° K. FNT, no. 4, 1976, 533-536.

361. Postnikov, V. S., V. Ye. Miloshenko, G. Ye. Shunin, and Ye. I. Shukhalov. Characteristics of internal friction in superconductors at transition. IN: Sv. Mekhanizmy relaksatsion. yavleniy v tverd. telakh. Kaunas, 1974, 138-142. (RZhMetal 151, 1/75, no. 11357)

362. Potapov, S. V., V. P. Polyakov, L. A. Yerolayev, and Ye. D. Chistyakov. Forming a superconducting coating on sapphire. IN: Sb. nauch. tr. po probl mikroelektron. Mosk. in-t elektron. tekhn, no. 21, 1975, 24-28. (RZhF, 12/75, #12Ye1241)

363. Prekul, A. F., V. A. Rassokhin, and N. V. Volkenshteyn. The cause of the low-temperature resistance peak in titanium alloys. ZhETF P, v. 22, no. 9, 1975, 433-436.

364. Reale, C. Thickness and temperature dependence of the critical magnetic field of thin superconducting films of aluminum group metals. Acta phys. Acad. sci. hung., v. 37, no. 1-2, 1974, 53-60. (RZhF, 7/75, #7Ye1033).

365. Samsonov, G. V., V. P. Alekseyevskiy, Yu. I. Beletskiy, V. M. Pan, I. I. Timofeyev, L. K. Shvedova, and V. V. Yarosh. Cubical tantalum nitride, obtained by shock compression. IN: Sb. Issledovaniye nitridov, Kiyev, 1975, 219-223. (RZhMetal, 4/76, #4I73)

366. Savitskiy, Ye. M., Yu. V. Yefimov, and V. N. Sumarokov. Superconducting films with variable composition. FiKhOM, no. 3, 1975, 77-79.

367. Shablo, A. A., S. A. Tyurin, and I. M. Dmitrenko. Effect of normal metal coatings on the phase diagram of superconducting microcylinders. FNT, no. 5, 1976, 582-588.

368. Shchetkin, I. S., T. N. Kharchenko, and G. I. Tarasenko. Heat capacity of Nb+7, 23 at. % Ti near the phase transition into the superconducting state. UFZh, no. 3, 1975, 367-370.

369. Shikov, A. A., N. A. Chernoplekov, G. Kh. Panova, B. N. Samoylov, and A. P. Zhernov. Effect of extrinsic oscillations on the temperature of superconducting transition in weak solutions of U and Be in V. ZhETF, v. 70, no. 2, 1976, 687-694.

370. Soldatov, V. P., V. I. Startsev, and G. I. Shklyarevskaya. Effect of superconducting transition on creep in high purity tin single crystals. FNT, no. 10, 1975, 1311-1317. (RZhMetal, 4/76, #4I555)

371. Startsev, V. I., V. V. Abraimov, and V. P. Soldatov. Effect of tin impurities on the temperature dependence of disordering effects in lead during the superconducting transition. ZhETF, v. 69, no. 5, 1975, 1839-1840.

372. Tulina, N. A., and N. N. Novokhatskaya. Critical superconducting transition temperature and electron-phonon interaction in plastically-deformed rhenium. Fiz. nizk, temp., no. 1, 1975, 27-30.

373. Tyupin, V. P., and R. A. Chentsov. Teplootvod ot tonkoplenochnykh elementov v statsionarnom reghime pri nizkikh temperaturakh (Heat transfer from thin-film elements in a stable regime at low temperatures). In-t tochn. mekh. i vychisl. tekhn. AN SSSR. Moskva, 1974, 12 p. (RZhRadiot, 11/75, #11Ye334 Dep).

374. Verkin, B. I., T. A. Parkhomenko, V. V. Pustovalov, and V. I. Startsev. Low-temperature plasticity of superconducting materials from niobium-titanium alloys. DAN SSSR, v. 228, no. 3, 1976, 586-589.

375. Vinnikov, L. Ya., V. I. Grigor'yev, and O. V. Zharikov. Resistive state and pinning in deformed Nb crystals. In-t fiz. tverd. tela, preprint. Chernogolovka, 1975, 12 p. (RZhF, 10/75, no. 10Ye1167)

376. Volotskaya, V. G., L. Ye. Musiyenko, I. M. Dmitrenko, and Yu. V. Kalekin. Hysteresis of critical currents in narrow superconducting films. FNT, no. 5, 1976, 500-504.

377. Volynskiy, I. Ya., V. I. Makarov, and V. V. Gan. Effect of impurities and pressure on the topology of the Fermi surface of indium. ZhETF, v. 69, no. 3, 1975, 1019-1033.

378. Yanson, I. K. Critical current and current-voltage characteristics of superconducting microbridges. Fiz. nizk. temperatur, v. 1, no. 2, 1975, 141-153. (RZhF, 6/75, no. 6E1097)

379. Yanson, I. K., O. P. Balkashin, and A. Yu. Krasnogorov. Nonequilibrium filling of quasiparticle states in a superconductor under laser radiation. ZhETF P, v. 23, no. 8, 1976, 458-462.

380. Yeru, I. I., S. A. Peskovatskiy and A. V. Poladich. Isothermal current-voltage characteristics of long superconducting films. UFZh, no. 6, 1975, 903-911.

381. Yeru, I. I., S. A. Peskovatskiy, V. S. Sulima, and V. A. Kashchey. Mixing SHF signals having a conversion coefficient greater than one in a long superconducting film. RiE, no. 5, 1975, 1112.

382. Yeru, I. I., V. A. Komashko, A. P. Krut'ko, S. A. Peskovatskiy and A. V. Poladich. V-A characteristics of long superconducting niobium films. FTT, no. 10, 1975, 3119-3121.

383. Zhizhin, G. N., O. V. Kapusta, M. A. Moskaleva, V. [illegible] Nazin, and V. A. Yakovlev. Spectroscopy of surface waves, properties of a surface. UFN, no. 117, no. 3, 1975, 573-574.

## 5. Josephson Devices


384. Akimenko, A. I., V. S. Solov'yev, and I. K. Yanson. Dependence of Josephson a.c. current amplitude on voltage. FNT, v. 2, no. 4, 1976, 480-485.

385. Akimenko, A. I., V. S. Solov'yev, and I. K. Yanson. High-frequency threshold of Josephson non-stationary effect. ZhETF P, v. 21, no. 10, 1975, 592-595.

386. Akimenko, A. I., V. S. Solov'yev, and I. K. Yanson. A mixer for superconducting point contacts. RiE, no. 4, 1976, 829-836.

387. Akimenko, A. I., I. K. Yanson, and V. S. Solov'yev. Josephson junction as a heterodyne-mixer in the millimeter waveband. RiE, no. 5, 1975, 1118-1120.

388. Al'tshuler, B. L. Parametric resonance in a long Josephson contact. FTT, no. 4, 1976, 1015-1021.

389. Aronov, A. G., and B. Z. Spivak. Photoeffect in a Josephson junction. ZhETF P, v. 22, no. 4, 1975, 218-221.

390. Aslamazov, L. G., and A. I. Larkin. The Josephson effect in wide-area superconducting junctions. ZhETF, v. 68, no. 2, 1975, 766-775.

391. Avakyan, R. S., V. N. Gubanov, and N. M. Margolin. On limit "cut-off" frequency of niobium-niobium point superconducting junctions. FTT, no. 2, 1975, 566-569.

392. Avakyan, R. S., A. N. Vystavkin, V. N. Gubankov, and V. D. Shtykov. Conversion of millimeter waves to shorter waves in a Josephson junction. ZhTF P, v. 1, no. 24, 1975, 1147-1151.

393. Avakyan, R. S., A. N. Vystavkin, V. N. Gubankov, and V. D. Shtykov. Mixing of microwaves in superconducting point junctions, using Josephson self-oscillations. RiE, no. 1, 1975, 216-219.

394. Aynitdinov, Kh. A. Josephson point contact. Author's certificate USSR, #502425, published June 4, 1974. (Otkr izobr, 5/76, p. 172)

395. Balkashin, O. P., L. I. Ostrovskiy, and I. K. Yanson. Study of plasma resonance in Josephson tunnel contacts. Fizika kondensirovannogo sostoyaniya, no. 28, 1973, 16-19. (LZhS, 40/75, 133111)

396. Balkashin, O. P., and I. K. Yanson. Nonlinear regime of plasma oscillations in Josephson tunnel contacts. FNT, no. 3, 1976, 289-298.

397. Balkashin, O. P., I. K. Yanson, A. A. Vlasenko, A. Yu. Krasnogorov, and L. I. Ostrovskiy. Manufacturing technology and characteristics of Josephson tunnel junctions from tin and lead. IN: Krioelektron. v vychisl. tekhn. Kiyev, 1975, 19-25. (RZhF, 2/76, #3Ye1091)

398. Belous, N. A., and I. V. Lezhnenko. Method of creating Josephson tunnel junctions in Nb-$Nb_xO_y$-Pb. IN: Sb. Krioelektron v vychisl. tekhn. Kiyev, 1975, 34-36. (RZhF, 2/76, #2Ye1094)

399. Benacka, S., L. Bezakova, and J. Palaj. Josephson effect in a long superconducting filament formed within a semiconductor. Electrotech. casopis, no. 4, 1975, 282-289. (RZhRadiot, 9/75, no. 9Ye453)

400. Bevza, Yu. G., and V. A. Mikhaylov. Josephson inductance of weak superconducting contacts. Fizika kondensirovannogo sostoyaniya, no. 29, 1973, 54-58. (LZhS, 45/75, 150872)

401. Bevza, Yu. G., V. A. Mikhaylov, E. A. Kel'man, and I. M. Dmitrenko. D-c voltages at weak superconducting contacts induced by uhf radiation. Fizika kondensirovannogo sostoyaniya, no. 29, 1973, 13-30. (LZhS, 45/75, 150820)

402. Borovitskiy, S. I., and L. L. Malinovskiy. Applicability limits of the Josephson effect at high frequencies and voltages. RiE, no. 7, 1975, 1477-1483.

403. Dettmann, R. Hysteresis of the vanadium-insulation-lead Josephson tunnel junction. PSS(a), v. 28, no. 1, 1975, K21-K24.

404. Divin, Yu. Ya., and F. Ya. Nad'. Wideband microwave radiation detector based on the Josephson effect. IN: Sb. Issled. v obl. radiotekhn. i elektron. 1954-1974. Ch. 2. Moskva, 1975, 209-217. (RZhRadiot, 4/76, #4Ye573)

405. Divin, Yu. Ya., A. I. Zhukov, F. Ya. Nad', K. A. Rulev, and S. Ye. Turygin. Millimeter and submillimeter radiation detector based on a superconducting point contact. PTE, no. 6, 1975, 267.

406. Dmitriyev, V. M., Ye. V. Khristenko, and S. Shapiro. Increase in critical parameters of weakly coupled superconductive contacts exposed to superhigh-frequency radiation. Fizika kondensirovannogo sostoyaniya, no. 28, 1973, 3-15. (LZhS, 40/75, 134279)

407. Dmitriyev, V. M., Ye. V. Khristenko, and L. Ye. Yesichko. Nonstationary Josephson effect in thin superconducting bridges of uniform thickness. FNT, no. 3, 1976, 318-321.

408. Golikov, A. P., M. Kh. Zelikman, L. M. Klyukin, and V. A. Fabrikov. A device for forming a superconducting Josephson contact. Author's certificate, USSR, #442539, published May 28, 1975. (RZhRadiot, 5/76, #5Ye396 P)

409. Golitsyn, R. I., B. V. Krotkov, V. V. Krutyakov, and N. R. Novikova. The weakly-coupled superconducting contact and its characteristics. IN: Sb. Vopr. analiza i sinteza elektr. tsepey i ustroystv c elektron. priborami. No. 1, Cheboksary, 1974, 160-167. (RZhRadiot, 7/75, no. 7Ye240)

410. Gorin, Yu. N., and Yu. D. Novinskiy. Using the stationary Josephson effect of amplifying high-frequency signals. Izv. Leningr. elektrotekh, in-ta, no. 163, 1975, 71-75. (RZhRadiot, 7/75, no. 7Ye242)

411. Gubankov, V. N., L. S. Kuz'min, K. K. Likharev, and V. K. Semenov. "Non-Josephson" radiation in a cavity with a superconducting Josephson junction. ZhETF, v. 68, no. 6, 1975, 2301-2314.

412. Gubankov, V. N., V. P. Koshelets, and G. A. Ovsyannikov. U.H.F. Josephson radiation detected in thin film superconducting bridges. ZhETF P, v. 21, no. 8, 1975, 489-494.

413. Karamushko, V. I. Hysteresis in volt-ampere characteristics of Josephson point contacts. Fizika kondensirovannogo sostoyaniya no. 29, 1973, 68-74. (LZhS, 45/75, 150821)

414. Komarovskikh, N. I., G. M. Lapir, A. G. Samus', and V. K. Semenov. Josephson effects in bridges of variable thickness cross-connected by a normal metal. ZhTF P, v. 1, no. 21, 1975, 1002-1005.

415. Kravchenko, V. V., S. I. Bondarenko, K. B. Lobanov, and O. Ye. Shchastlivets. Quantum interference in circuits with two superconducting bridge contacts. FNT, no. 3, 1976, 200-208.

416. Kulikov, V. A., and K. K. Likharev. An SHF Josephson detector in a self-selecting regime. IVUZ Radiofiz, no. 4, 1976, 543-556.

417. Landa, P. S., and N. D. Tarankova. Current-voltage characteristics of Josephson junctions. RiE, no. 2, 1975, 353-359.

418. Likharev, K. K. On properties of a Josephson triode. RiE, no. 3, 1975, 660-662.

419. Pavlyuk, V. A., V. A. Bystrov, and V. M. Dmitriyev. Radiation of electromagnetic energy by a Josephson junction system through a semitransparent shield. RiE, no. 2, 1975, 445-448.

420. Rybal'chenko, L. F., and I. K. Yanson. Investigating single-frequency tunneling current and Josephson current in V-$V_xO_y$-Pb contacts. IN: Krioelektron. v vychisl. tekhn. Kiyev, 1975, 27-34. (RZhF, 2/76, #2Ye1095)

421. Soloveychik, L. F., and V. S. Etkin. Study of non-controlled superconducting point contacts in a wideband UHF system. RiE, no. 6, 1975, 1317-1320.

422. Solov'yev, A. L., Ye. V. Khristenko, and V. M. Dmitriyev. Detection and mixing of UHF signals by superconducting point contacts located in open space. Fizika kondensirovannogo sostoyaniya, no. 28, 1973, 91-93. (LZhS, 40/75, 134354)

423. Volkov, A. F., and A. V. Zaytsev. Using a Josephson junction for a reference voltage. ZhTFP, v. 2, no. 4, 1976, 188-191.

424. Voytovich, I. D., V. Ya. Podkladnev, and V. N. Sosnitskiy. Josephson tunnel junction based on lead and its alloys. IN: Sb. Krioelektron. v vychisl. tekhn. Kiyev, 1975, 25-27. (RZhF, 2/76, #2Ye1092)

425. Zil'berman, L. A. Volt-ampere characteristic of small Josephson junctions. ZhTF, no. 4, 1975, 871-876.

426. Zil'berman, L. A. Operating stability of a tunnel cryotron. IN: Sb. Krioelektron. v vychisl. tekhn. Kiyev, 1975, 36-39. (RZhF, 1/76, #1Ye1175)

## 6. High-Field Magnets

427. Agureyev, V. N., D. P. Ivanov, V. Ye. Keylin, Ye. Yu. Klimenko, I. A. Kovalev, S. A. Novikov, and B. A. Stavisskiy. Studying the effect of pulsed magnetic fields on the efficiency of a circulating magnetic system. Dokl. Vses. soveshch. po inzh. probl. upravlyayem. termoyader. sinteza, 1974 T. 1. Leningrad, 1975, 210-219. (RZhF, 6/76, #6G229)

428. Al'tov, V. A., V. B. Zenkevich, M. G. Kremlev, and V. V. Sychev. Thermal equilibrium of the normal zone in dense superconducting windings. IAN Energ i transport, no. 1, 1975, 76-80.

429. Bershadskiy, I. T., and V. M. Neymark. Current stabilizer for feeding the STSM-4 superconducting magnetic system. PTE, no. 6, 1975, 270.

430. Bychkov, N. S., V. M. Lachinov, A. A. Popov, and V. S. Khabarov. Stabilized current source up to 3200 a. for a superconducting solenoid. PTE, no. 4, 1975, 144-148.

431. Derkach, A. Ya., I. M. Karnaukhov, and A. A. Lukhanin. A 500 a current supply for superconducting magnets. IN: Sb. Voprosy atom. nauki i tekhn. Ser. Fundament i prikl. sverkhprovodimost'. No. 1, Kharkov, 1974, 59-60. (RZhRadiot, 8/75, no. 8Ye326).

432. Derkach, A. Ya., I. M. Karnaukhov, A. A. Lukhanin et al. Superconducting solenoids with compound windings. IN: Sb. Voprosy atomn. nauki i tekhn. Ser. Fundament. i prikl. sverkhprovodimost'. No. 1, Kharkov, 1974, 52-54. (RZhRadiot, 8/75, no. 8Ye325)

433. Galst'yan, Ye. A., L. I. Greben', and Ye. S. Mironov. Effect of a saturating iron shield on the distribution of a superconducting dipole magnetic field. IN: Tr. Radiotekhn. in-ta, AN SSSR, no. 22, 1975, 112-122; 282-283. (RZhRadiot, 5/76, #5Ye405)

434. Grinberg, G. K., I. Ya. Laumanis, and O. I. Liyetuviyetis. Superconducting solenoid. Author's certificate, USSR, #540242, published April 14, 1975. (RZhRadiot, 1/76, #1Ye533 P)

435. Kurochkin, V. I., V. P. Naberezhnykh, V. V. Permyakov, V. A. Yadroshnikov, and A. A. Udod. Calculating the geometry of superconducting solenoids for a given uniformity of magnetic field. ZhTF, no. 5, 1975, 943-949.

436. Lazareva, L. S., and V. A. Poltavets. Joining sectional pairs of a ribbon $Nb_3Sn$ solenoid, using the inner diameters. IN: Sb. Voprosy atomn. nauki i tekhn. Ser. Fundament. i prikl. sverkhprovodimost', No. 1, Kharkov, 1974, 55-56. (RZhRadiot, 8/75, no. 8Ye229)

437. Novak, D. Some new data on superconducting magnets. Fiz. szemle, v. 24, no. 5, 1974, 150-156. (RZhF, 2/75, no. 2Ye822).

438. Novak, D. Technology of superconducting magnets. Fiz. szemle, v. 24, no. 12, 1974, 362-372. (RZhRadiot, 11/75, #11Ye315)

439. Shor, M. Ya. Stabilized current source for a superconducting magnet. PTE, no. 4, 1975, 148-149.

440. Smirnov, Yu. I., and V. G. Shabratov. Sverkprovodyashchiy solenoid s polem do 100 KE (Superconducting solenoid with fields to 100 koe). Dubna, OIYaI, 1975, 8 p. (KL, 33/75, no. 29424)

441. Vasil'yev, V. A., and Yu. A. Shishov. Diskovyy sverkhprovodyashchiy solenoid s nepreryvnoy obmotkoy (Superconducting disc solenoid with continuous winding). Dubna, 1975, 9 p. (KL, 5/76, #3699; RZhF, 1/76, #1Ye1575)

442. Vetlitskiy, I. A., A. V. Belonogov, M. V. Gritsuk, et al. Sverkhprovodyashchiy magnit dlya formirovaniya puchkov chastits s malym vremenem zhizni (Superconducting magnet for forming particle beams with short lifetime). Moskva, 1975, 35 p. (KL, 11/76, #8773).

## 7. Power Generators


443. Aliyevskiy, B. L., A. I. Bertinov, V. K. Isayev, V. L. Orlov, and A. G. Sherstyuk. Analysis of the IRD unipolar generator with superconducting inductor. Elektrichestvo, no. 10, 1975, 27-33.

444. Glebov, I. A., and Ya. B. Danilevich. Problem of building large-scale generators using superconductivity. IAN Energ i transport, no. 3, 1975, 3-10.

445. Gukhman, G. A., Yu. N. Malevskiy, and A. M. Khalykov. Thermodynamic evaluation of the effectiveness of direct conversion of solar energy into electric using superconductivity phenomena. IN: Sb. Tr. Energ. in-t in G. M. Krzhizhanovskogo, no. 24, 1974, 151-157. (RZhElektrokh, 1/76, #1F39)

446. Gurin, S. P., L. B. Dinaburg, A. I. Kostenko et al. Development and study of superconducting inductive energy storage. IN: Sb. Induktiv. nakopiteli energii i kommutats. apparatura dlya termoyader. ustanovok. Dokl. sov. spetsialistov na Sovmest. seminar SSSR-SShA, 1974, 1-11. (RZhRadiot, 6/75, no. 6Ye340)

447. Markert, W. and W. Seidel. A unipolar generator with a superconducting excitation winding and segmented armature. Author's certificate, GDR, #95884, published February 20, 1973, (RZhRadiot, 1/76, #1Ye563 P)

448. Ruzhinskiy, L. N., I. Ya. Cheremisov, A. Ya. Fastovets, and A. P. Vishnevskaya. Calculating the inductive impedance of a cryoturbo-generator. IVUZ Elektromekhanika, no. 2, 1975, 131-139.

449. Sverkhprovodniki, giperprovodniki i kriogennoye okhlazhdeniye v elektrotekhnike i energetike. Sbornik statey. (Superconductors, hyperconductors and cryogenic cooling in electrical engineering and energy technology. Collection of papers). Kiyev, 1975, 41 p. (KL, 44/75, no. 39394).

450. Yanov, A. Ye., and V. V. Gladkiy. Raschet elektromagnitnogo polya sverkhprovodnikogo turbogeneratora s ekranom (Computing the e-m field of a superconducting turbogenerator with shield). AN UkrSSR, Fiz-tekhn. in-t nizkikh temperatur. Kharkov, 1974, 14 p. (KLDV, 6/75, no. 10171).

451. Yantovskiy, L. I., A. G. Miroshnichenko, and Ye. K. Berzin. A method of electromagnetic rating of a unipolar machine with a superconducting inductor. Elektrotekhnika, no. 5, 1975, 58-60. (LZhS, 43/75, 144617).

## 8. Miscellaneous Devices

452. Alekseyenko, V. A., and G. P. Gerasimov. A switching device. Author's certificate, USSR, #439875, published April 10, 1975. (RZhRadiot, 3/76, #3Ye414P)

453. Anishchenko, N. G., and E. B. Yavorskiy. Vybor elektroizolatsionnykh materialov dlya kriogennykh i sverkhprovodyashchikh ustroistv i issledovaniya ikh fizicheskikh svoystv (Selection of electrical insulating materials for cryogenic and superconducting devices, and studies of their physical properties.) Dubna, OIYaI, 1974, 23 p. (KL, 6/75, #4637)

454. Baykov, A. Ya., N. P. Gerasimov, and Ye. N. Luze. Effect of a superconducting shield on temperature stability of frequency in an LC circuit. Izv. Leningr. elektrotekhn. in-ta, no. 161, 1975, 55-58. (RZhRadiot, 5/75, no. 5Ye325)

455. Baykov, A. Ya., Ye. N. Luze, and V. I. Pozdnyakov. Effect of a Meissner tuning core on inductive temperature stability in a superconducting coil. IVUZ Radioelektronika, no. 1, 1975, 107-108.

456. Beskorsyy, A. P., Yu. I. Makaganyuk, and V. A. Yatsenko. Electron scanners for studying volt-ampere characteristics of weakly coupled superconductors and thin superconductive films. Fizika kondensirovannogo sostoyaniya, no. 29, 1973, 114-121. (LZhS, 45/75, 150809).

457. Beskorsyy, A. P., V. M. Dmitriyev, V. A. Samarskiy, and G. Ye. Churilov. Superconducting parametric amplifier operating in the SHF range. Fizika kondensirovannogo sostoyaniya, no. 28, 1973, 82-90. (LZhS, 40/75, 134347)

458. Bevza, Yu. G., G. G. Tsakh, V. I. Karamushko, and I. M. Dmitrenko. Effect of increasing critical current in an SHF field on cruciform superconducting thin film bridges. ZhTF P, v. 2, no. 8, 1976, 367-371.

459. Bobrova, G. I., L. L. Vasil'yev, S. K. Vinokurov, V. G. Korolyuk, V. A. Morgun, and V. V. Senin. Experimental device for the study of heat exchange in a porous superconducting cable. IAN B, seriya fiziko-energeticheskikh nauk, no. 2, 1976, 71-73.

460. Bobryshev, V. D., and V. M. Dmitriyev. Selective properties of superconducting resonators in a nonlinear regime. ZhTF P, v. 1, no. 15, 1975, 698-701.

461. Bol'shov, V. G., Yu. V. Zhitorchuk, O. P. Korovin, and V. A. Lebedeva. Method of annealing superconductive cavity resonators. ZhTF P, v. 1, no. 1, 1975, 55-58.

462. Bondarenko, S. I., N. M. Loboda, A. I. Verdyan, et al. Combination sensors of SQUIDs with regular weak couplings prepared by an electric breakdown method. Fizika kondensirovannogo sostoyaniya, no. 29, 1973, 59-67. (LZhS, 45/75, 15091)

463. Bondarenko, S. I., V. I. Sheremet, S. S. Vinogradov, and V. V. Ryabovol. Multilayer superconducting shield for obtaining a high magnetic vacuum. ZhTF, no. 1, 1975, 124-129.

464. Danilov, V. V., and K. K. Likharev. Limit characteristics of a SQUID. ZhTF, no. 5, 1975, 1110-1116.

465. Didenko, A. N., V. L. Kaminskiy, M. N. Kovalev, I. A. Levina, G. M. Samoylenko, L. M. Sevryukova, V. P. Shiyan, Yu. G. Yushkov, B. K. Yasel'skiy, and A. A. Yatis. Study of a superconducting niobium resonator in the 3-cm range after high-temperature anneal. IN: Tr. NII Yader fiz, elektron i avtomatiki pri Tomsk. politekhn. in-te, no. 5, 1975, 19-23. (RZhRadiot, 4/76, #4Ye566)

466. Didenko, A. N., and V. P. Shiyan. Distribution of e-m waves in superconducting coaxial lines. IN: Tr. NII Yader. fiz. elektron. i automatiki pri Tomsk. politekhn. in-te, no. 5, 1975, 42-44. (RZhRadiot, 5/76, #5Ye409)

467. Dmitriyev, V. M., and A. I. Prokopchenko. Superconducting coaxial line for transmitting uhf with current. Fizika kondensirovannogo sostoyaniya, no. 29, 1973, 75-78. (LZhS, 45/75, 150887)

468. Formozov, B. N., A. A. Tovma, A. A. Smekhnov, and V. V. Butsenko. A cryostat for studying critical parameters of superconducting films. Metrologiya, no. 2, 1976, 42-45.

469. Gerlach, H. Superconducting shielding device. Author's certficate, GDR, #99883, published August 20, 1973. (RZhRadiot, 3/76, #3Ye416P)

470. Glebovich, G. V. Cryogenic microelectronic device. IN: Sb I Regional'n. shkola-seminar po funkts. mikroelektronike. Tezisy. Gor'kiy, 1975, 25-28. (RZhRadiot, 4/76, #1Ye554).

471. Glebovich, G. V., and L. V. Migunov. Cryogenic [pulse] shaper. Author's Certificate USSR, no. 441652, published 15 Dec. 1974. (RZhRadiot, 7/75, no. 7Ye233)

472. Gol'denberg, Ye. S., V. S. Okolotin, and D. Ye. Rumyantsev. A device for controlling superconductivity. Author's certificate, USSR, #490223, published December 8, 1972. (Otkr izobr, 40/75, p. 146).

473. Grigorenko, V. G., A. K. Gnap, and Yu. V. Dubrovin. Device for controlling the temperature of thin film transition into the superconducting state. IN: Sb. Zapominayushch. ustroystva. Kiyev, 1975, 86-93. (RZhRadiot, 5/76, #5Ye393)

474. Grodnev, I. I., and D. Ya. Gal'perovich. Theory and circuit design of superconductive coaxial cables. Elektrosvyaz', no. 5, 1975, 36-41.

475. Gubin, L. P. Maximum inductance of superconducting interference voltage converters. IN: Tr. Vses. n-i i konstrukt. in-t nauch. priborostr., no. 6, 1975, 103-106. (RZhRadiot, 5/76, #5Ye404)

476. Ignatov, V. Ye., G. A. Koval'kov, and A. I. Moskvitin. Sverkhprovodyashchiye preobrazovateli, vypryamiteli i vyklyuchateli energeticheskogo naznacheniya (Obzor). [Superconducting converters, rectifiers and breakers for energy purposes (Review)]. M-vo energetiki i elektrifikatsii SSSR. Moskva, 1974, 56 p. (KLDV, 9/75, no. 15764)

477. Isayev, G. P. Calculations for superconducting spiral waveguides. RiE, no. 8, 1975, 1733-1735.

478. Isayev, G. P., and L. F. Chernogalova. Calculation of superconducting spiral waveguides with ideally conducting walls. IN: Tr. NII Yader. fiz. elektron i avtomatiki pri Tomsk. politekhn. in-te, no. 5, 1975, 56-59. (RZhRadiot, 4/76, #4Ye558)

479. Ivanenko, A. I., and V. N. Trofimov. Signal recording system for a SQUID. Metrologiya, no. 5, 1976, 67-71.

480. Kaminskaya, R. G., G. M. Samoylenko, L. M. Sevryukova, and V. P. Shiyan. Effect of dielectric coating on electrical properties of superconducting resonators. IN: Tr. NII Yader. fiz. elektron. i avtomatiki pri Tomsk. politekhn. in-te, no. 5, 1975, 14-17. (RZhRadiot, 4/76, #4Ye564)

481. Khlus, V. A., and I. O. Kulik. Fluctuations and quantum interference effect in weakly coupled superconducting systems. ZhTF, v. 45, no. 3, 1975, 449-458.

482. Kiselev, M. I. Finite-amplitude waves in a current-carrying superconducting coaxial line. ZhTF, no. 2, 1975, 382-385.

483. Klabik, V. A method for obtaining compound superconductors. Author's Certificate, Czech SSR, no. 152639, published 15 April, 1974. (RZhRadiot, 8/75, no. 8Ye228 P)

484. Klabik, V., and J. Smrcka. Method for soldering superconductors. Author's Certificate Czech SSR, no. 152631, published 15 April 1974. (RZhRadiot, 8/75, no. 8Ye227 P)

485. Kozlov, V. A., N. D. Kozlova, Ye. M. Savitskiy, and I. I. Bykov. A method for studying the properties of a SQUID. PTE, no. 3, 1975, 247-248.

486. Krivosheyev, Ye. F., M. A. Martynov, and V. A. Pavlyuk. On using superconductivity in the design of highly-directional antennas. Fizika kondensirovannogo sostoyaniya, no. 28, 1973, 109-114. (LZhS, 40/75, 134305)

487. Krivosheyev, Ye. F., M. A. Martynov, and V. A. Pavlyuk. Small superconducting antenna. IN: Tr. Fiz-tekhn. inst. nizk, temperatur, AN UkrSSR, no. 28, 1973, 103-108. (RZhF, 7/74, no. 7Zh366).

488. Kruzliak, J. Method for preparing niobium cores for niobium-tin superconductors. Author's Certificate, Czech SSR, no. 151198 published Dec. 15, 1973. (RZhRadiot, 9/75, no. 9Ye417 P)

489. Kurdyumov, N. N., and L. V. Matveyets. Detection of millimeter radiation with granular superconductors. IN: Sb. VIII Vsesoyuz. konf. po radioastron. Tez. dokladov. Pushchino, 1975, 70-71. (RZhF, 10/75, no. 10Zh491)

490. Kurdyumov, N. N. Video receivers using superconducting point contacts for detection in the 8 mm band. IN: Sb. VIII Vses. konf. po radiostron. Tez. dokladov. Pushchino, 1975, 74. (RZhF, 10/75, no. 10Zh494)

491. Larikov, L. N., I. D. Voytovich, V. S. Krasil'nikov, A. A. Lobodyuk, V. N. Sosnitskiy, and O. A. Shmatko. Effect of glow discharge on lead films during manufacture of superconducting microcircuits. Sb. Fiz-tekhnol.vopr. kibernet. Kiyev, 1974, 65-77. (RZhRadiot, 3/75, #3Ye359)

492. Legkostupov, M. S. Measuring element of a SQUID. PTE, no. 3, 1975, 248-249.

493. Likharev, K. K., and L. A. Yakobson. Stationary properties of superconducting bridges. ZhTF, no. 7, 1975, 1503-1509.

494. Luze, Ye. N., and T. M. Gerasimova. Losses in superconducting LC circuits. Tr. Sev-zap. zaoch. politekh. in-ta, no. 29, 1975, 39-41. (RZhRadiot 9/75, no. 9Ye442)

495. Martynov, I. S., and A. L. Seryugin. Device for studying magnetic microstructure at liquid helium temperature. IN: Sb. Voprosy atomn. nauki i tekhn. Ser. Fundament. i prikl. sverkhprovodimost'. No. 1, Kharkov, 1974, 57-58. (RZhRadiot, 8/75, no. 8Ye336)

496. Menke, Kh., and Yu. A. Shishov. Model' sil'notochnogo i vysokovol'tnogo sverkhprovadyashchego vyklyuchatel'ya (Model of a high current, high voltage superconducting switch). Dubna, OIYaI, 1974, 22 p. (KLDV, 6/75, no. 10079)

497. Migunov, L. V. Analysis of transition processes in a cryotron. IVUZ Radioelektronika, no. 3, 1975, 85-87.

498. Mikhin, N. P., and I. K. Yanson. A device for studying small nonlinearity of volt-ampere characteristics of tunnelling contacts. Fizika kondensirovannogo sostoyaniya, no. 29, 1973, 122-131. (LZhS, 45/75, 150920)

499. Molochkov, V. Ya. Resolution capabilities of SQUIDs. IN: Sb. I Vsesoyuz. konf. Metody i sredstva i izmereniya parametrov magnitn. polya. Tezisy dokladov. Leningrad, 1975, 60-61. (RZhRadiot, 7/75, no. 7Ye225)

500. Novikov, S. A. Wave attenuation in superconducting elliptical-iris waveguides. IN: Tr. NII Yader. fiz. elektron. i avtomatiki pri Tomsk. politekhn. in-te, no. 5, 1975, 53-56. (RZhRadiot, 4/76, #4Ye557)

501. Orlov, A. K., V. V. Rumyantsev, A. V. Ryabtsov, et al. Selecting the HF structure of a superconducting linear accelerator. IN: Sb. Vopr. atomnoy nauki i tekhniki Ser: Fizika vysokikh energii i atomnogo yadra, no. 1, 1975, 32-34. (LZhS, 2/76, #4344; RZhF, 12 /75, #12V410)

502. Pankratov, N. A., G. A. Zaytsev, and I. A. Khrebtov. Study of nonlinear sensitivity in superconducting bolometers. IN: Sb. Teplov. priemniki izlucheniya. Leningrad, 1973, 134-141. (RZhRadiot, 9/75, no. 9Ye451)

503. Pankratov, N. A., G. A. Zaytsev, and I. A. Khrebtov. Superconducting bolometers for longwave IR spectroscopy. IN: Sb. Teplov. priemniki izlucheniya. Leningrad, 1974, 122-133.

504. Pospelov, G. Ye., V. T. Fedin, V. V. Senin, and A. P. Burakov. Experiment in designing and laying out a cryocable line. IN: Sb. Opyt ekspluatat. kabel'n. liniy. Leningrad, Energiya, 1974, 165-170. (RZhRadiot, 6/75, no. 6Ye335).

505. Prentslau, N. N., F. F. Mende, V. N. Logvinov et al. Nitrogen-free helium cryostat for monitoring a superconducting resonator. Kriog. i vakuumnaya tekhnika, no. 3, 1973, 70-73. (LZhS, 31/75, no. 101032)

506. Royzen, L. I., Yu. V. Petrovskiy, I. S. Zhiguleva, and G. I. Abramov. Calculation of cooled copper conductors for cryogenic electrical equipment. Elektrotekhnika, no. 1, 1975, 44-47.

507. Samoylenko, G. M. Device for studying superconducting resonators. IN: Tr. NII Yader. fiz. elektron. i avtomatiki pri Tomsk. politikhn. in-te, no. 5, 1975, 17-19. (RZhRadiot, 4/76, #4Ye565)

508. Sayapin, A. F., and Yu. G. Shteyn. Matching of superconducting resonance systems. IN: Tr. NII Yader. fiz. elektron. i avtomatiki pri Tomsk. politekhn. in-te, no. 5, 1975, 50-53. (RZhRadiot, 4/76, #4Ye561)

509. Sayapin, A. F., and Yu. G. Shteyn. Effect of the excitation system on characteristics of superconducting travelling-wave resonators. Gor'kiy, 1975, 8 p. Dep. at VINITI (RZhF, 10/75, no. 10Zh403).

510. Sayaprin, A. F., and Yu. G. Shteyn. Effect of the excitation system on characteristics of superconducting traveling-wave resonators. IVUZ Radiofiz, no. 2, 1976, 324.

511. Shakhtarin, V. N., S. N. Pylinina, and Z. S. Prokof'yeva. Method for modeling superconducting shields in a magnetic field. Otkr izobr, 34/75, no. 484530.

512. Studenik, J., and K. Pavlik. New magnetic lens of superconducting material. Cs. cas, fyz., A25, no. 2, 1975, 154-155. (RZhF, 11/75, no. 11Zh685).

513. Sychev, V. V. Studies in applied superconductivity at the Institute of High Temperatures. AN SSSR. IAN Energ i transport, no. 3, 1975, 11-17.

514. Tischenko, V. A., and E. K. Chekalin. An inductive device for controlling superconductivity of thin films. Author's certificate, USSR, #490224, published April 12, 1973. (Otkr izobr, 40/75, p. 147)

515. Vasil'yev, B. V., V. V. Danilov, and K. K. Likharev. Nekotoryye voprosy optimizatsii sverkhprovodyashchikh kvantovykh interferometrov. (Questions on optimizing SQUIDs.) OIYaI, Dubna, 1974, 24 p. (KLDV, 10/75, no. 17462)

516. Vasil'yev, B. V., A. I. Ivanenko, and V. N. Trofimov. Selecting optimal parameters for a SQUID. RiE, no. 6, 1975, 1255-1263.

517. Vasil'yev, L. L., V. A. Morgun, I. S. Desyukevich, and V. V. Senin. A superconducting cable. Author's certificate, USSR, #439874, published April 10, 1975. (RZhRadiot, 5/76, #5Ye406 P)

518. Vaykov, A. Ya., N. P. Gerasimov, and Ye. N. Luze. Superconducting oscillatory circuit. Author's Certificate USSR, no. 412673, published 28 Aug. 1974. (RZhRadiot, 5/75, no. 6YE334 P)

519. Volchkov, O. V., S. P. Gurin, et al. Results of developing superconducting niobium resonators. IN: Sb. vopr. atomn. nauki i tekhn. Seriya fiz. vysok energiy i atom. yadra, no. 1(3). Khar'kov, 1975, 35-36. (RZhRadiot, 11/75, #11Ye325)

520. Voytovich, I. D., V. N. Sosnitskiy, and Z. N. Kolesnikov. Application of diffusion for improving cryotron characteristics. Sb. Fiz. -tekhnol. vopr. kibernet. Kiyev, 1974, 77-81. (RZhRadiot, 3/75, #3Ye391)

521. Zakharov, V. V., L. M. Savryukova, and V. G. Smirnova. Optimizing the process of anodic oxidation in superconducting resonators. IN: Tr. NII Yader. fiz. elektron. i avtomatiki pri Tomsk. politekhn. in-te, no. 5, 1975, 8-14. (RZhRadiot, 4/76, #4Ye563)

522. Zykov, A. I., E. S. Zlunitsyn, and V. A. Kushnir. Study of a superconducting $E_{010}$ resonator with electron beam acceleration. IN: Sb. Voprosy atomn. nauki i tekhn. Ser. Lineyn. uskoriteli. No. 1, Kharkov, 1975, 35-36. (RZhRadiot, 9/75, no. 9Ye441)

523. Zlunitsyn, E. S., A. I. Zykov, and V. A. Kushnir. An attempt to develop a periodic superconductor structure with galvanic lead coating. IN: Sb. Voprosy atomn. nauki i tekhn. Ser. Lineyn. uskoritel, no. 1, Kharkov, 1975, 57-58. (RZhRadiot, 9/75, no. 9Ye447)

## 9. Books, Reviews, Conferences

524. Al'tov, V. A., et al. Stabilizatsiya sverkhprovodyashchikh magnitnykh sistem. (Stabilization of superconducting magnetic systems). Moskva, Izd-vo Energiya, 1975, 327 p. (RBL, 5-6/75, #723)

525. Arkhipov, R. G., and Ye. S. Itskevich. High pressure physics and technology. VAN, no. 11, 1975, 111-113.

526. Basov, N. G., ed. Elektronnyye kharakteristiki i elektron-fononnyye vzaimodeystviya sverkhprovodyashchikh metallov i splavov (Electronic characteristics and electron-phonon interactions in superconducting metals and alloys). Fizicheskiy institut imeni P. N. Lebedev, Trudy, v. 82, 1975, 102 p.

527. Bespalov, B. P., and V. V. Titov. 7,7,8,8 - tetracyanoquinodimethane in addition, substitution and complexing reactions. Uspekhi khimi, v. 44, no. 12, 1975, 2249-2283.

528. Bukkel', V. Sverkhprovodimost' (Superconductivity). Moskva, Mir, 1975, 366 p. (KL, 24/75, no. 20818)

529. Bulayevskiy, L. N. The structural (Peierls) transition in quasi-one dimensional crystals. UFN, v. 115, no. 2, 1975, 263-300.

530. Bulavevskiy, L. N. Superconductivity and electron properties of layered compounds. UFN, v. 116, no. 3, 1975, 449-483.

531. Bulayevskiy, L. N. Peierls transition in quasi-one dimensional crystals. UFN, v. 118, no. 4, 1976, 737-738.

532. Bulayevskiy, L. N., V. L. Ginzburg, and D. I. Khomskiy. Problema vysokotemperaturnoy sverkhprovodimosti (Problems of high-temperature superconductivity). AN SSSR, Lebedev Inst. Moskva, 1974, 56 p. (KLDV, 8/75, no. 13839)

533. Conference on structural problems and physical properties of quasi-one-dimensional substances with metallic conductivity (Khar'kov, May 1975). FNT, no. 12, 1975, 1563-1570.

534. Elektronnyye kharakteristiki i elektron-fononnyye vzaimodeystviya sverkhprovodyashchikh metallov i splavov. (Electron characteristics and electron-phonon interactions of superconducting metals and alloys). Fizicheskiy institut im. P. N. Lebedeva. Trudy, no. 82 Moskva, Nauka, 1975, 102 p. (LC-VKP) (RZhMetal, 10/75, #10I309K)

535. Fastovskiy, Ye. G. et al. Kriogennaya tekhnika (Cryogenic technology). Moskva, Energiya, 1974, 495 p. (RBL, 3-4/75, no. 1188)

536. Fiziki o fizike. Sverkhprovodimost'. Sbornik (Physicists on physics: superconductivity. Collection of articles). Moskva, Znaniye, 1975, 63 p. (RBL, 7-8/75, no. 515)

537. Gal'perin, Yu. M., V. L. Gurevich, and V. I. Kozub. Thermoelectric effect in superconductors. IN: Sb. Materialy 6-y Zimn. Shkoly-po fiz. poluprovodnikov, 1975, Leningrad, 1974, 85-102. (RZhF, 6/75, no. 6E1074)

538. Gubankov, V. N., and K. K. Likharev. Superconductivity electronics (review). RiE, no. 1, 1975, 1-27.

539. Issledovaniye usloviy statsionarnoy stabilizatsii sverkhprovodyashchikh magnitnykh sistem. (Stud of conditions for stationary stabilization of superconducting magnetic systems). In-t teorey. i eksperim. fiziki, Moskva, 1974, 18 p. (KLDV, 5/75, no. 8400)

540. Izyumov, Yu. A., and E. Z. Kurmayev. Superconductivity of compounds based on transition elements, and the relation with lattice unstability. UFN, v. 1, 1976, 53-100.

541. Khidekel', M. L., R. P. Shibayeva, I. F. Shchegolev, and E. B. Yagubskiy. Quasi-one-dimensional electron systems and high-temperature superconductivity. VAN, no. 11, 1975, 41-46.

542. Malkov, M. R., and V. V. Sytchev. Soviet research in cryogenic technology and applied superconductivity. Cryogenics, v. 15, no. 2, 1975, 65-68.

543. Mugenov, G. G. Sverkhprovodimost' i perspektivy yeye primeneniya v tekhnike (Superconductivity and prospects for its use in technology). Alma-Ata, 1974, 20 p. (KL, 16/75, no. 14001)

544. Nekotoryye voprosy sverkhprovodimosti (Problems on superconductivity). Moskva, Izd-vo Nauka, 1975, 162 p. (RZhRadiot, 5/76, #5Ye383 K)

545. Pan, V. M. Superconductors with high critical parameters. IN: Sb. Metally, elektrony, reshetka. Kiyev, Izd-vo Nauk. dumka, 1975, 275-293. (RZhRadiot, 3/76, #3Ye367; RZhF, 2/76, #2Ye1062)

546. Problema vysokotemperaturnoy sverkhprovodimosti (The problem of high-temperature superconductivity). Preprint FIAN, Moskva, 1974, 56 p. (KLDV, 8/75, #13839)

547. Problema vysokotemperaturnoy sverkhprovodimosti (The problem of high-temperature superconductivity). FIAN Preprint no. 74. Moskva, 1974, 102 p. (KLDV, 3/75, no. 4058)

548. Protsessy i tekhnologiya v kriogennom mashinostroyenii (Processes and technology in cryogenic machine construction). Moskva, NPO, Kriogenmash, 1975, 185 p. (KL, 51/75, #45654)

549. Savitskiy, Ye. M. (ed.) Struktura i svoystva sverkhprovodyashchikh materialov. Sbornik statey (Structure and properties of superconductive materials. Collection of articles). Moskva, Izd-vo nauka, 1974, 182 p. (LC-VKP)

550. Shchegolev, I. F. In search of high-temperature superconductivity. Nauka i zhizn', no. 2, 1976, 20-24.

551. Sokolov, V. I., and V. Ya. Pakhomov. Superconductivity and superconducting materials. Sb. Stali i splavy v priborostr. i pretsizion. mashinostr. Moskva, 1975, 165-175. (RZhMet, 8/75, no. 8I829)

552. Stabilizatsiya sverkprovodyashchikh magnitnykh sistem (Stabilization of superconducting magnetic systems). Moskva, Energiya, 1975, 327 p. (KL, 24/75, no. 21061)

553. Startsev, V. I. Plasticity of metals on transition to the superconducting state (review). Nizkotemp. i vakuum. materialovedeniye, no. 3, 1973, 3-46. (LZhS, 31/75, no. 101248)

554. Statisticheskiye metody issledovaniya sistem mnogikh chastits (Statistical method of investigating multiple particle systems). Kishinev, Shtiintsa, 1974, 102 p. (RZhRadiot, 4/75, #4Ye257)

555. Struktura i svoystva sverkprovodyashchikh materialov (Structure and properties of superconducting materials). Moskva, Nauka, 1974, 178 p. (RBL, 1-2/75, no. 1396)

556. Sverkhprovodniki i ikh ispol'zovaniye v uskoritel'noy tekhnike (Superconductors and their application in accelerator techniques). Moskva, Izd-vo Atomizdat, 1975, 91 p. (RZhRadiat, 4/76, #4Ye477K)

557. Sverkhprovodimost: Bibliografich. ukazatel' 1911-1970. (Superconductivity: Bibliographic index, 1911-1970. Moskva, Nauka, 1975, 336 p. (LC)

558. Voprosy gidrodinamiki i teploobmena v kriogennykh sistemakh (Problems of hydrodynamics and heat exchange in cryogenic systems). Khar'kov, 1974, no. 4, 131 p. (KL, 46/75, #41158)

559. Yegorov, S. A., and A. I. Kostenko. Calculation, comparison and optimization of magnetic systems for superconducting inductive energy storage in various geometrical forms. IN: Sb. Induktiv. nakopiteli energii i kommutats. apparatura dlya termoyader. ustanovok. Dokl. sov. spetsialistov na Sovmestn. seminar SSSR-SShA, 1974, 1-21. (RZhRadiot, 6/75, no. 6Ye339)

560. Yekimov, V. D. Nizkiye temperatury v tekhnike svyazi (Low temperatures in communications engineering). Moskva, Svyaz', 1975, 80 p. (RBL, 7/8-75, no. 1129)

561. Zavaritskiy, N. V. [Conference on] thermoelectric phenomena in superconductors. UFN, v. 115, no. 3, 1975, 531-533.

## 10. SOURCE ABBREVIATIONS

| | | |
|---|---|---|
| AiT | - | Avtomatika i telemekhanika |
| APP | - | Acta physica polonica |
| DAN ArmSSR | - | Akademiya nauk Armyanskoy SSR. Doklady |
| DAN AzSSR | - | Akademiya nauk Azerbaydzhanskoy SSR. Doklady |
| DAN BSSR | - | Akademiya nauk Belorusskoy SSR. Doklady |
| DAN SSSR | - | Akademiya nauk SSSR. Doklady |
| DAN TadSSR | - | Akademiya nauk Tadzhikskoy SSR. Doklady |
| DAN UkrSSR | - | Akademiya nauk Ukrayins'koyi RSR. Dopovidi |
| DAN UzbSSR | - | Akademiya nauk Uzbekskoy SSR. Doklady |
| DBAN | - | Bulgarska akademiya na naukite. Doklady |
| EOM | - | Elektronnaya obrabotka materialov |
| FAiO | - | Akademiya nauk SSSR. Izvestiya. Fizika atmosfery i okeana |
| FGiV | - | Fizika goreniya i vzryva |
| FiKhOM | - | Fizika i khimiya obrabotka materialov |
| F-KhMM | - | Fiziko-khimicheskaya mekhanika materialov |
| FMiM | - | Fizika metallov i metallovedeniye |
| FNT | - | Fizika nizkikh temperatur |
| FTP | - | Fizika i tekhnika poluprovodnikov |
| FTT | - | Fizika tverdogo tela |
| FZh | - | Fiziologicheskiy zhurnal |
| GiA | - | Geomagnetizm i aeronomiya |
| GiK | - | Geodeziya i kartografiya |
| IAN Arm | - | Akademiya nauk Armyanskoy SSR. Izvestiya. Fizika |
| IAN Az | - | Akademiya nauk Azerbaydzhanskoy SSR. Izvestiya. Seriya fiziko-tekhnicheskikh i matematicheskikh nauk |

| | | |
|---|---|---|
| IAN B | - | Akademiya nauk Belorusskoy SSR. Izvestiya. Seriya fiziko-matematicheskikh nauk |
| IAN Biol | - | Akademiya nauk SSSR. Izvestiya. Seriya biologicheskaya |
| IAN Energ | - | Akademiya nauk SSSR. Izvestiya. Energetika i transport |
| IAN Est | - | Akademiya nauk Estonskoy SSR. Izvestiya. Fizika, matematika |
| IAN Fiz | - | Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya |
| IAN Fizika zemli | - | Akademiya nauk SSSR. Izvestiya. Fizika zemli |
| IAN Kh | - | Akademiya nauk SSSR. Izvestiya. Seriya khimicheskaya |
| IAN Lat | - | Akademiya nauk Latviyskoy SSR. Izvestiya |
| IAN Met | - | Akademiya nauk SSSR. Izvestiya. Metally |
| IAN Mold | - | Akademiya nauk Moldavskoy SSR. Izvestiya. Seriya fiziko-tekhnicheskikh i matematicheskikh nauk |
| IAN SO SSSR | - | Akademiya nauk SSSR. Sibirskoye otdeleniye. Izvestiya |
| IAN Tadzh | - | Akademiya nauk Tadzhikskoy SSR. Izvestiya. Otdeleniye fiziko-matematicheskikh i geologo-khimicheskikh nauk |
| IAN TK | - | Akademiya nauk SSSR. Izvestiya. Tekhnicheskaya kibernetika |
| IAN Turk | - | Akademiya nauk Turkmenskoy SSR. Izvestiya. Seriya fiziko-tekhnicheskikh, khimicheskikh, i geologicheskikh nauk |
| IAN Uzb | - | Akademiya nauk Uzbekskoy SSR. Izvestiya. Seriya fiziko-matematicheskikh nauk |
| IBAN | - | Bulgarska akademiya na naukite. Fizicheski institut. Izvestiya na fizicheskaya institut s ANEB |
| I-FZh | - | Inzhenerno-fizicheskiy zhurnal |

| | | |
|---|---|---|
| IiR | - | Izobretatel' i ratsionalizator |
| ILEI | - | Leningradskiy elektrotekhnicheskiy institut. Izvestiya |
| IT | - | Izmeritel'naya tekhnika |
| IVUZ Avia | - | Izvestiya vysshikh uchebnykh zavedeniy. Aviatsionnaya tekhnika |
| IVUZ Cher | - | Izvestiya vysshikh uchebnykh zavedeniy. Chernaya metallurgiya |
| IVUZ Energ | - | Izvestiya vysshikh uchebnykh zavedeniy. Energetika |
| IVUZ Fiz | - | Izvestiya vysshikh uchebnykh zavedeniy. Fizika |
| IVUZ Geod | - | Izvestiya vysshikh uchebnykh zavedeniy. Geodeziya i aerofotos"yemka |
| IVUZ Geol | - | Izvestiya vysshikh uchebnykh zaveniy. Geologiya i razvedka |
| IVUZ Gorn | - | Izvestiya vysshikh uchebnykh zavedeniy. Gornyy zhurnal |
| IVUZ Mash | - | Izvestiya vysshikh uchebnykh zavedeniy. Mashinostroyeniye |
| IVUZ Priboro | - | Izvestiya vysshikh uchebnykh zavedeniy. Priborostroyeniye |
| IVUZ Radioelektr | - | Izvestiya vysshikh uchebnykh zavedeniy. Radioelektronika |
| IVUZ Radiofiz | - | Izvestiya vysshikh uchebnykh zavedeniy. Radiofizika |
| IVUZ Stroi | - | Izvestiya vysshikh uchebnykh zavedeniy. Stroitel'stvo i arkhitektura |
| KhVE | - | Khimiya vysokikh energiy |
| KiK | - | Kinetika i kataliz |
| KL | - | Knizhnaya letopis' |
| Kristall | - | Kristallografiya |
| KSpF | - | Kratkiye soobshcheniya po fizike |

| | | |
|---|---|---|
| LZhS | - | Letopis' zhurnal'nykh statey |
| MiTOM | - | Metallovedeniye i termicheskaya obrabotka materialov |
| MP | - | Mekhanika polimerov |
| MTT | - | Akademiya nauk SSSR. Izvestiya. Mekhanika tverdogo tela |
| MZhiG | - | Akademiya nauk SSSR. Izvestiya. Mekhanika zhidkosti i gaza |
| NK | - | Novyye knigi |
| NM | - | Akademiya nauk SSSR. Izvestiya. Neorganicheskiye materialy |
| NTO SSSR | - | Nauchno-tekhnicheskiye obshchestva SSSR |
| OiS | - | Optika i spektroskopiya |
| OMP | - | Optiko-mekhanicheskaya promyshlennost' |
| Otkr izobr | - | Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki |
| PF | - | Postepy fizyki |
| Phys abs | - | Physics abstracts |
| PM | - | Prikladnaya mekhanika |
| PMM | - | Prikladnaya matematika i mekhanika |
| PSS | - | Physica status solidi |
| PSU | - | Pribory i sistemy upravleniya |
| PTE | - | Pribory i tekhnika eksperimenta |
| Radiotekh | - | Radiotekhnika |
| RiE | - | Radiotekhnika i elektronika |
| RZhAvtom | - | Referativnyy zhurnal. Avtomatika, telemekhanika i vychislitel'naya tekhnika |
| RZhElektr | - | Referativnyy zhurnal. Elektronika i yeye primeneniye |

| | | |
|---|---|---|
| RZhF | - | Referativnyy zhurnal. Fizika |
| RZhFoto | - | Referativnyy zhurnal, Fotokinotekhnika |
| RZhGeod | - | Referativnyy zhurnal. Geodeziya i aeros"-yemka |
| RZhGeofiz | - | Referativnyy zhurnal. Geofizika |
| RZhInf | - | Referativnyy zhurnal. Informatics |
| RZhKh | - | Referativnyy zhurnal. Khimiya |
| RZhMekh | - | Referativnyy zhurnal. Mekhanika |
| RZhMetal | - | Referativnyy zhurnal. Metallurgiya |
| RZhMetrolog | - | Referativnyy zhurnal. Metrologiya i izmeritel'naya tekhnika |
| RZhRadiot | - | Referativnyy zhurnal. Radiotekhnika |
| SovSciRev | - | Soviet science review |
| TiEKh | - | Teoreticheskaya i eksperimental'naya khimiya |
| TKiT | - | Tekhnika kino i televideniya |
| TMF | - | Teoreticheskaya i matematicheskaya fizika |
| TVT | - | Teplofizika vysokikh temperatur |
| UFN | - | Uspekhi fizicheskikh nauk |
| UFZh | - | Ukrainskiy fizicheskiy zhurnal |
| UMS | - | Ustalost' metallov i splavov |
| UNF | - | Uspekhi nauchnoy fotografii |
| VAN | - | Akademiya nauk SSSR. Vestnik |
| VAN BSSR | - | Akademiya nauk Belorusskoy SSR. Vestnik |
| VAN KazSSR | - | Akademiya nauk Kazakhskoy SSR. Vestnik |
| VBU | - | Belorusskiy universitet. Vestnik |
| VNDKh SSSR | - | VNDKh SSSR. Informatsionnyy byulleten' |
| VLU | - | Leningradskiy universitet. Vestnik. Fizika, khimiya |
| VMU | - | Moskovskiy universitet. Vestnik. Seriya fizika, astonomiya |

| | | |
|---|---|---|
| ZhETF | - | Zhurnal eksperimental'noy i teoreticheskoy fiziki |
| ZhETF P | - | Pis'ma v Zhurnal eksperimental'noy i teoreticheskoy fiziki |
| ZhFKh | - | Zhurnal fizicheskoy khimii |
| ZhNiPFiK | - | Zhurnal nauchnoy i prikladnoy fotografii i kinematografii |
| ZhNKh | - | Zhurnal neorganicheskoy khimii |
| ZhPK | - | Zhurnal prikladnoy khimii |
| ZhPMTF | - | Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki |
| ZhPS | - | Zhurnal prikladnoy spektroskopii |
| ZhTF | - | Zhurnal tekhnicheskoy fiziki |
| ZhTFP | - | Pis'ma v Zhurnal tekhnicheskoy fiziki. |
| ZhVMMF | - | Zhurnal vychislitel'noy matematiki i matematicheskoy fiziki |
| ZL | - | Zavodskaya laboratoriya |