

## List of Selected Works of I. M. Lifshitz

The subdivision of journal papers is, of course, conditional. This especially applies to Section 3 (real crystals) and Section 4 (disordered systems). In each section, the papers are listed chronologically. Short communications, when followed by more detailed papers, are, as a rule, omitted. If a paper includes several parts, they all are listed under the year of publication of the first part.

The list is completed with the paper by S. A. Gredeskul and L. A. Pastur, "Works of I. M. Lifshitz on Disordered Systems," an abridgement of the report at the All-Union Conference on selected problems in solid state theory in the memory of Ilya Mikhailovich Lifshitz (Moscow-Zvenigorod, May 10-14, 1984).

### 1. BOOKS

- |  | Co-authors                          |
|--|-------------------------------------|
| 1. <i>Electron theory of metals</i> . Moscow: Nauka, 1971 (in Russian).  | M. Ya. Azbel and<br>M. I. Kaganov   |
| 2. <i>Quasiparticles. The ideas and principles of quantum solid state physics</i> . Moscow: Nauka, 1976 (in Russian).                                  | M. I. Kaganov                       |
| 3. <i>Introduction to the theory of disordered systems</i> . Moscow: Nauka, 1982 (in Russian). (English translation: Wiley & Sons, New York, in press) | S. A. Gredeskul<br>and L. A. Pastur |

### 2. REVIEWS

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|--|-------------|
| 1. On a certain problem of perturbation theory related to quantum statistics. <i>Usp. Matem. Nauk</i> , 1952, 7, 171-180 (in Russian).           |             |
| 2. Tamm localized electron states at the metal surface and surface lattice vibrations. <i>Usp. Fiz. Nauk</i> , LVI, No. 4, 531-568 (in Russian). | S. I. Pekar |

3. Some problems of the dynamic theory of non-ideal crystal. *Nuov. Cimento del Supplemento*, 1956, **3**, No. 4, 716–734.
4. Some problems in electron theory of metals. *Vestnik Akad. Nauk SSSR*, 1957, No. 4, 46–53 (in Russian).
5. Some problems in electron theory of metals. M. I. Kaganov  
 I. Classical and quantum mechanics of electrons in metals. *Usp. Fiz. Nauk*, 1959, **69**, 419–458 (in Russian).  
 II. Statistical mechanics and thermodynamics of electrons in metals. *Usp. Fiz. Nauk*, 1962, **78**, 411–461 (in Russian).
6. Solid state theory. *Vestnik Akad. Nauk SSSR*, 1962, No. 8, 23–25 (in Russian).
7. On the structure of the energy spectrum and quantum states of disordered condensed systems. *Usp. Fiz. Nauk*, 1964, **83**, 617–663 (in Russian).
8. The dynamics of a crystal lattice with defects. A. M. Kosevich  
*Reports on Progress in Physics*, 1966, **29**, Part I, 217–254.
9. Crystals. Macroscopic bodies. in: *Struktura i formy materii (The structure and forms of matter)*, Moscow: Nauka, 1967, 229–250 (in Russian). V. M. Agranovich
10. Solid state theory. in: *Sovetskaya nauka i tekhnika za 50 let (Soviet science and engineering for 50 years)*. Moscow: Nauka, 1967, 257–273 (in Russian). M. I. Kaganov
11. Fluctuation levels in disordered systems. *Fiz. Nizkikh Temperatur*, 1976, **2**, 1093–1129 (in Russian). S. A. Gredeskul and L. A. Pastur
12. Some problems of the statistical physics of polymer chains with volume interaction. *Rev. Mod. Phys.*, 1978, **50**, No. 3, 682–713. A. Yu. Grosberg and A. R. Khokhlov
13. Volume interactions in the statistical physics of a polymer macromolecule. *Usp. Fiz. Nauk*, 1979, **127**, No. 3, 353–389 (in Russian). A. Yu. Grosberg and A. R. Khokhlov

14. Electron theory of metals and geometry. *Usp. Fiz. Nauk*, 1979, **129**, 487–529 (in Russian). M. I. Kaganov

## PAPERS IN SCIENTIFIC JOURNALS

### III. REAL (NONIDEAL) CRYSTALS

1. On contour conditions and the torsion problem of prismatic rods. *Zh. Kharkovskogo Mekh.-Mashinostr. Instituta*, 1937, No. 2 (in Russian).
2. On the theory of X-ray scattering in crystals of variable structure. *Zh. Eks. Teor. Fiz.*, 1938, **8**, No. 1, 70–83 (in Russian).
3. On X-ray study of internal stresses of the 1st kind in polycrystals. *Zh. Eks. Teor. Fiz.*, 1938, **8**, No. 5, 581–592 (in Russian).
4. The effect of lattice distortions on X-ray scattering in solid solutions. *Zh. Eks. Teor. Fiz.*, 1938, **8**, Nos. 8, 9, 959–977 (in Russian).
5. On the theory of solid solutions.
  - I. Correlation in solid solutions. *Zh. Eks. Teor. Fiz.*, 1939, **9**, No. 4, 481–499 (in Russian).
  - II. X-ray scattering in solid solutions. *Zh. Eks. Teor. Fiz.*, 1939, **9**, No. 4, 500–511 (in Russian).
6. On the theory of electrical breakdown in ionic crystals. *Dokl. Akad. Nauk SSSR*, 1940, **27**, No. 8, 785–787 (in Russian). A. I. Akhiezer
7. Optical behavior of nonideal crystal lattices in the IR region. *Dokl. Akad. Nauk SSSR*, 1941, **32**, No. 1, 37–39 (in Russian).
8. Optical behavior of nonideal crystal lattices in the IR region. *Zh. Eks. Teor. Fiz.*, 1942, **12**, Nos. 3, 4. I. 117–136; II. 137–155; III. 156–180 (in Russian).
9. On the theory of elastic properties of polycrystals. *Zh. Eks. Teor. Fiz.*, 1946, **16**, No. 11, 967–980 (in Russian). L. N. Rozentsveig

10. Some considerations of twinning of calcite crystal. *J. Phys.*, 1947, XI, No. 2, 121–130. I. V. Obreimov
11. On X-ray scattering in elastically deformed polycrystals. *Zh. Eks. Teor. Fiz.*, 1947, 17, No. 6, 509–515 (in Russian). L. N. Rozentsveig
12. On the construction of the Greentensor for the fundamental elasticity theory equation in the case of an unbounded elastic-anisotropic medium. *Zh. Eks. Teor. Fiz.*, 1947, 17, No. 9, 783–791 (in Russian). L. N. Rozentsveig
13. On the macroscopic description of crystal twinning. *Zh. Eks. Teor. Fiz.*, 1948, 18, No. 12, 1134–1143 (in Russian).
14. The dynamics of a crystal lattice occupying a half-space. *Zh. Eks. Teor. Fiz.*, 1948, 18, No. 11, 1012–1022 (in Russian). L. N. Rozentsveig
15. Scattering of short elastic waves in a crystal lattice. *Zh. Eks. Teor. Fiz.*, 1948, 18, No. 3, 293–300 (in Russian).
16. On elastic properties of highly textured crystals. *Uchonye Zapiski (Kharkov State Univ.)*, Vol. 27; *Trudy Fiz. Otd. Fiz.-Mat. Fak.*, 1948, 1, 15–24 (in Russian). G. D. Parkhomovsky
17. Absorption of ultrasound in polycrystals. *Uchonye Zapiski (Kharkov State Univ.)*, *Trudy Fiz. Otd. Fiz.-Mat. Fak.*, 1948, 1, 25–36 (in Russian). G. D. Parkhomovsky
18. Some considerations on calcite twinning. *Izv. Akad. Nauk SSSR. Ser. Fiz.*, 1948, XII, No. 2, 65–80 (in Russian). I. V. Obreimov
19. On the macroscopic description of crystal twinning. *Uchonye Zapiski (Kharkov State Univ.)*, Vol. 27, *Trudy Fiz. Otd. Fiz.-Mat. Fak.*, 1948, 1, 5–14 (in Russian).
20. On the theory of the propagation of ultrasonic waves in polycrystals. *Zh. Eks. Teor. Fiz.*, 1950, 20, No. 2, 175–182 (in Russian). G. D. Parkhomovsky
21. Propagation of electromagnetic vibrations in inhomogeneous anisotropic media. *Uchonye* M. I. Kaganov and V. M. Tsukernik

- Zapiski, (Kharkov State Univ.)*, Vol. 35; *Trudy Fiz. Otd. Fiz.-Mat. Fak.*, 1950, 2, 41–54 (in Russian).
22. On the statistical mechanics of systems in the state of partial equilibrium. *Uchonye Zapiski (Kharkov State Univ.)*, 1950, 2, 79–82 (in Russian).
23. On the thermal properties of chain and layered structures at low temperatures. *Zh. Eks. Teor. Fiz.*, 1952, 22, No. 4, 475–486 (in Russian) (See also *Zh. Fiz. Khimii*, 1953, 27, No. 2, 294–295; in Russian).
24. On the heat capacity of thin films and needles at low temperatures. *Zh. Eks. Teor. Fiz.*, 1952, 22, No. 4, 471–474 (in Russian).
25. On the theory of local melting. *Dokl. Akad. Nauk SSSR*, 1952, 87, No. 3, 377–380 (in Russian). L. S. Gulida
26. On nucleation under local melting. *Dokl. Akad. Nauk SSSR*, 1952, 87, No. 4, 523–526 (in Russian). L. S. Gulida
27. On the determination of the shape of a twinning interlayer from boundary stresses. *Uchonye Zapiski (Kharkov State Univ.)*, Vol. 39; *Trudy Fiz. Otd. Fiz.-Mat. Fak.*, 1952, 3, 7–10 (in Russian).
28. On temperature bursts in a medium subjected to nuclear radiation. *Dokl. Akad. Nauk SSSR*, 1956, 109, No. 6, 1109–1111 (in Russian).
29. The study of the mechanism of metal purification from impurities by the zone recrystallization method. *Fiz. Metallov i Metalloved.*, 1956, 2, No. 1, 105–119 (in Russian). B. N. Aleksandrov, B. I. Berkin, and G. I. Stepanova
30. On the kinetics of diffusion decomposition of supersaturated solid solutions. *Zh. Eks. Teor. Fiz.*, 1958, 35, No. 2(8), 479–492 (in Russian). V. V. Slezov

31. On the theory of coalescence of solid solutions. V. V. Slezov  
*Fiz. Tverd. Tela*, 1959, **1**, No. 9, 1401–1410  
(in Russian).
32. On the theory of radiation modifications in metals. M. I. Kaganov and  
L. V. Tanatarov  
(in Russian).
33. On elastic interaction of impurity atoms in a crystal. L. V. Tanatarov  
*Fiz. Metallov i Metalloved.*, 1961, **12**,  
No. 3, 331–337 (in Russian).
34. On the mechanism and kinetics of “curing” of an isolated pore in a crystal. Ya. E. Geguzin  
*Fiz. Tverd. Tela*, 1962, **4**, No. 5, 1326–1333 (in Russian).
35. On the theory of diffusion-viscous flow of polycrystalline bodies. *Zh. Eks. Teor. Fiz.*,  
1963, **44**, No. 4, 1349–1367 (in Russian).
36. On the theory of diffusion-viscous flow of polycrystalline bodies. V. B. Shikin  
*Fiz. Tverd. Tela*, 1964, **6**, No. 9, 2780–2790 (in Russian).
37. Diffusion-viscous flow of porous bodies. *Fiz. Tverd. Tela*, 1964, **6**, No. 6, 1735–1743 (in Russian).
38. Surface phenomena in ionic crystals. Ya. E. Geguzin  
*Fiz. Tverd. Tela*, 1965, **7**, No. 1, 62–74 (in Russian).
39. Surface phenomena and diffusion mechanism of the motion of defects in ionic crystals. A. M. Kosevich  
and Ya. E. Geguzin  
*Phys. Chem. Solids*, 1967, **28**, 783–798.
40. Quantum theory of defects in crystals. A. F. Andreev  
*Zh. Eks. Teor. Fiz.*, 1969, **56**, No. 6, 2057–2068  
(in Russian).
41. Localized excitations in crystals with dislocations. Kh. I. Pushkarev  
*Pis'ma v Zh. Eks. Teor. Fiz.*, 1970, **11**, No. 9, 456–459 (in Russian).
42. The effect of the electron free path on the formation of a track round the trajectory of a charged particle in a metal. Ya. E. Geguzin and  
M. I. Kaganov  
*Fiz. Tverd. Tela*, 1973, **15**, No. 8, 2425–2428 (in Russian).

## IV. DISORDERED SYSTEMS

1. On the theory of regular perturbations. *Dokl. Akad. Nauk SSSR*, 1945, **48**, No. 2, 83–86 (in Russian) (an English translation is available).
2. On the degeneration of regular perturbations. I. Discrete spectrum. *Zh. Eks. Teor. Fiz.*, 1947, No. 11, 1017–1025 (in Russian). II. Quasicontinuous and continuous spectra. *Zh. Eks. Teor. Fiz.*, No. 12, 1076–1089 (in Russian).
3. On regular perturbations of an operator with a quasicontinuous spectrum. *Uchonye Zapiski (Kharkov State Univ.)*, Vol. 28; *Zapiski NII Matem. i Mekh. i Kharkov's Matem. Obshchestva*, 1950, **20**, 77–82 (in Russian).
4. On the energy spectrum of disordered crystals. G. I. Stepanova  
*Uchonye Zapiski (Lvov Univ.)*, Vol. 33; *Fiz. Sbornik*, 1955, No. 1(6), 84–94 (in Russian).
5. On the vibration spectrum of disordered crystal lattices. G. I. Stepanova  
*Zh. Eks. Teor. Fiz.*, 1956, **30**, No. 5, 938–946 (in Russian).
6. The effect of ordering on the phonon energy spectrum. G. I. Stepanova  
*Zh. Eks. Teor. Fiz.*, 1956, **31**, No. 1(7) 156–157 (in Russian).
7. Correlations in solid solutions. G. I. Stepanova  
*Zh. Eks. Teor. Fiz.*, 1957, **33**, No. 2(8), 485–494 (in Russian).
8. On the structure of the impurity band energy spectrum in disordered solid solutions. *Zh. Eks. Teor. Fiz.*, 1963, **44**, No. 5, 1723–1741 (in Russian).
9. The theory of fluctuation levels in disordered systems. *Zh. Eks. Teor. Fiz.*, 1967, **53**, No. 2(8), 743–758 (in Russian).
10. Fluctuation levels and the macroscopic polarization of the medium by a particle with short-range forces. S. A. Gredeskul  
*Zh. Eks. Teor. Fiz.*, 1969, **57**, 2209–2221 (in Russian).

11. On the tunnel transparency of disordered systems. *Zh. Eks. Teor. Fiz.*, 1979, **77**, No. 9, 989–1016 (in Russian). V. Ya. Kirpichenko
12. On the resonance self-electron emission from a metal into a plasma. *Dokl. Akad. Nauk SSSR*, 1979, **249**, No. 4, 847–851 (in Russian). B. E. Meyerovich
13. On the theory of the transmission of particles and waves through randomly inhomogeneous media. *Zh. Eks. Teor. Fiz.*, 1982, **83**, 2362–2376 (in Russian).

## V. METALS

1. On the kinetics of superconductivity failure by magnetic field I. *Zh. Eks. Teor. Fiz.*, 1950, **20**, No. 9, 834–841 (in Russian).
2. The kinetic of superconductivity failure by a high-frequency field. *Dokl. Akad. Nauk SSSR*, 1953, **90**, No. 4, 529–531 (in Russian). M. I. Kaganov
3. The kinetics of superconductivity failure by an alternating field ( $10^6$  Hz). *Dokl. Akad. Nauk SSSR*, 1953, **90**, No. 3, 363–366 (in Russian).
4. On the theory of magnetic susceptibility of thin metal layers at low temperatures. *Dokl. Akad. Nauk SSSR*, 1953, **91**, No. 4, 795–798 (in Russian). A. M. Kosevich
5. On the calculation of the Fermi surface and electron velocities in a metal from magnetic susceptibility oscillations. *Dokl. Akad. Nauk SSSR*, 1954, **96**, No. 6, 1143–1145 (in Russian). A. V. Pogorelov
6. On the theory of the de Haas-van-Alfven effect for particles with an arbitrary dispersion law. *Dokl. Akad. Nauk SSSR*, 1954, **96**, No. 5, 963–966 (in Russian). A. M. Kosevich
7. On the oscillations of thermodynamic quantities for a degenerate Fermi gas at low temperatures. *Izv. Akad. Nauk. SSSR. Ser. Fiz.*, 1955, **XIX**, No. 4, 395–403 (in Russian). A. M. Kosevich



8. De Haas-van-Alfven effect in thin metal layers. *Zh. Eks. Teor. Fiz.*, 1955, **29**, No. 6(12), 743–747 (in Russian). A. M. Kosevich
9. On the theory of magnetic susceptibility of metals at low temperatures. *Zh. Eks. Teor. Fiz.*, 1955, **29**, No. 6(12), 730–742 (in Russian). A. M. Kosevich
10. On the theory of scattering of quasiparticles with an arbitrary dispersion law. *Uchonye Zapiski (Kharkov Univ.)*, Vol. 64; *Trudy Fiz. Otd. Fiz.-Mat. Fak.*, 1955, **6**, 37–43 (in Russian). V. I. Peresada
11. On the kinetics of superconductivity failure by an alternating field. *Uchonye Zapiski (Kharkov Univ.)*, Vol. 64; *Trudy Fiz. Otd. Fiz.-Mat. Fak.*, 1955, **6**, 45–57 (in Russian). F. I. Itskovich
12. On the theory of galvanomagnetic phenomena in metals. *Zh. Eks. Teor. Fiz.*, 1956, **31**, No. 1(7), 63–79 (in Russian). M. Ya. Asbel' and M. I. Kaganov
13. The quantum theory of electric conductivity of metals in a magnetic field. *Zh. Eks. Teor. Fiz.*, 1956, **30**, No. 4, 814–816 (in Russian).
14. The electron-lattice relaxation. *Zh. Eks. Teor. Fiz.*, 1956, **31**, No. 2(8), 232–237 (in Russian). M. I. Kaganov and L. V. Tanatarov
15. Paramagnetic resonance and polarization of nuclei in metals. *J. Phys. Chem. Solids*, 1956, **1**, No. 3, 164–174. M. Ya. Asbel' and V. I. Gerasimenko
16. Paramagnetic resonance and polarization of nuclei in thick metal layers. *Zh. Eks. Teor. Fiz.*, 1956, **31**, No. 2(8), 357–359 (in Russian). M. Ya. Asbel' and V. I. Gerasimenko
17. On the possibility of the observation of the change in the chemical potential of metal electrons in a magnetic field. *Zh. Eks. Teor. Fiz.*, 1957, **32**, No. 3, 605–607 (in Russian). M. I. Kaganov and K. D. Sinelnikov
18. The quantum theory of electric conductivity of metals in a magnetic field. *Zh. Eks. Teor. Fiz.*, 1957, **32**, No. 6, 1509–1518 (in Russian).

19. On the theory of the Shubnikov-de-Haas effect. A. M. Kosevich  
*Zh. Eks. Teor. Fiz.*, 1957, **33**, No. 1(7),  
88–100 (in Russian).
20. Thermal conductivity and thermoelectric M. Ya. Asbel' and  
phenomena in metals in a magnetic field. *Zh. M. I. Kaganov*  
*Eks. Teor. Fiz.*, 1957, **32**, No. 5, 1188–1192  
(in Russian).
21. Paramagnetic resonance and polarization of M. Ya. Asbel' and  
nuclei in metals. *Zh. Eks. Teor. Fiz.*, 1957, **32**, V. I. Gerasimenko  
No. 5, 1212–1225 (in Russian).
22. On the theory of electron paramagnetic M. Ya Asbel'  
resonance in superconductors. *Zh. Eks. Teor. Fiz.*, 1957, **33**, No. 3(9), 792–794 (in  
Russian).
23. Quantum theory of the electrical conductivity J. Phys. Chem.  
of metals in a magnetic field. *J. Phys. Chem. Solids*, 1958, **4**, No. 1/2, 11–18.
24. On the theory of paramagnetic resonance in M. Ya. Asbel' and  
metals. *Zh. Eks. Teor. Fiz.*, 1958, **35**, V. I. Gerasimenko  
No. 3(9), 691–702 (in Russian).
25. Galvanomagnetic characteristics of metals V. G. Peschansky  
with open Fermi surfaces. I. *Zh. Eks. Teor. Fiz.*, 1958, **35**, No. 5(11), 1251–1264 (in  
Russian). II. *Zh. Eks. Teor. Fiz.*, 1960, **38**,  
No. 1, 188–193 (in Russian).
26. On electron resonance in crossed electric and M. I. Kaganov  
magnetic fields. *Zh. Eks. Teor. Fiz.*, 1959, **37**,  
No. 2(8), 555–556 (in Russian).
27. The Fermi surface of tin. *Zh. Eks. Teor. Fiz.*, N. E. Alekseevsky,  
1960, **39**, No. 5(11), 1201–1214 (in Russian). Yu. P. Gaidukov, and  
V. G. Peschansky
28. On the anomalies of electron characteristics of M. I. Kaganov  
metals at high pressures. *Zh. Eks. Teor. Fiz.*,  
1960, **38**, No. 5, 1569–1576 (in Russian).
29. Quantum cyclotron resonance in metals. *Zh. M. I. Kaganov*  
*Eks. Teor. Fiz.*, 1961, **40**, No. 4, 1235–1236  
(in Russian).
30. On the phenomenon of "scattering" of charged A. A. Slutskin and  
quasiparticles at singular points in the p-space. V. M. Nabutovsky

- Dokl. Akad. Nauk SSSR*, 1961, **137**, No. 3, 553–556 (in Russian).
31. On the features of the motion of charged quasiparticles in an a.c. non-uniform electric field. *Zh. Eks. Teor. Fiz.*, 1961, **41**, No. 3(9), 939–948 (in Russian). A. A. Slutskin and V. M. Nabutovsky
32. The theory of quantum cyclotron resonance in metals. *Zh. Eks. Teor. Fiz.*, 1962, **43**, No. 4(10), 1464–1478 (in Russian). M. Ya. Asbel' and A. A. Slutskin
33. On the threshold-free internal photoeffect in metals with crossing bands. *Zh. Eks. Teor. Fiz.*, 1963, **45**, No. 4(10), 948–954 (in Russian). M. I. Kaganov
34. On the scattering of an electron from an impurity centre. *Fiz. Tverd. Tela*, 1964, **6**, No. 9, 2723–2728 (in Russian). M. I. Kaganov and V. B. Fiks
35. On the role of magnetic breakdown in galvanomagnetic phenomena. *Pis'ma v. Zh. Eks. Teor. Fiz.*, 1967, **5**, No. 8, 269–271 (in Russian). M. I. Kaganov, A. M. Kadigrobov, and A. A. Slutskin
36. On non-linear acoustical effects in metals near the electron-topological transition point. *Zh. Eks. Teor. Fiz.*, 1981, **81**, No. 4(10), 1528–1541 (in Russian). V. V. Rzhnevsky and M. I. Tribelsky

## VI. POLYMERS AND BIOPOLYMERS

1. Some problems of the statistical theory of biopolymers. *Zh. Eks. Teor. Fiz.*, 1968, **55**, No. 6(12), 2408–2422 (in Russian).
2. The phase diagram of a polymer globule and self-organization of its spatial structure. *Zh. Eks. Teor. Fiz.*, 1973, **65**, No. 6(12), 2399–2420 (in Russian). A. Yu. Grosberg
3. On the statistical thermodynamics of melting of long heteropolymer chains. *Zh. Eks. Teor. Fiz.*, 1973, **65**, No. 3(9), 1100–1110 (in Russian).
4. The phase diagram of a polymer globule and self-organization of its spatial structure. *Usp.* A. Yu. Grosberg

- Fiz. Nauk*, 1974, **113**, No. 2, 331–334 (in Russian).
5. On the effect of solvent on the macroscopic states of apolymer globule. *Dokl. Akad. Nauk SSSR*, 1975, **220**, No. 2, 468–471 (in Russian). A. Yu. Grosberg
  6. The polymer chain with excluded volume in an external field. *Biofizika*, 1975, **21**, No. 5, 780–787 (in Russian). A. Yu. Grosberg and A. R. Khokhlov
  7. The structure of a polymer globule formed by saturated bonds. *Zh. Eks. Teor. Fiz.*, 1976, **71**, No. 4(10), 1634–1643 (in Russian). A. Yu. Grosberg and A. R. Khokhlov

## VII. HELIUM

1. Some properties of  $\text{He}^3$  and  $\text{He}^4$  solutions. The shift of the  $\lambda$ -point and the features of the transport effect. *Zh. Eks. Teor. Fiz.*, 1950, **20**, No. 8, 748–759 (in Russian). B. N. Eselson and B. G. Lazarev
2. On critical velocities in He-II. *Uchonye Zapiski (Kharkov Univ.)*, Vol. 9; *Trudy Fiz. Otd. Fiz.-Mat. Fak.*, 1953, **4**, 23–25 (in Russian). M. I. Kaganov
3. The effective density of rotating liquid helium-II. *Zh. Eks. Teor. Fiz.*, 1955, **29**, No. 2(8), 257–258 (in Russian). M. I. Kaganov
4. The thermodynamics of the He I–He II phase transition in helium isotope solutions. *Zh. Eks. Teor. Fiz.*, 1957, **33**, No. 4(10), 936–944 (in Russian) (see also *Zh. Eks. Teor. Fiz.*, 1959, **36**, No. 3, 964). B. N. Eselson and M. I. Kaganov
5. The Pomeranchuk effect and the phase diagram of  $\text{He}^3$ – $\text{He}^4$  solutions. *Zh. Eks. Teor. Fiz.*, 1958, **35**, No. 4(10), 1020–1025 (in Russian). D. G. Sanikidze
6. Nucleation kinetics and the lamination of dilute  $\text{He}^3$ – $\text{He}^4$  solutions under pressure at low temperatures. *Zh. Eks. Teor. Fiz.*, 1978, **74**, No. 1, 268–273 (in Russian). V. N. Polesky and V. A. Khokhlov

### VIII. GENERAL PROBLEMS OF THERMODYNAMICS AND KINETICS

1. On the theory of phase transition kinetics. *Zh. Kharkov Mekh.-Mashinostr. Instituta*, 1937, No. 7 (in Russian).
2. On the calculation of the energy spectrum of a Bose system from its heat capacity. *Zh. Eks. Teor. Fiz.*, 1954, **26**, No. 5, 551–556 (in Russian).
3. On the dynamical and statistical relationships in quantum mechanics. In: *Filosofskie problemy fiziki*, Academy of Sciences of the Ukrainian SSR, 1955 (in Russian). L. M. Pyatigorsky
4. On the ordering kinetics under second-order phase transitions. *Zh. Eks. Teor. Fiz.*, 1962, **42**, No. 5, 1354–1359 (in Russian).
5. Quantum kinetics of phase transitions at temperatures close to absolute zero. *Zh. Eks. Teor. Fiz.*, 1972, **62**, No. 1, 385–402 (in Russian). Yu. Kagan
6. Quantum theory of nuclei. *Fiz. Nizk. Temp.*, 1975, **1**, No. 5, 552–553 (in Russian).

### IX. MISCELLANEOUS PAPERS

1. On the calculation of a minimal surface from a given spherical image of a plane contour. *Zh. Kharkov Mekh.-Mashinostr. Instituta*, 1935, No. 2 (in Russian).
2. On certain improvements of the Chebyshev inequality. *Zh. Kharkov Mekh.-Mashinostr. Instituta*, 1936, No. 7 (in Russian).
3. On certain generalizations of the Christoffel–Schwartz formula. *Zh. Kharkov Mekh.-Mashinostr. Instituta*, 1937, No. 3 (in Russian).
4. On the calculation of integral parameters under parallel transformations. *Geomtr. Sbornik*, Vol. 1; X, 1937, 85–94 (in Ukrainian).

5. On the oscillations of relativistic particles in strong fields. *Dokl. Akad. Nauk SSSR*, 1948, **62**, No. 3, 309–312 (in Russian).
6. On the problem of particle scattering by a central-symmetric field in quantum mechanics. *Uchonye Zapiski (Kharkov Univ.)*, Vol. 27; *Trudy Fiz. Otd. Fiz.-Mat. Fak*, 1948, **1**, 105–107 (in Russian).
7. On the theory of a vapor-jet vacuum pump. L. N. Rozentsveig  
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