Complete list of L D Landau's works†

1. "Theory of the spectra of the diatomic molecules" *Z. Phys.* **40** 621 (1926)
2. "The damping problem in wave mechanics" *Z. Phys.* **45** 430 (1927)
3. "Quantum electrodynamics in the configuration space" *Z. Phys.* **62** 188 (1930) (In collaboration with R Peierls)
4. "Paramagnetism of metals" *Z. Phys.* **64** 629 (1930)
5. "Extension of the principle of indeterminateness for the relativistic quantum theory" *Z. Phys.* **69** 56 (1931) (In collaboration with R Peierls)
6. "On the theory of transfer of energy at collisions I" *Phys. Z. Sowjetunion* **1** 88 (1932)
7. "On the theory of transfer of energy at collisions II" *Phys. Z. Sowjetunion* **2** 46 (1932)
8. "On the theory of stars" *Phys. Z. Sowjetunion* **1** 285 (1932)
9. "On the motion of electrons in a crystal lattice" *Phys. Z. Sowjetunion* **3** 884 (1933)
10. "Second law of thermodynamics and the relations between parts of the World-System" *Phys. Z. Sowjetunion* **4** 114 (1933) (In collaboration with M Bronstein)
11. "Possible explanation of the dependence on the field of the susceptibility at low temperatures" *Phys. Z. Sowjetunion* **4** 675 (1933)
12. "Internal temperature of stars" *Nature* (London) **132** 567 (1933) (In collaboration with G Gamov)
13. "Structure of the undisplaced line of scattering" *Phys. Z. Sowjetunion* **5** 172 (1934) (In collaboration with G Plachek)
14. "Loss of energy of fast electrons by radiation" *Phys. Z. Sowjetunion* **5** 761 (1934); *Zh. Eksp. Teor. Fiz.* **5** 255 (1935)
15. "On the production of electrons and positrons by a collision of two particles" *Phys. Z. Sowjetunion* **6** 244 (1934) (In collaboration with E M Lifshitz)
16. "Theory of specific heat anomalies" *Phys. Z. Sowjetunion* **8** 113 (1935)
17. "On the theory of the dispersion of magnetic permeability in ferromagnetic bodies" *Phys. Z. Sowjetunion* **8** 153 (1935) (In collaboration with E M Lifshitz)
18. "On the relativistic corrections to a Schrödinger equations in a problem of many-bodies" *Phys. Z. Sowjetunion* **8** 487 (1935)
19. "On the theory of the accommodation coefficient" *Phys. Z. Sowjetunion* **8** 489 (1935)
20. "On the theory of the photoelectromotive force in semiconductors" *Phys. Z. Sowjetunion* **9** 477 (1936) (In collaboration with E M Lifshitz)
21. "Theory of sound dispersion" *Phys. Z. Sowjetunion* **10** 34 (1936) (In collaboration with E Teller)
22. "Theory of monomolecular reactions" *Phys. Z. Sowjetunion* **10** 67 (1936)
23. "Kinetic equation for the Coulomb effect" *Zh. Eksp. Teor. Fiz.* **7** 203 (1937); *Phys. Z. Sowjetunion* **10** 154 (1936)
24. "Properties of metals at very low temperatures" *Zh. Eksp. Teor. Fiz.* **7** 379 (1937); *Phys. Z. Sowjetunion* **10** 649 (1936) (In collaboration with I Ya Pomerantschuk)
25. "Scattering of light by light" *Nature* (London) **138** 206 (1936) (In collaboration with A I Akhieser and I Ya Pomeranchuk)
26. "Origin of stellar energy" *Dokl. Akad. Nauk SSSR* **17** 301 (1937); *Nature* (London) **141** 333 (1938)
27. "Absorption of sound in solids" *Phys. Z. Sowjetunion* **11** 18 (1937) (In collaboration with G Rumer)
28. "Theory of phase transformations. I" *Zh. Eksp. Teor. Fiz.* **7** 19 (1937); *Phys. Z. Sowjetunion* **11** 26 (1937)
29. "Theory of phase transformations. II" *Zh. Eksp. Teor. Fiz.* **7** 627 (1937); *Phys. Z. Sowjetunion* **11** 545 (1937)
30. "Theory of supraconductivity" *Zh. Eksp. Teor. Fiz.* **7** 371 (1937); *Phys. Z. Sowjetunion* **11** 129 (1937)
31. "Statistical theory of nuclei" *Zh. Eksp. Teor. Fiz.* **7** 819 (1937); *Phys. Z. Sowjetunion* **11** 556 (1937)
32. "Scattering of X-rays by crystals near the Curie point" *Zh. Eksp. Teor. Fiz.* **7** 1232 (1937); *Phys. Z. Sowjetunion* **12** 123 (1937)
33. "The scattering of X-rays by crystals with variable lamellar structure" *Zh. Eksp. Teor. Fiz.* **7** 1227 (1937); *Phys. Z. Sowjetunion* **12** 579 (1937)
34. "Production of showers by heavy particles" *Nature* (London) **140** 682 (1937) (In collaboration with G Rumer)
35. "Stability of a neon and carbon in relation to an alpha decay" *Phys. Z. Sowjetunion* **12** 1251 (1937)
36. "The cascade theory of electronic showers" *Proc. R. Soc. London Ser. A* **166** 213 (1938) (In collaboration with G Rumer)
37. "On the de Haas van Alphen effect" *Proc. R. Soc. London Ser. A* **170** 363 (1939) (Appendix to D Shoenberg article)
38. "On the polarization of electrons by scattering" *Dokl. Akad. Nauk SSSR* **26** 436 (1940); *Phys. Rev.* **57** 548 (1940)
39. "On the 'radius'of the elementary particles" *Zh. Eksp. Teor. Fiz.* **10** 718 (1940); *J. Phys. USSR* **2** 485 (1940)
40. "On the scattering of mesotrons by 'nuclear forces" *Zh. Eksp. Teor. Fiz.* **10** 721 (1940); *J. Phys. USSR* **2** 483 (1940)
41. "The angular distribution of the shower particles" *Zh. Eksp. Teor. Fiz.* **10** 1007 (1940); *J. Phys. USSR* **3** 237 (1940)
42. "On the theory of secondary showers" *Zh. Eksp. Teor. Fiz.* **11** 32 (1941); *J. Phys. USSR* **4** 375 (1941)
43. "On the scattering of light by mesotrons" *Zh. Eksp. Teor. Fiz.* **11** 35 (1941); *J. Phys. USSR* **4** 455 (1941) (In collaboration with J Smorodinski)
44. "The theory of superfluidity of helium II" *Zh. Eksp. Teor. Fiz.* **11** 592 (1941); *J. Phys. USSR* **5** 71 (1941)
45. "Theory of stability strongly charged lyophobic soles and coalescence of strongly charged particles in solutions of electrolytes" *Zh. Eksp. Teor. Fiz.* **11** 802 (1941); *Zh. Eksp. Teor. Fiz.* **15** 663 (1945); *Acta Phys.-Chim. USSR* **14** 633 (1941) (In collaboration with B V Deryagin)
46. "Entrainment of fluid by the driven plate" *Acta Phys.-Chim. USSR* **17** 42 (1942) (In collaboration with V G Levich)
47. "On the theory of the intermediate state of superconductors" *Zh. Eksp. Teor. Fiz.* **13** 377 (1943); *J. Phys. USSR* **7** 99 (1943)
48. "On the relation of the liquid to gaseous state at metals"Acta Phys.-Chim. USSR **18** 194 (1943) (In collaboration with Ya B Zel'dovich)
49. "On the one new exact solution of equations of the Navier–Stokes" *Dokl. Akad. Nauk SSSR* **43** 299 (1944)
50. "On the problem of a turbulence" *Dokl. Akad. Nauk SSSR* **44** 339 (1944)
51. "On the hydrodynamics of helium II" *Zh. Eksp. Teor. Fiz.* **14** 112 (1944); *J. Phys. USSR* **8** 1 (1944)
52. "On the theory of slow combustion" *Zh. Eksp. Teor. Fiz.* **14** 240 (1944); *Acta Phys.-Chim. USSR* **19** 77 (1944)
53. "On the theory of scattering of protons by protons" *Zh. Eksp. Teor. Fiz.* **14** 269 (1944); *J. Phys. USSR* **8** 154 (1944) (In collaboration with J Smorodinsky)
54. "On the energy loss of fast particles by ionization" *J. Phys. USSR* **8** 201 (1944)
55. "On study of a detonation of condensed explosive substances" *Dokl. Akad. Nauk SSSR* **46** 399 (1945) (In collaboration with K P Stanyukovich)
56. "Determination of exhaust velocity of products of a detonation of some gaseous mixtures" *Dokl. Akad. Nauk SSSR* **47** 205 (1945) (In collaboration with K P Stanyukovich)
57. "Determination of exhaust velocity of products of a detonation of condensed explosive substances" *Dokl. Akad. Nauk SSSR* **47** 273 (1945) (In collaboration with K P Stanyukovich)
58. "On shock waves at large distances from the place of their origin" *Prikl. Matem. Mekh.* **9** 286 (1945); *J. Phys. USSR* **9** 496 (1945)
59. "On the vibrations of the electronic plasma" *Zh. Eksp. Teor. Fiz.* **16** 574 (1946); *J. Phys. USSR* **10** 25 (1946)
60. "On the thermodynamics of photoluminescence" *J. Phys. USSR* **10** 503 (1946)
61. "On the theory of superfluidity of helium II" *J. Phys. USSR* **11** 91 (1947)
62. "Motion of extraneous particles in He II" *Dokl. Akad. Nauk SSSR* **59** 669 (1948) (In collaboration with I Ya Pomeranchuk)
63. "The moment of a 2-photon system" *Dokl. Akad. Nauk SSSR* **60** 207 (1948)

† The numbering in this list coincides with that of the "Collected Papers" of L D Landau (Moscow: Nauka, 1969) [Translated into English (Oxford: Pergamon Press, 1965)].

64. "On the theory of superfluidity" *Dokl. Akad. Nauk SSSR* **61** 253 (1948); Phys. Rev. 75 884 (1949)
65. "The effective mass of the polaron" *Zh. Eksp. Teor. Fiz.* **18** 419 (1948) (In collaboration with S I Pekar)
66. "Theory of the energy transmission in collisions" *Zh. Eksp. Teor. Fiz.* **18** 750 (1948) (In collaboration with E M Lifshits)
67. "The theory of the viscosity of helium II. I. Collisions of elementary excitations in helium II" *Zh. Eksp. Teor. Fiz.* **19** 637 (1949) (In collaboration with I M Khalatnikov)
68. "The theory of viscosity of helium II. II. Calculation of the viscosity coefficient" *Zh. Eksp. Teor. Fiz.* **19** 709 (1949) (In collaboration with I M Khalatnikov)
69. "On the exchange effects between electron and positron" *Zh. Eksp. Teor. Fiz.* **19** 673 (1949) [*Guide Russ. Sci. Period Lit.* (Brookhaven) **4** 33 (1951)] (In collaboration with V B Berestetskiĭ)
70. "On the equilibrium of crystal form" Sbornik, Posvyashchennyĭ Semidesyatiletiyu Akademika A F Ioffe (Collected Book Commemorating Seventy Years Jubilee of Academician A F Ioffe) (Moscow: USSR Academy of Sciences Press, 1950) p. 44
71. "On the theory of superconductivity" *Zh. Eksp. Teor. Fiz.* **20** 1064 (1950) (In collaboration with V L Ginzburg)
72. "On the multiple production of particles in high energy collisions" *Izv. Akad. Nauk SSSR Ser. Fiz.* **17** 51 (1953)
73. "Limits of applicability of the theory of bremsstrahlung electrons and pair production for high energies" *Dokl. Akad. Nauk SSSR* **92** 535 (1953) [U.S. National Sci. Found. NSF-tr-136] (In collaboration with I Ya Pomeranchuk)
74. "Electron-cascade processes at very high energies" *Dokl. Akad. Nauk SSSR* **92** 735 (1953) [U.S. National Sci. Found. NSF-tr-210] (In collaboration with I Ya Pomeranchuk)
75. "Radiation of γ-rays upon collision of fast π-mesons with nucleons" *Zh. Eksp. Teor. Fiz.* **24** 505 (1953) (In collaboration with I Ya Pomeranchuk)
76. "On the removal of infinities in quantum electrodynamics" *Dokl. Akad. Nauk SSSR* **95** 497 (1954) (In collaboration with A A Abrikosov and I M Khalatnikov)
77. "Asymptotic expression of the Green's function of the electron in quantum electrodynamics" *Dokl. Akad. Nauk SSSR* **95** 773 (1954) (In collaboration with A A Abrikosov and I M Khalatnikov)
78. "An asymptotic expression for the Green function of a photon in quantum electrodynamics" *Dokl. Akad. Nauk SSSR* **95** 1177 (1954) (In collaboration with A A Abrikosov and I M Khalatnikov)
79. "The mass of the electron in quantum electrodynamics" *Dokl. Akad. Nauk SSSR* **96** 261 (1954) (In collaboration with A A Abrikosov and I M Khalatnikov)
80. "On the anomalous absorption of a sound near to points of phase transition of the second kind" *Dokl. Akad. Nauk SSSR* **96** 469 (1954) (In collaboration with I M Khalatnikov)
81. "Investigation of singularities of flow with the Eiler – Trikomy equations" *Dokl. Akad. Nauk SSSR* **96** 725 (1954) (In collaboration with E M Lifshitz)
82. "On the quantum field theory", in *Niels Bohr and the Development of Physics* (Ed. W Pauli) (London: Pergamon Press, 1955) [Translated into Russian (Moscow: Inostrannaya Literatura, 1955)]
83. "On the point interaction in quantum electrodynamics" *Dokl. Akad. Nauk SSSR* **102** 489 (1955) (In collaboration with I Ya Pomeranchuk)
84. "The gauge transformation of the Green's function for charged particles" *Zh. Eksp. Teor. Fiz.* **29** 89 (1955) [*Sov. Phys. JETP* **2** 69 (1956)] (In collaboration with I M Khalatnikov)
85. "The hydrodynamic theory of multiple formation of particles" *Usp. Fiz. Nauk* **56** 309 (1955) (In collaboration with S Z Belen'kiĭ)
86. "On the quantum theory of fields" *Nuovo Cimento. Suppl.* **3** 80 (1956) (In collaboration with A Abrikosov and I Halatnikov)
87. "Theory of Fermi-liquids" *Zh. Eksp. Teor. Fiz.* **30** 1058 (1956) [*Sov. Phys. JETP* **3** 920 (1957)]
88. "Oscillations in a Fermi-liquid" *Zh. Eksp. Teor. Fiz.* **32** 59 (1957) [*Sov. Phys. JETP* **5** 101 (1957)]
89. "On the conservation laws for weak interactions" *Zh. Eksp. Teor. Fiz.* **32** 405 (1957) [*Sov. Phys. JETP* **5** 336 (1957)]; *Nucl. Phys.* **3** 127 (1957)
90. "Possible properties of the neutrino spin" *Zh. Eksp. Teor. Fiz.* **32** 407 (1957) [*Sov. Phys. JETP* **5** 337 (1957)]
91. "Hydrodynamic fluctuations" *Zh. Eksp. Teor. Fiz.* **32** 618 (1957) [*Sov. Phys. JETP* **5** 512 (1957)] (In collaboration with E M Lifshitz)
92. "The properties of the green function for particles in statistics" *Zh. Eksp. Teor. Fiz.* **34** 262 (1958) [*Sov. Phys. JETP* **7** 182 (1958)]
93. "On the theory of the Fermi-liquid" *Zh. Eksp. Teor. Fiz.* **35** 97 (1958) [*Sov. Phys. JETP* **8** 70 (1959)]
94. "Possibility of formulation of a theory of strongly interacting fermions" *Phys. Rev.* **111** 321 (1958) (In collaboration with A A Abrikosov, A D Galanin, L P Gorkov, I Ya Pomeranchuk and K A Ter-Martirosyan)
95. "Numerical methods of an integration of partial equations by a method of grids" *Trudy III Vsesoyuznogo Matematicheskogo S"ezda* (Proceedings of the third All-Union of Math. Congress) Vol. 3 (Moscow: USSR Academy of Sciences Press, 1958) p. 92 (In collaboration with N I Meiman and I M Khalatnikov)
96. "On the analytic properties of vertex parts in quantum field theory" *Zh. Eksp. Teor. Fiz.* **37** 62 (1959) [*Sov. Phys. JETP* **10** 45 (1960)]
97. "Small binding energies in quantum field theory" *Zh. Eksp. Teor. Fiz.* **39** 1856 (1960) [*Sov. Phys. JETP* **12** 1294 (1961)]
98. "Fundamental problems", in *Theoretical Physics in the 20th Century*: *A Memorial Volume to W Pauli* (Eds M Fierz, V F Weisskopf) (New York: Interscience Publishers, 1960) [Translated into Russian (Moscow: Inostrannaya Literatura, 1962) p. 285]

List of the articles, not included to the collected works

1. "Derivation of the Klein – Fock equation" *Z. Phys.* **40** 161 (1926) (In collaboration with D Iwanenko)
2. "Quantum statistics" *Z. Phys.* **42** 562 (1927) (In collaboration with D Iwanenko)
3. "Relation of a wave mechanics to classical" *Zh. Russ. Fiz.-Khim. Obshchestva* **59** 253 (1927) (In collaboration with D Ivanenko)
4. "Theory of the magnetic electron" *Z. Phys.* **48** 340 (1928) (In collaboration with D Iwanenko)
5. "World constants and limiting process" *Zh. Russ. Fiz.-Khim. Obshchestva* **60** 13 (1928) (In collaboration with G Gamov and D Ivanenko) General discussion of a problem about dimensionality of world constants and alternative of independent units of measurement
6. "On the spin effects in a problem of many-bodies" *Phys. Z.* **30** 654 (1929)
7. "Remark on scattering hardness gamma rays" *Naturwissenschaften* **18** 1112 (1930)
8. "On the theory of an electrical breakdown" *Z. Phys.* **78** 847 (1932) (In collaboration with L Rosenkevich)
9. "Theory of supraconductivity" *Phys. Z. Sowjetunion* **4** 43 (1933)
10. "Deviation from Ohm's law of poor conductors in strong electric fields" *Zh. Eksp. Teor. Fiz.* **5** 276 (1935); *Phys. Z. Sowjetunion* **6** 163 (1934) (In collaboration with A Kompanejez)
11. "The theory of phase transitions" *Nature* (London) **138** 840 (1936) The brief message about works [28, 29]
12. "The intermediate state of supraconductors" *Nature* (London) **141** 688 (1938) The brief message about work [47]
13. "Theory of the superfluidity of helium II" *Phys. Rev.* **60** 356 (1941) The brief message about work [44]
14. "On the stability of tangential gaps in contracted fluid" *Dokl. Akad. Nauk SSSR* **44** 151 (1944)
15. "Theory of viscosity of liquid helium II" *Izv. Akad. Nauk SSSR Ser. Fiz.* **12** 216 (1948) (In collaboration with I M Khalatnikov) The brief message about works [67, 68]
16. "Concerning W.P. Allis' criticism of my paper on Coulomb interactions in a plasma" *Phys. Rev.* **77** 567 (1950) Allis objections against article [23] were shown to be based on incorrect expansion of the collision integral
17. "Rotation of liquid helium"† Dokl. Akad. Nauk SSSR 100 669 (1955) (In collaboration with E M Lifshits) The model of a layered structure of a rotated helium II is considered

† Legitimacy of model, offered in this article recently was shown. See "Vortex sheets in Superfluid He-3A" E V Thuneberg, in "Proceedings of 21 Int. Conf. on Low Temp. Phys., Prague, August 8-14, 1996" *Czechoslovak Journ. of Phys.* **46** Suppl. S6 2937 (1996).

The books of L D Landau

1. *Zadachi po Teoreticheskoi Fizike*: *Ch. I, Mekhanika* (Problems on Theoretical Physics: Pt. I, Mechanics) (In collaboration with E M Lifshitz and L V Rozenkevich) (Khar'kov: Gos. Nauchn.-Tekhn. Izd. Ukrainy, 1935)
2. *Élektroprovodnost' Metallov* (Conductance of Metals) (In collaboration with A S Kompaneets) (Khar'kov, 1935)
3. *Teoreticheskaya Fizika* (Theoretical Physics) (In collaboration with E M Lifshitz)†; *Mekhanika* (Mechanics) (1940‡, 1958, 1965) [Translated into English (Oxford: Pergamon Press, 1960)]; *Teoriya Polya* (The Classical Theory of Fields) (1941, 1948, 1960, 1962, 1967) [Translated into English (Cambridge, Mass.: Addison-Wesley Press, 1951; London: Pergamon Press, 1959; Oxford: Pergamon Press, 1962)]; *Kvantovaya Mekhanika* (Quantum Mechanics) (1948, 1963) [Translated into English (London: Pergamon Press, 1958; Oxford: Pergamon Press, 1965)]; *Statisticheskaya Fizika* (Statistical Physics) (1938, 1940, 1951, 1964) [Translated into English (Oxford: The Clarendon Press, 1938; London: Pergamon Press, 1959)]; *Mekhanika Sploshnykh Sred* (Fluid Mechanics) (1944, 1954) [Translated into English Oxford: Pergamon Press, 1959)]; *Teoriya Uprugosti* (Theory of Elasticity) (1965) [Translated into English (Oxford: Pergamon Press, 1959)]; *Élektrodinamika Sploshnykh Sred* (Electrodynamics of Continuous Media) (1959) [Translated into English (Oxford: Pergamon Press, 1960)]
4. *Kurs Lektsiĭ po Obshcheĭ Fizike* (Course of the Lectures on General Physics) (Moscow: Moscow State Univ. Press, 1948)
5. *Lektsii po Teorii Atomnogo Yadra* (Lectures on Nuclear Theory) (In collaboration with Ya A Smorodinsky) (Moscow:Gostekhizdat, 1955) [Translated into English (New York: Consultants Bureau, 1958; New York: Plenum Press, 1959)]
6. *Chto Takoe Teoriya Otnositel'nosti* (What is Relativity) (In collaboration with G B Rumer) (Moscow: Izd. ''Sovetskaya Rossiya'', 1959, 1963) [Translated into English (Edinburg: Oliver and Boyd, 1960; New York: Basic Books, 1961; Moscow: Peace Pub., 1964)]
7. *Fizika dlya Vsekh. Dvizhenie. Teplota* (Physics for All. Motion. Heat) (In collaboration with A I Kitaigorodskiĭ) (Moscow: Fizmatgiz, 1963, 1965)
8. *Kurs Obshcheĭ Fiziki. Mekhanika i Molekulyarnaya Fizika* (General Physics: Mechanics and Molecular Physics) (In collaboration with A I Akhiezer and E M Lifshitz) (Moscow: Nauka, 1965) [Translated into English (Oxford: Pergamon Press, 1967)]

† The years of the issue series are indicated in brackets (Gostekhizdat, next is Fizmatgiz and Izd. ''Nauka'', Moscow). These books were also translated and issued in England, DDR, Spain, China, Poland, Romania, USA, Yugoslavia, Japan as well as in French by publishing house ''Mir''.
‡ The first issue of this book was published alous with L Pyatigorskiĭ.