

I. M. Gel'fand
List of Publications

From 1933–1947 the *Doklady* were published both in Russian and in a foreign language edition entitled *Comptes Rendus (Doklady) de l'Académie de l'URSS*.

Articles marked with an asterisk (*) were originally published in Russian and translated especially for this publication.

References to the reviews published in *Mathematical Reviews (MR)* and *Zentralblatt für Mathematik (Zbl.)* have been given as far as could be ascertained.

1936

1. Sur un lemme de la théorie des espaces linéaires. *Izv. Nauchno-Issled. Inst. Mat. Khar'kov Univ., Ser. 4*, 13 (1936) 35–40. *Zbl.* 14:162 I.II.1

1937

2. Zur Theorie abstrakter Funktionen. *Dokl. Akad. Nauk SSSR* 17 (1937) 243–245. *Zbl.* 18:71
3. Operatoren und abstrakte Funktionen. *Dokl. Akad. Nauk SSSR* 17 (1937) 245–248. *Zbl.* 18:72

1938

4. Abstrakte Funktionen und lineare Operatoren. *Mat. Sb., Nov. Ser.* 4 (46) (1938) 235–284. *Zbl.* 20:367 I.II.2

1939

5. (with A.N. Kolmogorov) On rings of continuous functions. *Dokl. Akad. Nauk SSSR* 22 (1939) 11–15. *Zbl.* 21:411
6. On normed rings. *Dokl. Akad. Nauk SSSR* 23 (1939) 430–432. *Zbl.* 21:294 I.II.4

7. To the theory of normed rings. II. On absolutely convergent trigonometrical series and integrals. Dokl. Akad. Nauk SSSR **25** (1939) 570-572. Zbl. **22**:357 I.II.5
8. To the theory of normed rings. III. On the ring of almost periodic functions. Dokl. Akad. Nauk SSSR **25** (1939) 573-574. Zbl. **22**:357 I.II.6
9. On one-parametrical groups of operators in a normed space. Dokl. Akad. Nauk SSSR **25** (1939) 713-718. Zbl. **22**:358 I.II.3
- 1940**
10. (with D.A. Rajkov) On the theory of characters of commutative topological groups. Dokl. Akad. Nauk SSSR **28** (1940) 195-198. Zbl. **24**:120 I.II.7
- 1941**
11. Normierte Ringe. Mat. Sb., Nov. Ser. **9** (51) (1941) 3-23. Zbl. **24**:320 I.II.8
12. (with G.E. Shilov) Über verschiedene Methoden der Einführung der Topologie in die Menge der maximalen Ideale eines normierten Ringes. Mat. Sb., Nov. Ser. **9** (51) (1941) 25-38. Zbl. **24**:321 I.II.9
13. Ideale und primäre Ideale in normierten Ringen. Mat. Sb., Nov. Ser. **9** (51) (1941) 41-48. Zbl. **24**:322 I.II.10
14. Zur Theorie der Charaktere der Abelschen topologischen Gruppen. Mat. Sb., Nov. Ser. **9** (51) (1941) 49-50. Zbl. **24**:323 I.II.11
15. Über absolut konvergente trigonometrische Reihen und Integrale. Mat. Sb., Nov. Ser. **9** (51) (1941) 51-66. Zbl. **24**:323 I.II.12
- 1942**
16. (with M.A. Najmark) On the embedding of normed rings into the ring of operators in Hilbert space. Mat. Sb., Nov. Ser. **12** (54) (1942) 197-213. Zbl. **60**:270 I.II.13
17. (with D.A. Rajkov) Irreducible unitary representations of locally bicomact groups. Mat. Sb. **13** (55), 301-316 (1942) [Transl., II. Ser., Am. Math. Soc. **36** (1964) 1-15]. Zbl. **166**:401 I.II.1
- 1943**
18. (with D.A. Rajkov) Irreducible unitary representations of locally compact groups. Dokl. Akad. Nauk SSSR **42** (1943) 199-201. Zbl. **61**:253
- 1946**
19. (with M.A. Najmark) Unitary representations of the Lorentz group. J. Phys., Acad. Sci. USSR **10** (1946) 93-94. Zbl. **61**:253 II.II.1
20. (with M.A. Najmark) On unitary representations of the complex unimodular group. Dokl. Akad. Nauk SSSR **54** (1946) 195-198. Zbl. **29**:5 II.II.3

21. (with D.A. Rajkov and G.E. Shilov) Commutative normed rings. Usp. Mat. Nauk **1**, 2 (1946) 48-146 [Transl., II. Ser., Am. Math. Soc. **5** (1957) 115-220]. Zbl. **201**:457 I.II.14
22. (with M.A. Najmark) Unitary representations of semisimple Lie groups I. Mat. Sb., Nov. Ser. **21** (63) (1946) 405-434 [Transl., II. Ser., Am. Math. Soc. (reprinted) **9** (1962) 1-14]. Zbl. **38**:17
- *23. (with M.A. Najmark) Complementary and degenerate series of representations of the complex unimodular group. Dokl. Akad. Nauk SSSR **58** (1946) 1577-1580. Zbl. **37**:304 II.II.5
- 1947**
24. (with M.A. Najmark) Unitary representations of the group of linear transformations of the straight line. Dokl. Akad. Nauk SSSR **55** (1947) 567-570. Zbl. **29**:5 II.II.2
25. (with M.A. Najmark) The principal series of irreducible representations of the complex unimodular group. Dokl. Akad. Nauk SSSR **56** (1947) 3-4. Zbl. **29**:5 II.II.4
- *26. (with M.A. Najmark) Unitary representations of the Lorentz group. Izv. Akad. Nauk SSSR, Ser. Mat. **11** (1947) 411-504. Zbl. **37**:153 II.II.2
- 1948**
27. Lectures on linear algebra. Moscow-Leningrad: Gostekhizdat 1948 (in Russian). Zbl. **38**:156
28. (with M.A. Najmark) Normed rings with an involution and their representations. Izv. Akad. Nauk SSSR, Ser. Mat. **12**, 445-480 (1948) (English translation in: Commutative normed rings, I.M. Gelfand, D.A. Rajkov and G.E. Shilov, pp. 240-274. Chelsea 1964). Zbl. **31**:34 I.II.15
29. (with A.M. Yaglom) General relativistically invariant equations and infinite-dimensional representations of the Lorentz group. Dokl. Akad. Nauk SSSR **59** (1948) 655-659 (in Russian). Zbl. **37**:127
30. Integral equations. Article in the Great Soviet Encyclopedia (1948) (in Russian)
- *31. (with A.M. Yaglom) General relativistically invariant equations and infinite-dimensional representations of the Lorentz group. Zh. Ehksp. Teor. Fiz. **18** (1948) 703-733 II.II.9
- *32. (with M.A. Najmark) The trace in principal and complementary series representations of the complex unimodular group. Dokl. Akad. Nauk SSSR **61** (1948) 9-11. Zbl. **35**:299 II.II.6
33. (with A.M. Yaglom) Relativistically invariant equations corresponding to a definite charge and a definite energy. Dokl. Akad. Nauk SSSR **63** (1948) 371-374 (in Russian). Zbl. **31**:95

34. (with A.M. Yaglom) Pauli's theorem for general relativistically invariant equations. *Zh. Ehksp. Teor. Fiz.* **18** (1948) 1096-1104 (in Russian)
35. (with A.M. Yaglom) Charge conjugacy for general relativistically invariant equations. *Zh. Ehksp. Teor. Fiz.* **18** (1948) 1105-1111 (in Russian)
- *36. (with M.A. Najmark) On the connection between representations of complex semisimple Lie groups and its maximal compact subgroup. *Dokl. Akad. Nauk SSSR* **63** (1948) 225-228. *Zbl.* **35**:15 II.II.7
- *37. (with M.A. Najmark) An analogue of the Plancherel formula for the complex unimodular group. *Dokl. Akad. Nauk SSSR* **63** (1948) 609-612. *Zbl.* **38**:18 II.II.8
- 1950**
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39. (with M.A. Najmark) The connexion between the unitary representations of the complex unimodular group and those of its unitary subgroup. *Izv. Akad. Nauk SSSR, Ser. Mat.* **14** (1950) 239-260 (in Russian). *Zbl.* **37**:15
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- *41. (with M.L. Tsetlin) Finite-dimensional representations of the group of unimodular matrices. *Dokl. Akad. Nauk SSSR* **71** (1950) 825-828. *Zbl.* **37**:153 II.VII.1
- *42. (with M.L. Tsetlin) Finite-dimensional representations of the group of orthogonal matrices. *Dokl. Akad. Nauk SSSR* **71** (1950) 1017-1020. *Zbl.* **37**:153 II.VII.2
- *43. Eigenfunction expansions for equations with periodic coefficients. *Dokl. Akad. Nauk SSSR* **73** (1950) 1117-1120. *Zbl.* **37**:345 I.III.1
44. (with M.A. Najmark) Unitary representations of classical groups. *Tr. Mat. Inst. Steklova* **36** (1950) 1-288 (in Russian). *Zbl.* **41**:362
- (English transl. of the Introduction, Chap. 9 'Spherical functions' and Chap 18 'Transitivity classes for the set of pairs. Another way of describing representations of the complementary series')
- 1951**
45. (with S.V. Fomin) Unitary representations of Lie groups and geodesic flows on surfaces of constant negative curvature. *Dokl. Akad. Nauk SSSR* **76** (1951) 771-774 (in Russian). *Zbl.* **45**:388 II.II.11

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50. (with S.V. Fomin) Geodesic flows on manifolds of constant negative curvature. *Usp. Mat. Nauk* **7** (1) (1952) 118-137 [Transl., II. Ser., *Am. Math. Soc.* **1** (1955) 49-65]. *Zbl.* **66**:361 II.III.2
51. (with M.A. Najmark) Unitary representations of the unimodular group that contain an identity representation of the unitary subgroup. *Tr. Mosk. Mat. O.-va* **1** (1952) 423-473 (in Russian). *Zbl.* **49**:358
- *52. (with M.I. Graev) Unitary representations of the real simple Lie groups. *Dokl. Akad. Nauk SSSR* **86** (1952) 461-463. *Zbl.* **49**:358 II.II.12
53. On the spectrum of non-selfadjoint differential operators. *Usp. Mat. Nauk* **7** (6) (1952) 183-184 (in Russian). *Zbl.* **48**:96 **1953**
- *54. (with B.M. Levitan) On a simple identity for eigenvalues of second order differential operator. *Dokl. Akad. Nauk SSSR* **88** (1953) 593-596. *Zbl.* **53**:60 I.III.3
- *55. (with M.I. Graev) Unitary representations of real unimodular groups (Principal non-degenerate series). *Izv. Akad. Nauk SSSR, Ser. Mat.* **17** (1952) 189-249. *Zbl.* **52**:341 II.II.13
- *56. (with M.I. Graev) On a general method for decomposition of the regular representation of a Lie group into irreducible representations. *Dokl. Akad. Nauk SSSR* **92** (1952) 221-224. *Zbl.* **53**:15 II.II.14
57. (with M.I. Graev) The analogue of Plancherel's theorem for real unimodular groups. *Dokl. Akad. Nauk SSSR* **92** (1952) 461-464 (in Russian). *Zbl.* **53**:15
58. (with G.E. Shilov) Fourier transforms of rapidly increasing functions and questions of the uniqueness of the solution of Cauchy's problem. *Usp. Mat. Nauk* **8** (6) (1952) 3-54 [Transl., II. Ser., *Am. Math. Soc.* **5** (1957) 221-274]. *Zbl.* **52**:116

- 1954**
- *59. (with R.A. Minlos) Solution of quantum field equations. Dokl. Akad. Nauk SSSR **97** (1954) 209–212. Zbl. **58**:232 I.III.4
- 1955**
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- *61. Generalized random processes. Dokl. Akad. Nauk SSSR **100** (1955) 853–856. Zbl. **68**:112 III.III.1
62. (with M.I. Graev) The traces of unitary representations of the real unimodular group. Dokl. Akad. Nauk SSSR **100** (1955) 1037–1040 (in Russian). Zbl. **64**:111
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64. (with Z.Ya. Shapiro) Homogeneous functions and their applications. Usp. Mat. Nauk **10** (3) (1955) 3–70 [Transl., II. Ser., Am. Math. Soc. **8** (1958) 21–85]. Zbl. **65**:101
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- *66. (with A.G. Kostyuchenko) Eigenfunction expansions for differential and other operators. Dokl. Akad. Nauk SSSR **103** (1955) 349–352. Zbl. **65**:104 I.III.6
- 1956**
67. (with A.M. Yaglom) Integration in functional spaces and its applications in quantum physics. Usp. Mat. Nauk **11** (1) (1956) 77–114 [J. Math. Phys. **1** (1960) 48–69]. Zbl. **92**:451 III.III.2
- *68. On identities for eigenvalues of a second order differential operator. Usp. Mat. Nauk **11** (1) (1956) 191–198. Zbl. **70**:83 I.III.7
69. (with F.A. Berezin) Some remarks on the theory of spherical functions on symmetric Riemannian manifolds. Tr. Mosk. Mat. O.-va **5** (1956) 311–351 [Transl., II. Ser., Am. Math. Soc. **21** (1962) 193–238]. Zbl. **72**:17 II.III.1
70. (with G.E. Shilov) Quelques applications de la théorie des fonctions généralisées. J. Math. Pures et Appl., IX. Ser. **35** (1956) 383–413. Zbl. **75**:285
- *71. (with A.N. Kolmogorov and A.M. Yaglom) To the general definition of the amount of information. Dokl. Akad. Nauk SSSR **111** (1956) 745–748 (German transl. in: Arbeiten zur Informationstheorie II, Mathematische Forschungsberichte. Berlin: VEB Deutscher Verlag der Wissenschaften 1958). Zbl. **71**:345 III.III.3
72. On some problems of functional analysis. Usp. Mat. Nauk **11** (6) (1956) 3–12 [Transl., II. Ser., Am. Math. Soc. **16** (1960) 315–324]. Zbl. **100**:321 I.I.2
73. (with F.A. Berezin, M.I. Graev, and M.A. Najmark) Group representations. Usp. Mat. Nauk **11** (6) (1956) 13–40 [Transl., II. Ser., Am. Math. Soc. **16** (1960) 325–353]. Zbl. **74**:103
74. (with N.N. Chentsov) On the numerical evaluation of continuous integrals. Zh. Ehksp. Teor. Fiz. **31** (1956) 1106–1107 (in Russian)
75. (with M.L. Tsetlin) On quantities with anomalous parity. Zh. Ehksp. Teor. Fiz. **31** (1956) 1107–1109 (in Russian)
- 1957**
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84. (with R.A. Minlos and A.M. Yaglom) Path integrals. Proceedings of the Third All-Union Mathematics Congress 3 (1958) 521–531 (in Russian)
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III.I.1

III.IV.3

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