

Joseph BERNSTEIN, Ph.D.

LIST OF PUBLICATIONS

Articles

- 1) J.Bernstein
On sets covered up by segments
Doklady Akad. Nauk (Soviet Mathematics -- Doklady) 146, No.1, 11-13 (1962).

- 2) J.Bernstein
On the dimension of commutative sub-rings of $R(n,k)$.
Functional Analysis and its Applications 1, No.4, 79-81 (1967).

- 3) J.Bernstein
Meromorphic continuation of function f^λ for some polynomials f .
Functional Analysis and its Applications, No.1, 92-93 (1968).

- 4) J.Bernstein, S.I.Gelfand
Meromorphic continuation of the function P^λ .
Functional Analysis and its Applications 3, No.1, 84-85 (1969).

- 5) J.Bernstein, D.Kazhdan
On 1-dimensional cohomologies of discrete subgroups.
Functional Analysis and its Applications 4, No.1, 1-5 (1970).

- 6) J.Bernstein, I.M.Gelfand, S.I.Gelfand
Differential operators on the principal affine space.
Doklady Akad. Nauk 195, No.6, 1255-1258 (1970).

- 7) J.Bernstein, I.M.Gelfand, S.I.Gelfand
Structure of representations generated by highest weight vectors.
Functional Analysis and its Applications 5, No.1, 1-9 (1971).

- 8) J.Bernstein
Modules over the ring of differential operators; the study of
fundamental solutions of equations with constant coefficients.
Functional Analysis and its Applications 5, No.2, 1-16 (1972).

- 9) J.Bernstein
Analytic continuation of distributions with respect to a parameter.
Functional Analysis and its Applications 6, No.4, 26-40 (1972).

- 10) J.Bernstein, I.M.Gelfand, S.I.Gelfand
Differential operators on the cubic cone.
Uspekhi Mat. Nauk (Soviet Mathematics -- Surveys) 37, No.1, 185-190 (1972).

- 11) J.Bernstein, B.I.Rosenfeld
 On characteristic classes of foliations.
 Functional Analysis and its Applications 6, No.1, 68-69 (1972).
- 12) J.Bernstein, I.M.Gelfand, S.I.Gelfand
 Schubert cells and cohomologies of flag manifolds.
 Functional Analysis and its Applications 7, No.1, 64-65 (1973).
- 13) J.Bernstein, I.M.Gelfand, S.I.Gelfand
 Schubert cells and cohomologies of spaces G/P .
 Uspekhi Mat. Nauk 38, No.3, 3-26(1973).
- 14) J.Bernstein, I.M.Gelfand, V.A.Ponomarev
 Coxeter functors and Gabriel's theorem.
 Uspekhi Mat. Nauk 38, No.2, 19-33 (1973).
- 15) J.Bernstein, B.I.Rosenfeld
 Homogeneous spaces for infinite dimensional Lie algebras and
 characteristic classes of foliations.
 Uspekhi Mat. Nauk
 28, No.4, 103-138 (1973).
- 16) J.Bernstein
 All reductive p -adic groups are tame.
 Functional Analysis and its Applications 8, No.2, 3-6 (1974).
- 17) J.Bernstein, I.M.Gelfand, S.I.Gelfand
 A new model for the representations of finite semisimple algebraic
 groups
 Uspekhi. Mat. Nauk 29, No.3, 185-186 (1974).
- 18) J.Bernstein, I.M.Gelfand, S.I.Gelfand
 Models of representations of compact Lie groups
 Functional Analysis and its Applications 9, No.4, 61-62 (1975).
- 19) J.Bernstein, I.M.Gelfand, S.I.Gelfand
 On some category of g -modules.
 Functional Analysis and its Applications 10, No.2, 1-8 (1976).
- 20) J.Bernstein, A.V.Zelevinsky
 Representations of the group $GL(n, F)$, where F is a local
 non-Archimedean field.
 Uspekhi Mat. Nauk 10, No.3, 5-70 (1976).
- 21) J.Bernstein, A.V.Zelevinsky
 Induced representations of $GL(n)$ over p -adic field.
 Functional Analysis and its Applications 10, No.3, 74-75 (1976).

- 22) J.Bernstein, M.L. Gerver
A problem of integral geometry for a family of geodesics and an inverse kinematics seismics problem
Doklad. Akad. Nauk, USSR, No.2, 302-305 (1976).
- 23) J.Bernstein, I.M.Gelfand, S.I.Gelfand
Models of representations of Lie groups.
Trudy Sem. Petrovsk 2, 3-21 (1976) (also: Selecta Math. Soviet, 1, No. 2,(1981)).
- 24) J.Bernstein, A.V.Zelevinsky
Induced representations of reductive p -adic groups. I.
Ann. Scient. Ec. Norm. Sup. 10, No.4, 441-472 (1977).
- 25) J.Bernstein, D.A.Leites
Integral forms and Stokes formula on supermanifolds.
Functional Analysis and its Applications 11, No.1, 55-56 (1977).
- 26) J.Bernstein, D.A.Leites
How to intergrate differential forms on supermanifolds.
Functional Analysis and its Applications 11, No.3, 70-71 (1977).
- 27) J.Bernstein, D.N.Bernstein, V.K.Dubrovich
On relict recombination lines.
Astronomical Journal 54, No.4 (1977).
- 28) J.Bernstein, I.M.Gelfand, S.I.Gelfand
Local structure of the category of Harish-Chandra modules.
C.R.Acad. Sci. 286, No.10, A435-A437 (1978).
- 29) J.Bernstein, I.M.Gelfand, S.I.Gelfand
Algebraic bundles on P' and problems of linear algebra.
Functional Analysis and its Applications 12, No.3, 66-67 (1978).
- 30) J.Bernstein, O.V.Shvartsman
Chevalley theorem for complex cristallographic Coxeter groups.
Functional Analysis and its Applications 12, No.4, 79-80 (1978).
- 31) J.Bernstein, D.A.Leites
The characters formula for irreducible finite dimensional
representations of Lie superalgebra $GL(n,1)$ and $SL(n,1)$.
Comp. Rendues de l'Acad. Bulgare 33, No.8, 277-278 (1980).
- 32) J.Bernstein, S.I.Gelfand
Tensor products of finite and infinite dimensional representations
of semisimple Lie algebras.
Comp. Mathematica 41, No.2, 245-285 (1980).

- 33) J.Bernstein, V.F.Shvartsman
 On relation between the size of the Universe and its curvature.
 JETP 78, No.11, 1617-1628 (1980).
- 34) J.Bernstein, A.Beilinson
 Localization de \mathcal{D} -modules.
 Comp. Rend. Acad. Sci. Paris t.292, 15-18 (1981).
- 35) J.Bernstein, D.A.Leites
 Invariant differential operators and irreducible representations of Lie superalgebras of vector fields.
 Serdica 7, No.4, 320-334 (1981)
 (Selecta Math. Soviet 1,No. 2, 143-160 (1981)).
- 36) J.Bernstein, D.A.Leites
 The superalgebra $\mathcal{Q}(n)$, the odd trace and the odd determinant.
 C.R. Acad. Bulgare. 35, No.3, 285-286 (1982).
- 37) J.Bernstein, D.A.Leites
 Irreducible representations of finite-dimensional Lie superalgebras of type W .
 Selecta Math. Soviet 3, No.1, 63-68 (1983/84).
- 38) J.Bernstein, A.Beilinson, P.Deligne
 Faisceux pervers.
 Asterisque 100, 3-171 (1983).
- 39) J.Bernstein
 P -invariant distributions on $GL(n)$ and the classification of unitary representations of $GL(n)$ (non-Archimedean case).
 Springer Lecture Notes in Math. 943, 50-102 (1984).
- 40) J.Bernstein, P.Deligne, D.Kazhdan
 Trace Paley Wiener theorem for reductive p -adic groups.
 Jour. d'Analyse Math. 47, 180-192 (1986).
- 41) J.Bernstein, V.Lunts
 On non-holonomic irreducible \mathcal{D} -modules.
 Invent. Math. 94, 223-243 (1988).
- 42) J.Bernstein
 On the support of Plancherel measure.
 Jour. of Geom. and Physics 5, No.4 (1988).
- 43) J.Bernstein, A.Beilinson
 A proof of the Jantzen conjectures.
 Advances in Soviet Mathematics 16:1, 1-50 (1993)
 Issue in honor of I.M.Gelfand.

- 44) J.Bernstein, V.Lunts
 Equivariant sheaves and functors.
 Lecture Notes in Mathematics, v.1578 (1994), 1-139.
- 45) J.Bernstein, V.Lunts
 Localization for derived categories of (\mathbf{g}, \mathbf{K}) -modules
 Jour. Amer. Math. Society, v.8 , no.4 (1995), 819-856
- 46) J.Bernstein, T.Khovanova
 On the Quantum Group $SL_q(2)$
 Comm. in Math. Physics, v.177 (1996), 691-708
- 47) J.Bernstein, V.Lunts
 A simple proof of Kostant's theorem that $U(\mathbf{g})$ is free over its center.
 Amer. Jour. Math. v.118, no.5 (1996), 979-987
- 48) J.Bernstein, A.Braverman, D.Gaitsgory
 The Cohen-Macaulay property of the category of (\mathbf{g}, \mathbf{K}) -modules
 Selecta Mathematica, New Ser. v.3 (1997), 303-314
- 49) J.Bernstein and A.Reznikov
 Sobolev norms of automorphic functionals and Fourier coefficients of cusp forms
 Comptes Rendues Acad. Sci. Paris, t.327, Ser.1, p.111-116, 1998
- 50) J.Bernstein
 Analytic structures on representation spaces of reductive groups
 Documenta Mathematica, Proceedings of the ICM,
 Berlin 1998, v. 2, 519-525
- 51) J.Bernstein and A.Reznikov
 Analytic continuation of representations and estimates
 of automorphic forms, Annals of Mathematics. 150 (1999), 329-352
- 52) J. Bernstein, A. Reznikov
 Sobolev norms of automorphic functionals,
 Internat. Math. Res. Notices, 2002:40, 2155-2174 (2002).

Chapters in Books

- 1) G.M.Adel'son-Velski v , J.Bernstein, M.L.Gerver
Estimation of the number of actions for the partial determination
of an order of a finite set of numbers.
Studies in Discrete Mathematics, Izdat "Nauka", Moscow, 184-188 (1973)
(in Russian).

- 2) J.Bernstein, P.Deligne
Le "centre" de Bernstein.
In "Representations des groups reductifs sur un corps local, Traveaux
en cours" (P.Deligne, ed.), Hermann, Paris, 1-32(1984).

Publications in Proceedings of Conferences

- 1) J.Bernstein, I.M.Gelfand, S.I.Gelfand
Differential operators on principal affine space and study of g -modules.
In "Lie groups and their representations" (I.M.Gelfand, ed.)
Akademiai Kiado,
Budapest 21-64 (1975).

- 2) J.Bernstein, A.Beilinson
A generalization of Casselman's submodule theorem.
In Proceedings of the conference "Representations of reductive Lie groups",
Park City, UTAH, April (1982),
Progr. Math. 40,35-52, Birkhäuser, Boston, Mass.(1983).

- 3) J.Bernstein
Trace in categories.
In the book "Operator algebras, Unitary representations, Enveloping algebras,
and Invariant theory", May 1989,
Progr.Math. 92,417-424, Birkhäuser, Boston (1990).

Others

- 1) J.Bernstein, A.A.Beilinson
Algebraic theory of D -modules
Preprint of lectures at Conference on D -modules at Luminy (1983).

- 2) J.Bernstein
Sackler lectures on Topological field theory,
Mortimer Sackler Institute, Tel Aviv University, (1992).