

CHERNUKH, A.M.; ALEKSANDROV, P.N.

Experimental data on the influence of some drugs on embryogenesis  
and cell division. Pat. fiziol. i eksp. terap. 9 no.3:41-44  
My-Je '65. (MIRA 18:9)

1. Otdel khimioterapii (zav.- prof. A.M. Chernukh) Instituta  
farmakologii i khimioterapii (dir.- deystvitel'nyy chlen  
AMN SSSR prof. V.V. Zakusov) AMN SSSR. Moskva.

ALEKSANDROV, P.N.; GRIBANOVSKIY, I.B.; CHERNUKH, A.M., prof.

The MF-2 microphotometer used as a cytophotometer. Pat.fiziol.  
i eksp. terap. 9 no.4:91-93 J1-Ag '65. (MIRA 18:9)

1. Otdel khimioterapii (zav. - prof. A.M.Chernukh) Instituta  
farmakologii i khimioterapii (direktor - deystvitel'nyy chlen  
AMN SSSR V.V.Zakusov) AMN SSSR, Moskva.

ALEKSANDROV, P.N.; BOGDANOVA, V.A.; CHERNUKH, A.M.

Teratogenic effect of the intermediate products of thalidomide  
synthesis on chicken embryos. Farm. 1 toks. 28 no.6:744-747  
N-D '65. (MIPA 19:1)

1. Otdel khimioterapii (zav. - prof. A.M.Chernukh) Instituta  
farmakologii i khimioterapii AMN SSSR, Moskva.

LITVINENKO, P.M., podpolkovnik meditsinskoy sluzhby; ALKESANDROV, P.P.,  
podpolkovnik

Keeping water in a hot climate. Voen.-med.zhur. no.7:38-39 J1 '57.  
(WATER SUPPLY (MIRA 11:1)  
preserv. of water in hot climate)  
(CLIMATE, eff.  
same)

RONINSON, M.Yu.; ALEKSANDROV, P.P.; FILIPPOVSKAYA, V.I.

Correct utilization of hospital beds. Sov.zdrav. 15 no.5:30-33  
S-O '56. (MIRA 10:1)

1. Iz bol'nitsy imeni Karla Marksa (Leningrad)  
(HOSPITALS  
distribution of beds in bed shortage & indic. for  
stay in hosp.)

*Aleksandrov P.P.*

RONINSON, M.Yu.; ALEKSANDROV, P.P. (Leningrad)

Reorganization of the hospitalization system. Sov.zdrav. 17 no.1:  
17-21 Ja '58. (MIRA 11:2)

(HOSPITALS,

reorganiz. of system of hospitalization (Rus))

ALEKSANDROV, P.P.; LEBEDEVA, B.A.; RONINSON, M.Yu. (Leningrad)

Work of a hospital council. Sov. zdrav. 20 no.8:58-63 '61.  
(MIRA 15:1)

1. Iz bol'nitsy imeni Karla Marksa, Leningrad.  
(HOSPITALS--ADMINISTRATION)

*ALEKSANDROV, P. P.*

137-1958-1-91

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 1, p 16 (USSR)

AUTHOR: Aleksandrov, P. P.

TITLE: Thorough Preparations Are the Key to Our Success (V khoroshey podgotovke zalog nashogo uspekha)

PERIODICAL: Kolyma, 1957, Nr 5, pp 14-15

ABSTRACT: Preparation of a number of placers for the 1957 washing season is described.

A. Sh.

1. Mines--Operation 2. Mining industry--USSR

Card 1/1



SHILO, Nikolay Aleksyeyevich; POTEKIN, S.V., zam.otv.red.; ALEKSANDROV, P.P., red.; APEL'TSIN, F.R., red.; BERNZIN, V.P., red.; KALABIN, A.I., red.; KUZNETSOV, G.G., red.; MATSUYEV, L.P., red.; NUZHIDIN, I.I., red.; FIRSOV, L.V., red.; FOMENKO, T.G., red.; SHAKHNAROVICH, L.A., red.

[Some principles for classifying placer deposits] Nekotorye printsipy rosnypnykh proiavlenii. Magadan, 1958. 20 p. (Magadan, Vsesoiuznyi nauchno-issledovatel'skii institut zolota i redkikh metallov. Trudy, Geologiya, no. 36). (MIRA 12:4)

(Ore deposits--Classification)

KARTASHOV, Isail Pavlovich; SHILO, B.A., otv. red.; POTENKIN, S.V., zam. otv. red.; ALEXANDROV, P.P., red.; APEL'SIN, F.R., red.; BERLIN, V.P., red.; KALABIN, A.I., red.; KUZNETSOV, G.G., red.; MITSUYEV, L.P., red.; NUZHDIK, I.I., red.; FIRSOV, L.V., red.; FOMERO, T.G., red.; SHAKHNAROVICH, L.A., red.

[Principles for making geomorphological prognosis maps of placer deposits] O printsipakh postroeniia geologo-geomorfologicheskikh prognostnykh kart rossyskoi. Magadan, 1958. 49 p. (Magadan, Vsesoiuznyi nauchno-issledovatel'skii institut zolota i redkikh metallov. Trudy. Geologiya, no.37).

(MIRA 12:4)

(Ore deposits--Maps)

MANUYLOV, Pavel Ivanovich; GALKIN, Georgiy Semenovich; SHILO, N.A.,otv.red.;  
POTEMKIN, S.V.,zam.otv.red.; ALEKSANDROV, P.P.,red.; APEL'TSIN, F.R.,  
red.; BEREZIN, V.P.,red.; KALABIN, A.I.,red.; KUZNETSOV, G.G.,red.;  
MATSUYEV, L.P.,red.; NUZHIDIN, I.I.,red.; FIRSOV, L.V.,red.;  
POMENKO, T.G.,red.; SHAKHNAROVICH, L.A.,red.

[Peat lifting by means of excavating machinery in stripping  
placer deposits in the Northeastern U.S.S.R.] Vskrysha torfov  
zemleroiynymi mashinami na priiskakh Severo-Vostoka SSSR.  
Magadan, 1958. 68 p. (Magadan. Vsesoiuznyi nauchno-issledovatel'-  
skii institut zolota i redkikh metallov. Trudy. Gornoe delo no.19)  
(MIRA 12:5)

(Soviet Far East--Gold ores) (Peat) (Excavating machinery)

FIRSOV, Lev Vasil'yevich; SHILO, N.A., otv.red.; POTEMKIN, S.V., zam.otv.red.;  
~~ALEKSANDROV, P.P., red.~~; APEL'TSIN, F.R., red.; BEREZIN, V.P., red.;  
KALABIN, A.I., red.; KUZNETSOV, G.G., red.; MATSUYEV, L.P., red.;  
NUZHDIN, I.I., red.; FOMENKO, T.G., red. (MIRA 12:4)

[Structure, morphology, and mineralization of the Igumenskoye gold deposit] Struktura, morfologiya, mineralogiya i orudnenie Igumenovskogo zolotorudnogo mestorozhdeniya. Magadan, 1958. 71 p. (Magadan, Vsesoiuznyi nauchno- issledovatel'skii institut zolota i redkikh metallov. Trudy, no.33)  
(Tengke Valley--Gold ores)

SOSNOVSKIY, Nikolay Pavlovich; KAZURINA, Nadezhda Mikhaylovna; SHILO,  
N.A., otv.red.; POTEKIN, S.V., zam.otv.red.; ALEKSANDROV, P.P.,  
red.; KUZNETSOV, G.G., red.; MATSUYEV, L.P., red.; MUZHIDIN, I.I.  
red.; FIRSOV, L.V., red.; FOMENKO, T.G., red.; SHAKHNAROVICH, L.A.,  
red.

[Treatment of hard to concentrate tin-tungsten ores] Obrabotka  
trudnoobogatimoi olovianno-vol'framovoi fudy. Magadan, 1958. 26 p.  
(Magadan, Vsesoiuznyi nauchno-issledovatel'skii institut zolota i  
redkikh metallov. Trudy. Obogashchenie i metallurgiya, no.28).

(MIRA 13:4)

(Tin ores) (Tungsten ores) (Ore dressing)

ALEKSANDROV, P.P.

Every task needs a creative approach. Dum.prom. 37 no.8:12-13  
Ag '62. (MIRA 17:2)

1. Glavnyy mekhanik Sagezhskogo kombinata.

ALEXANDER, P.S.

Onovykh techeniyakh matematicheskoy n. s. i., kandidatskiy i s. i. s. teoriy  
mnozhestv. Sb. nauch. i. l. nauch. i. l. (1946), 17-20  
Uto takoye neyevklidova geometriya? V kn. Nikolay Ivanovich Lobachevskiy  
M.-L. g. t. t. l. (1943), 31-86  
Les groupes de Eetti en unpoint. c. r. acad. sci., 193 (1934), 315-317  
K teorii topologicheskikh prostranstv. Dan, 2(1936), 51-54  
O porvatiy prostranstva v topologii. Uspokho matem. Nauk, 2:1 (17), (1947) 5-57  
Sur les ensembles de la premiere classe et les espaces abstraits. C. R. Acad. Sci.,  
173(1924), 185-187.  
Uber die Metrisation der im Kleinen kimpadten topologischen Raume. Math. Ann.,  
92 (1924), 294-301  
Obshchaya teoriya gomologiy. M., uchen. Zap. un-ta, 45(1940), 3-60  
General combinatorial topology. Trans. Amer. Math. Soc., 49 (1941), 41-105  
O gomologicheskikh svoystvakh raspolozheniya kompleksov i zamknutykh mnozhestv.  
IAN, ser. ma'em, 6 (1942), 227-282  
On homological situation properties of complexes and closed sets. Trans. Amer.  
Math. Soc., 54(1943), 286-339.  
Dimensions theorie. Ein beitraq zur geometrie der abgeschlossenen Mengen. Math.  
Ann., 106 (1932), 161-238  
Ueber die equivalenz des perronschen und des denjayschen integralbegriffes.  
Math. Z., 20 (1924), 213-222  
Russkaya matematika XIX, XX vv. I yeye vliyaniye na mirovuyu nauku. M., uchen.  
zap. un-ta, 91 (1947), 3-33  
Moskovskoye matematicheskoye obshchestvo. Uspokhi matem. Nauk, 1: 1 (11), 1946) 232-241

ALEKSANDRON, P.S. (continued)

SO: Mathematic in the USSR, 1917-1947  
Edited by Kurosh, A.G.,  
Markushevich, A.I.,  
Rashevskiy, I.I.  
Moscow-Leningrad, 1948



ALEKSANDROV P. S.

PA 10T58

USSR/Mathematics  
Academy of Sciences

Oct 1946

"Soviet Mathematics in the Forthcoming Five-Year  
Plan," P. S. Aleksandrov, Corresponding Member of  
Academy of Sciences, 12 pp

"Vestnik Akademii Nauk SSSR" Vol XVI, No 10

Discussion of relationship between theoretical and  
practical mathematics and the application of  
mathematics in science.

10T58

ALEKSANDROV, P.

PA4OT25

USSR/Mathematics - Geometry

Sep/Oct 1947

"Basic Theorems of Duplicity for Open Multiples of the N-th Dimension," P. Aleksandrov, Moscow, 72 pp

"Matematicheskii Sbornik" Vol XXI (63), No 2

Author discusses results of work he accomplished from Jan to May 1947 at Bolshevo, Komarovka. Sets up the general conditions for Aleksander-Pontryagin's laws of duplicity for closed multiples. Discusses the general law of duplicity for any multiples which lie within  $S^n$ . Discusses the duplicity of Bett's groups, limits of duplicity, and the Oshkuren polyhedron. Submitted at the 13 - 20 May 1947 session of the Moscow Mathematics Council.

4OT25

Aleksandrov, P. S. On the concept of space in topology.  
Uspehi matematicheskikh nauk (N.S.) 2, no. 1(17), 5-57 (1947).  
(Russian)

This is an exposition of the theory of regular topological spaces and their extensions and bicompatifications. It presents the principal work in this field of Urysohn, the author, Tychonoff, Čech, Kurosh, and Wallman; it is self-contained and very clear. Section 1 begins with Hausdorff spaces and a variety of separation properties, with emphasis on complete regularity. Section 2 gives the equivalent formulations of bicompatness; section 3 is devoted to the product of bicompacta and the imbedding in such products of given completely regular spaces. Section 4 deals with the maximal bicompat extension of completely regular spaces and other related extensions of regular spaces. Section 5 treats bicompacta as images of the dyadic continuum  $D$ , and introduces an analogous set  $F$ . This is also the product of  $\tau$  sets, each a pair of points. However, the pair is now chosen as a  $T$ -space, called a connected doublet, whose open sets are three: the null set, the pair of points, and one point of the pair. In section 6 the projection-spectrum is defined whose members are finite discrete spaces related by mappings. The barycentric subdivision of simplices is also treated here, the totality of successive subdivisions being interpreted as a spectrum. It is shown how bicompacta may be realized naturally as the limit spaces of spectra. In section 7 it is proved that the lower limit of the spectrum associated with an arbitrary normal space is the maximal bicompatification of that space.

L. Zippin (Flushing, N. Y.).

Source: Mathematical Reviews,

Vol 10 No. 6

ALEXANDROV, F

Александров, П. А. General law of ductility for necked specimens of arbitrary dimension. Изв. АН СССР, 1977, No. 5, pp. 767-770, 1 fig.

It is shown that the general law of ductility for necked specimens of arbitrary dimension, obtained by Alexander and his co-workers, is in agreement with the experimental data obtained by other authors for each metal and alloy. According to the results of the calculations, the average ductility of the specimens of the different metals and alloys for tensile tests  $\delta$  and the critical strains in a tensile test  $\delta_c$  are determined. It is shown that the groups  $\Delta$  and  $B$  generate the groups  $\Delta/B$  using the relations on any composition, modulus of elasticity, and yield strength. The critical strains  $\delta_c$  are determined in comparison with the critical strains  $\delta_{cr}$  obtained by other authors.

[illegible][illegible]

recently published work by S. Kaplan for the preceding review; the abstract for this appeared in *Am. Math. Soc.* **48**, 375 (1942)].  
*L. Zippin* (Rutgers Univ., N. Y.).

Source: Psychological Reviews,

Vol. 9 No. 8

Aleksandrov, P

Aleksandrov, P. Homology relations in domains of duality.  
Doklady Akad. Nauk SSSR, N° 57, 211-214 (1947).  
(Russian)

With the same notation as in other papers [see the two preceding reviews], definitions are as follows. A set  $A \subset S^n$  is an  $r$ -set if every true cycle  $z_r^p$  of the set  $A$  which is not compact bounding in  $A$  fails to bound in some neighborhood of  $A$ . It is a  $ur$ -set if this neighborhood exists independently of the cycle. Further,  $A$  is an  $gr$ -set if to every neighborhood  $\lambda$  of  $A$  there may be associated a neighborhood  $\lambda'$  of  $A$  such that every  $p$ -dimensional cycle of the open set  $\lambda'$  is homologous in  $\lambda$  to some true cycle of the set  $A$ . The set  $A$  is a homology-retract in dimension  $r$  (coefficients in  $\mathbb{Z}$ ) if it is  $ur$  and  $gr$ . It is shown that, if  $A$  is a homology retract in dimension  $p$  (coefficients in  $\mathbb{Z}$ ), then with  $B$  as coefficients for groups in  $B$ ,  $\Delta_p A$  and  $\Delta_p B$  are dual.

The set  $A$  has property  $J_p$  if there is a compactum  $\phi \subset A$  such that every  $p$ -dimensional true cycle of  $A$  is homologous to some true cycle of  $\phi$  and moreover if to each  $\phi_0 \subset A$  there is some  $\phi_1, \phi_0 \subset \phi_1 \subset A$ , such that every true cycle of  $\phi_0$  bounding in  $A$  also bounds in  $\phi_1$ . Now, for the case that  $\mathbb{Z} = \mathbb{Z}$ , both  $c$ ,  $\text{cl}ic \bmod m$ , a two-fold homology-retract  $\bmod m$  is defined as a set  $A$  which is a homology retract in all dimensions and moreover has property  $J_p$ . This class of sets is closed with respect to complementation; if  $A \subset S^n$  is in the class, so is  $B = S^n - A$ . The class includes all finite dimensional compacta of finite connectivity,  $\bmod m$ , and includes all "stripped" polyhedra. These comprise all sets formed by addition and subtraction of a finite number of ordinary polyhedra of arbitrary dimensions. The system of all two-fold homology retracts constitutes a domain of duality, in the sense of this paper; the construction of such a domain is the objective of the paper.

L. Zippin.

Jan 22

Source: Mathematical Reviews,

Vol 9 No. 8

*Theory of Sets, Theory of Functions of Real Variables*  
 by P. S. Aleksandrov, P. S. and Kolmogorov, A. N. Vvedenie v teoriyu mnozhestv i teoriyu funktsii. [Introduction to the Theory of Sets and the Theory of Functions. Part One] = Aleksandrov, P. S. Vvedenie v obshchuyu teoriyu mnozhestv i funktsii. [Introduction to the General Theory of Sets and Functions]. Gosdarstv. izdat. Teln.-Teor. Lit., Moscow-Leningrad, 1948. 411 pp.

This volume is the first of a two-volume treatise dealing with the foundations of latter-day mathematical analysis, designed for students of mathematics in Soviet universities and pedagogical institutes. The thesis is advanced that the broadest notions of set, topological space, continuity, and integral should find a place in the curriculum for all students of higher mathematics; that the study of these concepts only for the line and for  $n$ -space is, in view of the development of mathematics in the past half-century, an anachronism. Part one (written by Aleksandrov) deals with topics relating generally to cardinal number and continuity. Part two (written by Kolmogorov) is to treat the theory of integration and its applications to probability, functional analysis, dynamical systems, and the like. The volume under review furnishes powerful arguments in favor of the authors' thesis. It requires very little in the way of previous training.

Source: Mathematical Reviews,

Vol

No. 9

P. S. Aleksandrov Card 1 of 2

on the reader's part, covers the essential features of the classical theory of real functions, introduces the reader to a large number of modern concepts, and is written in a highly lucid, indeed, elegant style. All of the abstract concepts presented are illuminated by well-chosen examples. An outline of the topics handled will indicate the plan of the work. Chapter I: basic notions about sets, mappings, countable sets; ordered sets; cardinal equivalence of sets, the Schroeder-Bernstein theorem. Chapter II: definition of the real number system in terms of Dedekind cuts in the rational numbers. Chapter III: elementary properties of sets of real numbers. Chapter IV: basic properties of well-ordered sets, the axiom of choice; the well-ordering theorem (Zermelo's third proof is given); standard theorems on and classification of infinite cardinal numbers. Chapter V: elementary topology of the line and plane (all usual concepts are introduced and all standard theorems are proved). Chapter VI: continuous real-valued functions on the line; functions of bounded variation; the Weierstrass approximation theorem for closed intervals (Bernstein's proof is given; this is one of the few proofs in the book not admitting generalization to the most general context); derivatives. Chapter VII: definition of metric spaces, open and closed sets, closed sets, subspaces, dense and nowhere dense sets; compactness; countable bases; continuous mappings of metric spaces; general topological spaces; separation axioms. Chapter VIII: embedding theorems. Chapter IX: compact and complete metric spaces; compact topological spaces. In conclusion, one may observe that a book of this caliber, if generally accessible to the mathematical world, might well have a deep and beneficial influence on higher mathematical education.

*F. Hertz*

Source: Mathematical Reviews,

Vol 12 No. 4

*P. S. Aleksandrov Card 2 of 2*

ALEXANDROV, P. S.

Alexandroff, P. Die grundlegenden Eigenschaften der  
abgeschlossene Mengen des  $n$ -dimensionalen Euklidischen Raumes  
Sowjetwissenschaft 1948, no. 1, 176-243 (1948)  
Translated from Mat. Sbornik N.S. 21(63), 161-243  
(1947); these Rev. 9, 456

4  
Sets  
Topology  
Space

*(Smm)*  
*yy*



Aleksandrov, P. S. On the so-called quasiuniform convergence. *Uspehi Matem. Nauk (N.S.)* 3, no. 1(23), 213-215 (1948). (Russian)

The author proves the following theorem. Let a convergent sequence  $f_1, \dots, f_n, \dots$  of continuous mappings from a topological space  $X$  into a metric space  $Y$  be given. In order that the limit  $f$  of the sequence be continuous it is necessary and sufficient that, for each positive  $\epsilon$  and each natural number  $N$ , there can be found open sets  $\Gamma_0, \Gamma_1, \dots, \Gamma_k, \dots$  and natural numbers  $n_0, n_1, \dots, n_k, \dots$  satisfying the following conditions: (a) the sum of all the open sets  $\Gamma_k$  is all of  $X$ , (b) each  $n_k > N$  and (c) the distance from  $f(x)$  to  $f_{n_k}(x)$  is less than  $\epsilon$  for all  $x$  in  $\Gamma_k$ . M. M. Day.

Source: Mathematical Reviews,

Vol 9, No. 10

PA 69T63

ALEKSANDROV, P. S.

USSR/Mathematics - History

Mar/Apr 1948

"Concerning B. V. Gnedenko's Book 'Essays on the History of Mathematics in Russia' and N. I. Akhiezer's Criticism of This Book," P. S. Aleksandrov, 4 pp

"Uspekhi Matemat Nauk" Vol III, No 2 (24)

Exposition of history of mathematics in Russia, treated in such a manner as to be intelligible to higher classes in schools. Aleksandrov reviews it favorably and disagrees with Akhiezer's chief criticism viz. that only one theory of probability is described.

69T63

ALEKSANDROV, P. S.

PA 47/49T6

USSR/Astronomy  
Mathematics  
Chemistry

Feb 49

"Morning Meeting, Academy of Sciences USSR,  
7 January 1949 (Reports)" 11 pp

"Vest Ak Nauk SSSR" No 2

P. S. Aleksandrov, Corr Mem, Acad Sci USSR, re-  
porting on "The Soviet School of Mathematics,"  
briefly described historical development of  
USSR school of mathematics, which today ranks  
among foremost in the world. A. A. Mikhaylov,  
"Importance of the Pulkovo Observatory in the  
Development of Astronomy," discussed value

USSR/Astronomy (Contd.)

47/49T6  
Feb 49

of Pulkovo Observatory, which is again oper-  
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started operations on a 2,130-meter-high  
mountain near Kislovodsk. It is equipped with a  
coronagraph and a Maritz heliograph. Acad  
A. Ye. Arbutov, "Chemistry in Russia," presented  
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47/49T6

PA 47/49T6

ALEKSANDROV, P. S.

USSR/Astronomy  
Mathematics  
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47/49T6

USSR/Astronomy (Contd)

Feb 49

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coronagraph and a Marutov heliograph. Acad  
A. Ye. Arbutov, "Chemistry in Russia," presented  
a historical summary of USSR chemistry.

47/49T6

Aleksandrov, P. S. On the dimension of closed sets.  
*Dokl. Matem. Nauk (N.S.)* 4, no. 6(34), 17-28 (1949).  
(Russian)

The author explains that the present paper is a reworking of the material of another memoir [Math. Ann. 106, 161-238 (1932)]. It was in that memoir that he introduced the concept of homology-dimension of a compactum and of dimension according to a "variable modulus." [See chapter VIII of Hurewicz and Wallman, Dimension Theory, Princeton University Press, 1941; these Rev. 3, 312; the Russian translation of this text is cited as a general reference in the paper.] The revision was undertaken in order to make the earlier work more readily understandable by basing it upon current "text-book" knowledge. The author lists the sections of his "Combinatorial Topology" [OGIZ, Moscow-Leningrad, 1947; these Rev. 10, 55] which are to be regarded as preliminary to the paper and these, of course, are rather numerous. The exposition avoids the use of cohomology theory.

L. Zippin (Flushing, N. Y.).

Source: Mathematical Reviews, 1950 Vol. 11 No. 8

ALEKSANDROV, P.S.

Mathematical Reviews  
Vol. 15 No. 3  
March 1954  
Topology

7-13-54  
LL

①  
Math  
11  
\*Aleksandrov, P.S. Duality laws and dimension. Comptes Rendus du Premier Congrès des Mathématiciens Hongrois, 27 Août-2 Septembre 1950, pp. 329-357. Akadémiai Kiadó, Budapest, 1952. (Russian. Hungarian summary)

This is an account of problems originating in the field of the Pontryagin duality theorem and homological dimension-theory of the author. §1 sketches the ideas and some of the details of the duality theorem as developed in the author's work. Attention is drawn to work of Smirnov [see these Rev. 13, 268]. §2 on duality for non-closed subsets of  $S^n$  reports on work by the author [these Rev. 9, 52 and particularly 9, 456, 457], related theorems of Čogorvil, and mapping-theorems of Dowker [these Rev. 8, 594]. §3 on duality for closed  $A$  and complement  $R-A$  in a locally bicomact regular space  $R$ , discusses the duality theorems of the type of Alexander-Kolmogoroff. §4 on dimension and duality for compact  $F$  in euclidean  $n$ -space  $R^n$ , using finite integral-coefficient chains in  $R^n - F$  is concerned with local-obstacle theory, as initiated by the author in his classical paper on "Dimensionstheorie" [Math. Ann. 106, 161-238 (1932)]. Principal emphasis here is on work of Sitnikov [these Rev. 11, 45, 676].

§5 is on "algebraic" problems in dimension-theory associated with homology theory of dimension according to different coefficient groups. Here principal topics are dimension of topological product as worked out by Bokstein [reported in these Rev. 10, 316], the example of Boltyanskii [these Rev. 11, 45] and his work on "full-valuedness" of compacta [these Rev. 11, 195] which defines those compact

Aleksandrov, P. S. 2/1

sets that can figure in topological products whose Urysohn-Menger dimension is always the sum of the separate dimensions of the factors.

The final miscellaneous §6 discusses the problem of dimension-raising maps of special types: e.g., the problem of the existence of an open map of a cube of one dimension on a cube of higher dimension or on a compact set of higher dimension. A footnote added in proof announces that L. Keldyš [cf. these Rev. 14, 71] has just constructed a monotone map of a 3-cube on a 4-cube. In this section, the author reviews results in dimension theory of non-separable spaces, calling especial attention to examples by Lunc [these Rev. 11, 46] and Lokucievskii [these Rev. 11, 46] dealing with possible disparity between covering-dimension and inductive-dimension. He raises the question whether these may not be necessarily equal for non-separable metric spaces.

All of the problems mentioned in this final section of the paper dealing with dimension-raising mappings have been announced as settled in the affirmative, and in essentially complete generality, by R. D. Anderson [see Bull. Amer. Math. Soc. 58, 393, 465-466, 661 (1952); 59, 247-248 (1953); and Trans. Amer. Math. Soc. 73, 211-222 (1952); these Rev. 14, 305]. L. Zippin (Elushing, N. Y.).

7-13-54 LL

ALEXANDROV, P. S.

203

Aleksandrov, P. S. / Obituary: Pavel Samuilovich Uryson.  
Uspehi Matem. Nauk (N.S.) 5, no. 1(35), 196-202  
(1 plate) (1950). (Russian)

204

Source: Mathematical Reviews. 1950 Vol. 11 No. 8



ALEKSANDROV, P. S.

PA172T100

USSR/Physics - Academy of Sciences

Sep/Oct 50

"Vyacheslav Vasil'yevich Stepanov, Deceased,"  
P. S. Aleksandrov

"Uspekhi Matemat Nauk" Vol V, No 5. (39), pp 3-10

Stepanov, Prof, Moscow U, Corr Mem, Acad Sci USSR,  
Honorary Mem, and Vice-Pres, Moscow Math Soc, died  
22 Jul 50. He was one of most outstanding Soviet  
mathematicians. He was born 4 Sep 1889 in Smolensk.  
Lists 45 works, done between 1916 and 1949.

172T100

ALEKSANDROV, P. S.

~~Aleksandrov, P. S., and Uryson, P. S. On compact topological spaces. Trudy Mat. Inst. Steklov. 31, 95 pp. (1950). (Russian)~~

This is a revised second edition (in Russian, however) of the celebrated, but not easily accessible, article by Urysohn and Alexandroff, "Mémoire sur les espaces topologiques compacts" [Verh. Kon. Akad. Wetensch. Amsterdam. Afd. Natuurk. Sect. 1. 14, no. 1 (1929)]. There is a foreword by Alexandroff, and each of the five chapters has a concluding page of comments by him. The revision is said to be entirely in the nature of a reexposition, following very closely on the lines of the older paper. It is of interest that the material of this remarkable paper was the work of the year 1922, the results being announced in the next few years in the Bulletin International de l'Académie Polonaise des Sciences et des Lettres and the Mathematische Annalen. L. Zippin (Brooklyn, N. Y.).

SMW  
Jed

Source: Mathematical Reviews,

Vol. 13 No. 3

Aleksandrov, P., and Smirnov, K. On continuous mappings of closed manifolds. Doklady Akad. Nauk SSSR (N.S.) 71, 821-823 (1950). (Russian)

This note considers  $\alpha$ -maps (inverse-sets of diameter less than a given  $\alpha > 0$ ) in the light of a theorem of Kuratowski cited in the preceding review. The following theorems are stated, the first as easy, the second with some discussion. (1) Let  $X$  be a compact neighborhood retract lying in a Euclidean or a Hilbert space. There is an  $\alpha > 0$ , such that every  $\alpha$ -map of  $X$  into any compactum  $Y$  induces an isomorphic map of the Betti groups of  $X$  into the corresponding groups of  $Y$ . Here one can choose for  $\alpha$  any number such that an  $\alpha$ -neighborhood  $O(X, \alpha)$  of the set  $X$  in  $\mathbb{R}^n$  can be retracted to  $X$ . (2) If  $X$  is an oriented  $n$ -dimensional closed pseudo-manifold lying in a Euclidean or a Hilbert space, then there is an  $\alpha$  such that from the existence of an  $\alpha$ -map  $f$  of  $X$  onto any closed pseudomanifold  $Y$  it follows that  $Y$  is orientable and that  $f$  is of degree  $\pm 1$ . Here  $\alpha$  can be chosen as any positive number less than the "existence-measure" of the basic  $n$ -dimensional cycle of the pseudo-manifold  $X$ . If  $X$  is an  $n$ -dimensional homological orientable manifold, then there is an  $\alpha > 0$  such that an  $\alpha$ -map  $f$  of  $X$  onto an arbitrary homology manifold  $Y$  implies that  $X$  and  $Y$  are homologically equivalent and that  $f$  induces an isomorphism of the Betti groups of  $X$  and corresponding groups of  $Y$ . Here  $\alpha$  can be chosen as any positive number such that an  $\alpha$ -neighborhood of  $X$  can be retracted to  $X$  [obviously every such  $\alpha$  is less than the existence-measure of the basic cycle of the manifold  $X$ ].

L. Zippin.

*[Handwritten signature]*

Source: Mathematical Reviews.

Vol. 11 No. 9

ALEKSANDROV, P.S., redaktor; MARKUSHEVICH, A.I., redaktor; KHINCHIN, A.Ya.,  
redaktor; RYVKIN, A.Z., redaktor; MURASHOVA, N.Ya., tekhnicheskii  
redaktor

[Encyclopedia of elementary mathematics] Entsiklopediya elementar-  
noi matematiki. Pod red. P.S.Aleksandrova, A.I.Markushevicha i A.IA.  
Khinchina. Moskva, Gos. izd-vo tekhniko-teoret. lit-ry. Vol. 2..  
Algebra. 1951. 424 p. (MLRA 7:10)  
(Algebra)

ALEKSANDROV, P. S.

"New Demonstration of Pontryagin's Law of Duality," Usp. Mat. Nauk Vol. 6  
No. 4 (44), pp 193-220, 1951.

U-1635, 16 Jan 52

Aleksandrov, P. S.

Aleksandrov, P. S. The present status of the theory of dimension. Uspehi Matem. Nauk (N.S.) 6, no. 5(45), 43-68 (1951). (Russian)

This article contains a rather complete survey of the present development of dimension theory; several problems are stated. Typical topics: interrelations of different definitions of the dimension, and the relations between the dimension of a space and properties of its ring of (bounded) continuous functions (§1); various mapping classes which increase (decrease) the dimension (§2); theorem on  $\pi$ -transformation into a polytope and its generalizations (§3); essential mappings (§4); various definitions of the dimension based on the homology theory (§§5, 8); problems concerning the dimension of the topological product of two spaces (§§6, 7). In §§9 and 10, some results are stated concerning new aspects of the homological theory of dimension, which are due to K. Sitnikov.

M. Kalliov (Ugare).

Source: Mathematical Reviews,

Vol 13 No. 8

ALEKSANDROV, P.

Topology

Components of maximum biconnected expansions; Uch. zap. Mosk. un. no. 148, 1951.

Monthly List of Russian Accessions, Library of Congress, May 1952, UNCLASSIFIED.

ALEKSANDROV, P. S., MARKUSHEVICH, A. I., and KHINCHIN, A. Ya.

Entsikolpediya Elementarnoy Matematiki Moscow, 1952- v. (In 3 volumes)  
Fundamental concepts of mathematics, from arithmetic through calculus; published  
by the State Publishing House of Technical-Theoretical Literature.  
(For Holdings see ID card)



ALEKSANDROV, P. S.

Mathematical Reviews  
Vol. 15 No. 4  
Apr. 1954  
Analysis

8-24-54.  
LL

\*Aleksandrov, P. Sz., és Kolmogorov, A. N. Bevezetés a halmazelméletbe és a függvénytanba. Első rész. [Introduction to the theory of sets and the theory of functions. Part one.] = Aleksandrov, P. Sz. Bevezetés a halmazok és függvények általános elméletébe. [Introduction to the general theory of sets and functions.] Akadémiai Kiadó, Budapest, 1952. 276 pp. 45 Ft. Translation by Gy. Bizám of Aleksandrov's Vvedenie v obščuyu teoriyu množestv i funkcií [Gostehizdat, Moscow-Leningrad, 1948; these Rev. 12, 682].

ALEKSANDROV, I. S.

USSR/Mathematics - Topology Survey

Feb 52

"Certain Fundamental Trends in the Development of  
Soviet Topology," P. S. Aleksandrov, Chair of  
Higher Geometry and Topology

"Vest Moskov U, Ser Fiz, Mat, i Yest Nauk" No 1,  
pp 3-33

Surveys work of Russian geometers from 1920 to  
recent time. States that theory of dimensions de-  
veloped by P. S. Uryson in 1921 laid the basis of  
Soviet topology, differential geometry and func-  
tional analysis and that notion of bicomact space  
introduced by Soviet topologists is basic in con-  
cept of modern mathematics. Received 29 Dec 50.

242T85

ALEKSANDROV, P. S.

Mathematicians

Prizes of the Moscow Mathematics Society  
for young mathematicians. Vest. Mosk. un 7,  
No. 5, 1952.

Monthly List of Russian Accessions, Library of Congress, November 1952. UNCLASSIFIED.

ALEKSANDROV, P.

Pontriagin's topological law of duality. Uch.zap.Mosk.un.  
no.163:3-29 '52. (MLRA 8:5)  
(Topology)

Alekszandrov, P. Sz.

Alekszandrov, P. Sz. The notion of space in topology,  
Magyar Tud. Akad. Mat. Fiz. Oszt. Közleményei 3,  
173-188 (1953). (Hungarian)

Lecture given 15 Dec. 1952 at the János Bolyai Mathe-  
matics Club's celebration of the 150th anniversary of  
Bolyai's birth.

Mathematical Reviews

May 1954

Topology

ALEKSANDROV, P.S.

Review of 'Encyclopedia of Elementary Mathematics', Symposium. Uspekhi. Mat. Nauk, Vol 8, No. 1 (53), pp 188-205, Jan/Feb 53.

The 'Entsiklopediya Elementary Matematiki' was edited by P.S. Aleksandrov, A.I. Markushevich, and A. Ya. Khinchin, and published by State Tech. Press, M-L, 1951-52. The first three volumes have appeared (I. Arithmetic, 448 pages, 12-55 rubles; II. Algebra, 424 pages, 12.40 rubles; III. Functions and Limits (Principles of Analysis), 559 pages, 13.10 rubles). Reviews of these volumes are given by A.G. Kurosh, G.P. Tolstov, S.V. Fomin, followed by comments of A.I. Fetisov, A.N. Kolmogorov, I.V. Proskuryakov, P.Ya. Dorf, P.S. Aleksandrov, I.M. Yaglom, A.S. Parkhomenko, A.I. Uzkov, V.V. Menytskiy, A.P. Yushkevich, and letter of V.L. Goncharov. 250T/9

In the second reference A. D. Aleksandrov of the Leningrad State University reviews the two volumes thus far published, criticising the lack of accomplishment most severely. His opinion and criticism are summarized in the following:

"The books as a whole do not meet the need for which they were intended. There are felicitous places in them, but the leading articles, devoted to the foundations of arithmetic and algebra, are dissociated from the real needs and tasks of school teaching and are of no use to the teachers for whom the Encyclopedia is intended. The Gostekhizdat (State Publishing House) should suspend publication of the Encyclopedia. The entire plan and organization of the Encyclopedia should be radically reviewed."

SO: Sovetskaya Kniga #5, p. 19-25, 1952 UNCLASSIFIED.

~~KOLMOGOROV, Andrei Nikolaevich, professor, akad. nat. nauk~~; ALEKSANDROV, P.S.;  
KHINCHIN, A.Ya.

Andrei Nikolaevich Kolmogorov; 50th anniversary of his birth. Usp.mat.  
nauk 8 no.3:176a-200 My-Je '53. (MLRA 6:7)

1. Akademiya nauk SSSR (for Kolmogorov).  
(Kolmogorov, Andrei Nikolaevich, 1903- ) (Mathematics--Bibliography)  
(Bibliography--Mathematics)

ALEKSANDROV, P.S.

PETROVSKIY, I.G.; VOVCHENKO, G.D.; SALISHCHEV, K.A.; SERGEYEV, E.M.;  
MOSKVITIN, V.V.; SRETENSKIY, L.V.; GEL'FOND, A.D.; GOLUBEV, V.V.;  
ALEKSANDROV, P.S.; SOBOLEV, S.I.; BAKHVALOV, S.B.; OGUBALOV, P.M.;  
KREINIS, M.A.; MYASNIKOV, P.V.; ZHIDKOV, M.P.; GAL'PERN, S.A.;  
ZHEGAJKINA-SLUDSKAYA, M.A.

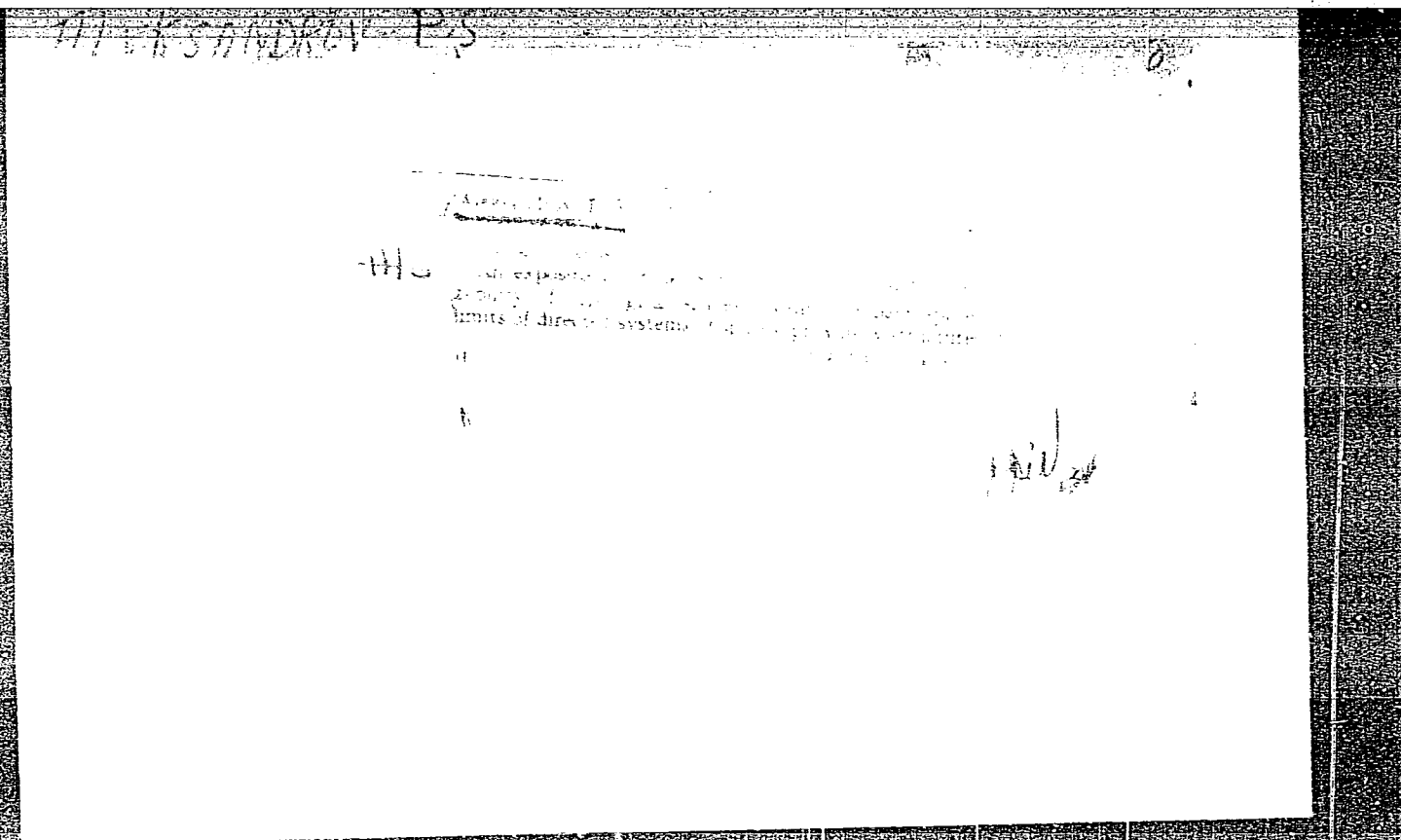
Vsevolod Aleksandrovich Kudriavtsev; obituary. Vest.Mosk.un. 8  
no.12:129 D '53. (MLRA 7:2)  
(Kudriavtsev, Vsevolod Aleksandrovich, 1885-1953)



ALEKSANDROV, P. (Moscow).

Combinatorial topology of non-closed sets. Mat.sbor. 33 no.2:241-260 S-0  
'53. (MIRA 6:9)

(Topology) (Aggregates)



ALEKSANDROV, P. S.

USSR/Scientific Organization

Card 1/1 Pub. 124 - 7/26

Authors : Aleksandrov, P. S., Academician

Title : ~~From the experiments of the Moscow Topological School~~  
From the experiments of the Moscow Topological School

Periodical : Vest. AN SSSR 10, 34-38, Oct 1954

Abstract : The history of the Moscow Topological Institute is described. The achievements of the Institute, since its establishment, are listed. Names of persons who mostly contributed to the development of the Topological Institute are given.

Institution : Topological Institute, Moscow

Submitted : .....

ALEKSANDROV, P.S.

USSR/Miscellaneous - Conferences

Card 1/1      Pub. 124 - 7/26

Authors      : Aleksandrov, P. S., Academician

Title        : The International Mathematicians Congress

Periodical   : Vest. AN SSSR 12, 52-54, Dec 1954

Abstract     : Notes and observations of the Soviet delegate to the International Mathematicians Congress held on September 2-9, 1954 in Amsterdam, Holland are presented. Names of foreign mathematicians attending the congress are listed.

Institution   : ...

Submitted    : ...

ALEKSANDROV, P.S.

✓ Aleksandrov, P. On certain new achievements in the  
combinatorial topology of nonclosed sets. Fund. Math. 1 - F/V  
41, 68-88 (1954). (Russian)

MS Expository article. The author describes briefly the history of the problems of the combinatorial theory of non-closed sets, beginning with the program he outlined at the 1935 topology conference in Moscow; then contributions of Kuratowski, Čech, Čogolovi, Dowker, Henningsson, and Mišenko are sketched. The main part of the paper is an exposition of the results of Sitnikov on dimension properties of arbitrary subsets of  $E^n$ , the invariance and duality theorems of Sitnikov and the author, and the relation between these [for most of these results cf. P. Aleksandrov, Mat. Sb. N.S. 33(75), 241-260 (1953); MR 16, 503; and K. A. Sitnikov, ibid. 34(76), 3-54 (1954); MR 16, 736]. Several problems of importance for topology of arbitrary subsets of  $E^n$  are formulated: Can the Sitnikov duality be expressed without using cohomology? Is there a homology characterization, based on arbitrary coverings, of dimension? Are the groups  $\Delta_n(A, \mathbb{Z})$  (homology with compact carriers) topological invariants of the complement of  $A$ ?

H. Samelson (Ann Arbor, Mich.).

LFH

ALEKSANDROV, P. S.  
USSR/Mathematics

Card : 1/1

Authors : Aleksandrov, P. S., Academician

Title : About certain consequences of the second law of the Sitnikov duality

Periodical : Dokl. AN SSSR, 96, Ed. 5, 885 - 887, June 1954

Abstract : There are considered 3 groups (of sets) -  $\Delta^p A$ ,  $C^p A$  and  $M^p A$  - duality of which was proved either with the help of Sitnikov's second law of duality, or by application of the principle of homeomorphism. The second method permits the author to make the following statements: The homeomorphism and the isomorphisms of sets are identical; all properties of a group, which can be expressed through the homeomorphism, can be dualized; some unsolved questions on geometricity of certain group characters (elements) can now be solved. Five references.

Institution : ....

Submitted : April 17, 1954

ALEKSANDROV, P.

USSR/Mathematics - Topology, homeomorphism

Card : 1/1 Pub. 22 - 1/48

Authors : Alexandroff, P., academician

Title : About homeomorphism of point sets

Periodical : Dok. AN SSSR 97/5, 757 - 760, August 11, 1954

Abstract : Conditions, under which the geometric spectra of the  $A \subseteq R^n$  and  $A' \subseteq R^{n'}$  sets became homeomorphic, are investigated. Here,  $R^n$  is n-dimensional Euclidean space; A is a polyhedron, i. e., a body of a certain triangulation. Definitions for a polyhedron, a triangulation and a geometric spectrum are given. Three references (1935-1954).

Institution : ...

Submitted : ...

16(1)

PHASE I BOOK EXPLOITATION

SOV/3063

Aleksandrov, P. S.

Topologicheskiye teoremy dvoystvennosti, Ch 1: Zamknutyye mnozhestva (Topological Theorems of Duality, Pt. 1: Closed Sets) Moscow, AN SSSR, 1955. 110 p. Errata slip inserted. 2,500 copies printed. (Series: Akademiya nauk SSSR, Matematicheskii institut imeni V. A. Steklova. Trudy, 48)

Resp. Ed.: I. G. Petrovskiy, Academician; Deputy Resp. Ed.: S. M. Nikol'skiy, Professor; Ed. of Publishing House: K. P. Gurov; Tech. Ed.: T. V. Polyakova.

PURPOSE: This book is intended for mathematicians, particularly those specializing in topology.

COVERAGE: This book constitutes Part One of a 2-volume work on topological theorems of duality for sets lying in euclidian spaces. Part One discusses the case of closed sets (the Pontryagin theorem of duality in  $\Delta$ -form); Part Two will discuss the general case of non-closed sets. This volume contains all the auxiliary theorems of combinatorial topology, and may serve as an introduction to the field of combinatorial topology.

Card 1/4



Topological Theorems (Cont.)

SOV/3063

No personalities are mentioned. There are 3 Soviet references.

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Card 2/4

Topological Theorems (Cont.)

SOV/3063

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Card 3/4

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SOV/3063

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3. The combinatorial case of the law of Pontryagin duality in $\Delta$ -form	96
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AVAILABLE: Library of Congress (QA1.A4)

Card 4/4

AC/os  
3/17/60

Aleksandrov, P.S.

ends

✓ Aleksandrov, P. S. The present status of the theory of dimension. Amer. Math. Soc. Transl (2) 1 (1955), 1-26. 1 - P/W  
Translated from Uspehi Mat. Nauk (N.S.) 6 (1951), no. 5(45), 43-68; MR 13, 764.

RAW  
2/22

ALEXANDROV, P. S.

Aleksandrov, P. S. On homeomorphism of point sets.  
Izudy Moskov. Mat. Obšč. 4, 405-420 (1955). (Russian)

I. P. W.

An abstract spectrum consists of an inverse system of star-finite simplicial complexes, where the maps  $\pi_\alpha^\beta$  involved associate with any vertex of the complex  $\beta$  the set of vertices of some simplex of  $\alpha$  ( $\beta > \alpha$ ), and where the composition property  $\pi_\alpha^\beta \cdot \pi_\beta^\gamma = \pi_\alpha^\gamma$  holds for the vertices of the complex  $\gamma$  ( $\gamma > \beta > \alpha$ ). A cofinal part is defined in the natural fashion (the projections  $\pi_\alpha^\beta$  of a cofinal part can differ from the  $\pi_\alpha^\beta$  but satisfy  $\pi_\alpha^\beta \in C\pi_\alpha^\beta$ ). The triangulations (locally finite simplicial polyhedra) containing a given set  $E$  in Euclidean space  $R^n$  form the geometrical spectrum of  $E$  in  $R^n$ , under appropriate definition of ordering and of the maps  $\pi_\alpha^\beta$  (a vertex of  $\beta$  goes into the set of vertices of its carrier in  $\alpha$ ). Main theorem: Two subsets  $E$ , resp.  $E'$ , of  $R^n$ , resp.  $R^n$ , are homeomorphic if and only if there exists an abstract spectrum, which has two cofinal parts  $s$ , resp.  $s'$ , which also are cofinal parts of the geometrical spectrum of  $E$ , resp.  $E'$ . The proof rests on the consideration of the space associated with an abstract spectrum (constructed on the model of inverse limit spaces) and of several related types of spectra, associated with a set  $E$  in  $n$ -space. H. Samelson.

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#224

ALEKSANDROV, P.S.

Mathematics at Moscow University in the first half of the 20th  
century. Ist.-mat.issl.no.8:9-54 '55. (MLRA 9:6)  
(Moscow University) (Mathematics--History)

Aleksandrov, P. S.,

Aleksandrov, P. S., and Lyapunov, A. A. Lyudmila I. F. 7

Vsevolodovna Keldys (on her fiftieth birthday). Uspehi

Mat. Nauk 10, no. 2(64), 217-223 (1 plate) (1955)

(Russian)

A list of her published papers is included

*ALEKSANDROV, P.S.*

ALEKSANDROV, P.S.; PETROVSKIY, I.O., akademik; NIKOL'SKIY, S.M., professor

Topological theorems of duality. Part 1. Closed sets. Trudy Mat.  
inst. no.48:5-110 '55. (MLRA 8:11)

(Topology)



Aleksandrov, P. S.

2

Aleksandrov, P. S. Nondualizability of Betti groups

based upon finite coverings. Dokl Akad Nauk SSSR (N S. 105 (1955), 5-6. (Russian)

Aleksandrov, P. S. Correction to the paper "The nondualizability of Betti groups based upon finite coverings". Dokl Akad Nauk SSSR (N S. 107 (1956), 357. (Russian)

In connection with the general duality theorems proved by the author and by S. L. Novikov, the author presented to show that the Betti groups of two finite polyhedra are not "dualizable" if there are two sets in the  $n$ -sphere with homeomorphic complements, but with non-isomorphic  $H_j$ -groups. For  $n=2$  the two sets are  $A$ , a half-open segment, and  $A'$ , a disc from the boundary of which one point has been removed. The group  $H^2(A')$  is shown to be non-zero via mappings into the 2-sphere (Dowker's theorem). In the case of the upper half plane, the group is the same.

1/24 10

the case of the upper half plane, the group is the same. The author's definition is a different one. H. Samelson, Ann. of Math. (2) 64 (1956), 1-10.

ALEKSANDROW, Pavel Sergeyevich; NEMYTSKIY, Viktor Vladimirovich; VOVCHENKO, G.D., professor, redaktor; GUKOVSKAYA, V.A., redaktor; KOVNATOR, B.A., redaktor; MULIN, Ye.V., tekhnicheskiy redaktor.

Viacheslav Vasil'evich Stepanov. Moskva, Izdatel'stvo Moskovskogo universiteta, 1956. 58 p. (MLRA 9:5)  
(Stepanov, Viacheslav Vasil'evich, 1889-1950)

ALEXANDROV, P. S.

4

Math

16

2

★ Alexandroff, P. S.; Markuschewitsch, A. I.; and Chini-  
schin, A. I. Enzyklopädie der Elementarmathematik  
Band II, Algebra. Vierter Teil.  
Verlag der Wissenschaften, Berlin, 1961.  
A translation of Enciklopediya matematicheskoi  
matiki, v. 2 [Gos'chizdat, Moscow, 1961].

Math

LOBACHEVSKIY, Nikolay Ivanovich, akademik; ~~ALEKSANDROV, P.S.~~, akademik,  
redaktor; DELONE, B.N., redaktor; RASHEVSKIY, P.K., redaktor;  
GUROV, K.P., redaktor-izdatel'stva; KISELEVA, A.A., tekhnicheskiy  
redaktor

[Selected works on geometry] Izbrannye trudy po geometrii. Red.  
P.S.Aleksandrova, 1 dr. Moskva, Izd-vo Akademii nauk SSSR, 1956.  
595 p. (MLRA 9:11)

1. Chlen-korrespondent AN SSSR (for Delone)  
(Geometry)

*Aleksandrov, P.S.*

44-1-226

TRANSLATION FROM: Referativnyy zhurnal, Matematika, 1957, Nr 1,  
p. 32 (USSR)

AUTHOR: Sitnikov, K.A. , Aleksandrov, P.S.

TITLE: Combinatorial Topology of Open Sets (Kombinatornaya  
topologiya nezamknutykh mnozhestv)

PERIODICAL: Tr. 3-go Vses. matem. s"yezda, 2, Moscow, AN SSSR  
1956, pp 49-51

ABSTRACT: Bibliographic entry

Card 1/1

ALEKSANDROV, P.;SAMARSKIY, A.;SVESHNIKOV, A.

Andrei Nikolaevich Tikhonov; on the occasion of the 50th anniversary  
of his birth. Usp. mat. nauk 11 no.6:235-245 N-D '56. (MIRA 10:3)  
(Tikhonov, Andrei Nikolaevich, 1906)

ALEKSANDROV, P.S.

Congress of Austrian mathematicians. Vest.AN SSSR 26 no.12:89-90  
D '56. (MLBA 10:1)

(Vienna--Mathematics--Congresses)

ALEXANDROV, P.

Aleksandrov, P. On two theorems of N. S. Aronszajn

Math. Ann. 152 (1952), 152-166; MR 14, 303

Let  $R$  be a completely regular  $T_0$ -space.

He has proved the following two theorems [Mat. Sb. N. S.

31(73) (1952), 152-166; MR 14, 303] (I) Two bicompact

extensions  $b^*R$  and  $b^{**}R$  of  $R$  are different if and only if

$R$  contains two closed subsets whose closures in one of the

extensions intersect and whose closures in the other ex-

tension do not intersect. (II) The space  $R$  admits at least

two different bicompact extensions if and only if it con-

tains two linearly separated nonempty closed

subsets. A special case of II was proved by H. Hodel

in 1951 (Fund. Math. 46, 1-64). See also Hodel, ibid.

47, 1-10 (1955). Very surprising proof of theorems I and II are given

in the present paper. *E. Hewitt, The Washing-*



*Aleksandrov P.*

Mirvka, S. Remark on P. Aleksandrov's work "On  
two theorems of Ya. Smirnov". Fund. Math. 43 (1956),  
399-400 (Russian) *76*  
Still another proof of theorem (I) of the paper reviewed  
above. *E. Hewitt (Seattle, Wash.).*

*2*  
*1-FW*

*Sm*

ALEKSANDROV, P.S., akademik.

Correction to the paper "The nondualisibility of Betti Groups  
based on finite coverings." Dokl.AN SSSR 107 no.3:357 Mr '56.  
(Groups, Theory of) (Topology) (MLRA 9:7)

ALEKSANDROV, P.S.

PHASE I BOOK EXPLOITATION

153

Moskovskoye matematicheskoye obshchestvo

Trudy, t.6 (Transactions of the Moscow Mathematical Society, v.6)  
Moscow, Gostekhizdat, 1957. 485 p 1,550 copies printed.

Editors: Aleksandrov, P.S.; Gel'fand, I.M.; Golovin, O. N.  
Ed. of v. 6: Lapko, A.F.; Tech. Ed.: Gavrilov, S.S.;  
Corrector: Yedskaya, I.L.

PURPOSE: This book presents original papers submitted to the  
Moscow Mathematical Society and is intended for mathematicians  
and others with strong mathematical backgrounds.

Card 1/17

ALEKSANDROV, P.S.

Convention of mathematicians in Austria. Usp.mat.nauk 12 no.2(74):243  
Mr-Ap '57. (MIRA 10:7)  
(Vienna--Mathematics--Congresses)

ALEKSANDROV. P.

AUTHOR: ALEKSANDROV P, PASYNKOV B.

42-5-4/17

TITLE: Elementary Proof That the Identical Mapping of a Simplex is Essential (Elementarnoye dokazatel'stvo sushchestvennosti tozhdestvennogo otobrazeniya simpleksa)

PERIODICAL: Uspekhi Mat.Nauk, 1957, Vol.12, Nr.5, pp.175-180 (USSR)

ABSTRACT: With the aid of Sperner's lemma (there exists at least one simplex of the triangulation  $\mathcal{T}$  of the simplex  $T^n$  with the property that to its vertices there correspond only different - and consequently all - vertices of the simplex  $T^n$ ) and the Lebesgue's lemma for open coverings the authors give two proofs (one of Aleksandrov and one of Postnikov) of the theorem: The identical mapping of the closed simplex onto itself is essential. Both proofs are indirect and very simple.

SUBMITTED: October 18, 1956

AVAILABLE: Library of Congress

1. Topology 2. Conformal Mapping

Card 1/1

ALEKSANDROV, P.S.

AUTHOR: ALEKSANDROV, P.S., GOLOVIN, O.N.

42-6-2/17

TITLE: The Moscow Mathematical Society (Moskovskoe matematicheskoye obshchestvo)

PERIODICAL: Uspekhi Matematicheskikh Nauk, 1957, Vol.12, Nr.6, pp.9-46 (USSR)

ABSTRACT: This is a report on the activity of the Moscow Mathematical Society during the last 90 years (foundation: 1867). The principal part of the report concerns the time after 1917. But also the time before the revolution is mentioned. Beside of general historical considerations relating to the Society, one finds a number of interesting statistical data (members: 1867: 12, 1913: 91, 1924: 72, 1940: 160, 1957: 261) and the following lists: 1. A complete enumeration of the lectures read by N.Ye. Zhukovskiy in the Society (1873-1920, all together 114 ones), 2. An incomplete list of deliveries from 1867-1917, 3. List of the 37 possessors of prizes distributed by the Society (1935-1956), 4. List of all deliveries from 1917-1946. The Society publishes the periodicals "Matematicheskii sbornik", "Uspekhi matematicheskikh nauk" and the "Trudy Moskovskogo matematicheskogo obshchestva".

Card 1/2 The authors mention shortly the activity of the sections of

The Moscow Mathematical Society

42-6-2/17

the Society arisen during the war in Kazan', Tashkent,  
Ashkhabad and Sverdlovsk.

AVAILABLE: Library of Congress

Card 2/2

*Aleksandrov, P. S.*

42-6-15/17  
AUTHOR: ALEKSANDROV, P. S., VEKUA, I. N., KELDYSH, M. V., LAVRENT'YEV, M. A.  
TITLE: Vladimir Ivanovich Smirnov (to his 70<sup>th</sup> Birthday) (Vladimir  
Ivanovich Smirnov (k semidesyatiletiyu so dnya rozhdeniya)  
PERIODICAL: Uspekhi Matematicheskikh Nauk, 1957, Vol. 12, Nr. 6, pp. 197-205 (USSR)  
ABSTRACT: This is a short biography of V. I. Smirnov with an appreciation  
of his mathematical and pedagogical merits. A complete list  
of his publications with 109 numbers and a photo of the  
celebrator of the jubilee are given.

AVAILABLE: Library of Congress

Card 1/1



AUTHOR: ALEKSANDROV, P.S., GLUSHKOV, V.M. 42-1-9/13  
TITLE: Aleksandr Gennadievich Kurosh (On the Occasion of his 50<sup>th</sup>  
Birthday) (Aleksandr Gennadievich Kurosh (K pyatidesyatiletuyu  
so dnya rozhdeniya))  
PERIODICAL: Uspekhi Matematicheskikh Nauk, 1958, Vol 13, Nr 1, pp 217-224 (USSR)  
ABSTRACT: This is a short biography, a summary of the scientific work  
and an appreciation of the merits of Kurosh as researcher  
and prominent pedagogue. The paper contains a list of scientific  
publications (ordered with respect to the years) with  
altogether 43 numbers and a photo of the celebrator of the  
jubilee.

AVAILABLE: Library of Congress  
Card 1/1 1. Biography 2. Scientific reports

ALEKSANDROV P. S.

AUTHOR: Maslennikova, V. N.

30-1-24/39

TITLE: Annual Meeting of the German MathematicS Society  
(Godichnoye sobraniye Germanskoy matematicheskoy  
assotsiatsii)

PERIODICAL: Vestnik AN SSSR, 1958, Vol. 28, Nr 1, pp. 106-107 (USSR)

ABSTRACT: This meeting took place in Dresden from September 8 - 14, 1957. Besides the mathematicians of the German Democratic Republic and the German Federal Republic also guests from England, Bulgaria, Hungary, China, Poland, Roumania, USSR and from Czechoslovakia took part. The Soviet delegation consisted of P. S. Aleksandrov, P. S. Novikov, A. V. Bitsadze, V. M. Glushkov and V. N. Maslennikova. The program of the meeting was carried out in three groups as well as in general meetings. In one group the problems of mathematical analysis and of differential equations was discussed, in the two other groups various fields of mathematics were discussed. Among other matters, E. Helder (Leipzig) reported on systems of differential equations. Professor Vu (China), K. Borsak (Poland) and P. Aleksandrov (USSR) reported on certain problems of

Card 1/2

Annual Meeting of the German Mathematical Society

30-1-2/39  
4

algebraic. topology. P. S. Novikov reported on the  
solution of an important problem of mathematical logic.

AVAILABLE: Library of Congress  
1. Mathematics-Germany

Card 2/2

ALEKSANDROV, P.S.

Mathematics as a science. Izv. APN no.92:5-36 '58.  
(Mathematics)

(MIRA 11:6)

AUTHOR: Aleksandrov, P. (Academician) and Ponomarev, Vl. SOV/20-121-4. 1/54

TITLE: On Bicomact Extensions of Topological Spaces (O bikompaktnykh rasshireniyakh topologicheskikh prostranstv)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 121, Nr 4, pp 575-578 (USSR)

ABSTRACT: The authors consider the axiomatization in the paper of Freudenthal [Ref 3] to be unsuitable and they propose the following system of axioms for the relation  $F < H$ , where  $F$  is a closed and  $H$  an open set of the topological space  $X$ :

- K 1 : from  $F < H$  it follows  $X \setminus H < X \setminus F$
- K 2 : "  $F < H$  it follows  $F \subseteq H$
- K 3 : from  $F \subseteq F_1 < H_1 \subseteq H$  it follows  $F < H$
- K 4 : from  $F_1 < H_1, F_2 < H_2$  it follows  $F_1 \cup F_2 < H_1 \cup H_2$
- K 5 : if  $F < H$ , then there exists an  $H_1$ , so that  $F < H_1$ ,  $[H_1] < H$
- K 6 :  $\bigwedge < \bigwedge$ ,  $\bigwedge$  - empty set
- K 7 : for every neighborhood  $Ox$ ,  $x \in X$  there exists an  $O_1x$ , so that  $[O_1x] < Ox$ .

Card 1/ 2

On Bicomcompact Extensions of Topological Spaces

SOV/20-121-4-1 54

On the base of this system of axioms the authors obtain the theorem of Smirnov [Ref 5] on bicomcompact extensions and a certain generalization of the last result of Sklyarenko [Ref 7] concerning the necessary and sufficient conditions that  $X$  admits a bicomcompact extension with a zero-dimensional complement.

The paper starts from a former investigation of P. Aleksandrov [Ref 1] .

There are 7 references, 5 of which are Soviet, 1 American, and 1 Dutch.

ASSOCIATION: Kafedra vysshey geometrii i topologii Moskovskogo gosudarstvennogo universiteta imeni M.V. Lomonosova (Chair of Higher Geometry and Topology of the Moscow State University imeni M.V. Lomonosov)

SUBMITTED: May 6, 1958

Gard 2/2

16(1)

PHASE I BOOK EXPLOITATION

SOV/3064

Aleksandrov, P. S.

Topologicheskiye teoremy dvoystvennosti, Ch 2: Nezamknutyie mnozhestva (Topological Theorems of Duality, Pt. 2: Non-closed Sets) Moscow, AN SSSR, 1959. 136 p. 2,200 copies printed. (Series: Akademiya nauk SSSR. Matematicheskii institut imeni V. A. Steklova. Trudy, 54)

Resp. Ed.: I. G. Petrovskiy, Academician; Deputy Resp. Ed.: S. M. Nikol'skiy, Professor; Ed. of Publishing House: V. G. Berkgaug; Tech. Ed.: T. V. Polyakova.

PURPOSE: This book is intended for mathematicians, particularly those specializing in problems of topology.

COVERAGE: This book constitutes Part Two of a 2-volume work on topological theorems of duality. Part Two discusses duality theorems for non-closed sets, the work of Sitnikov, and the theory of dimensionality. In Chapter 6 the author departs from the main topic and proves his theory on the homeomorphism of point sets in the final form given it by I. Shvedov. It is

Card 1/5

Topological Theorems (Cont.)

SOV/3064

suggested that the reader be familiar with the basic facts and concepts of these studies as set down in Part One of this work, Topologicheskiye teoremy dvoystvennosti; zamknutyie mnozhestva (Topological Theorems of Duality; Closed Sets) by the same author. The author thanks N. A. Berikashvili, A. Arkhangel'skiy, B. Pasyukov, V. Ponomarev, A. P. Leonova, and Ye. V. Shurova. There are 23 references: 14 Soviet, 5 English, 2 French, and 2 German.

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Topological Theorems (Cont.)

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AVAILABLE: Library of Congress (QA1.A4)

Card 5/5

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3/16/60

ALEKSANDROV, P.S.

16(0)	PHASE I BOOK EXPLOITATION	SOV/3177
	<p>Matematika v SSSR za sorok let, 1917-1957. tom 1: Obzornye stat'i (Mathematics in the USSR for Forty Years, 1917-1957). Vol. 1: Review Articles) Moscow, Fizmatgiz, 1959. 1002 p. 5,500 copies printed.</p>	
	<p>Eds: A. G. Kurosh, (Chief Ed.), V. I. Bityurkov, V. G. Boltyanskii, Ye. B. Dynkin, G. Ye. Shilova, and A. P. Yushkevich; Ed. (Inside book): A. P. Lapko; Tech. Ed.: S. M. Akhmanov.</p>	
	<p>PURPOSE: This book is intended for mathematicians and historians of mathematics interested in Soviet contributions to the field.</p>	
	<p>COVERAGE: This book is Volume I of a major 2-volume work on the history of Soviet mathematics. Volume I surveys the chief contributions made by Soviet mathematicians during the period 1917-1957; Volume II will contain a bibliography of major works since 1957 and biographic sketches of some of the leading mathematicians. This work follows the tradition of the leading mathematical works: Matematika v SSSR za pyatnadtsat' let (for two earlier editions) and Matematika v SSSR za tridtsat' let (for two earlier editions) in the USSR for 30 years). The book is divided into three major divisions of the field, i.e., algebra, topology, theory of probabilities, functional analysis, etc., and containing of some 1400 Soviet mathematicians in each of the three divisions to their contributions in the field.</p>	
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S/055/59/000/05/010/020

AUTHORS: Aleksandrov, P. S., Ponomarev, V. J.

TITLE: On Bicom pact Extensions of Topological Spaces <sup>10</sup>

PERIODICAL: Vestnik Moskovskogo universiteta. Seriya matematiki, mekhaniki, astronomii, fiziki, khimii, 1959, No. 5, pp. 93-108

TEXT: With the aid of seven axioms the authors define the notion of subordination of sets in a topological space  $X$ . The notion is a generalization of the neighborhood notion, since spaces with subordination relation for arbitrary sets are identical with the neighborhood spaces. The authors prove that the spaces of all  $v$ -ends of a space  $X$  with the subordination  $v$  is a bicom pact extension of the space  $X$ ; conversely, to every bicom pact extension of the topological space  $X$  there corresponds a certain subordination  $v$ . Then the theorem of Ye. Sklyarenko (Ref. 4) is generalized with the aid of the subordination notion. The continuation of the subordination is investigated in two cases.

The authors mention Yu. M. Smirnov and V. A. Yefremovich. There are 4 Soviet references.

SUBMITTED: April 30, 1958

Card 1/1

X

16(1)

AUTHORS: Aleksandrov, P.S., and Kurosh, A.G.

SOV/42-14-1-24/27

TITLE: International Congress of Mathematicians at Edinburgh (Short Information) (Mezhdunarodnyy kongress matematikov v Edinburge)

PERIODICAL: Uspekhi matematicheskikh nauk, 1959, Vol 14, Nr 1, pp 249-253 (USSR)

ABSTRACT: This is a short report on the Edinburgh-Congress. Soviet members of delegation: A.D. Aleksandrov (Leningrad), P.S. Aleksandrov (Moscow), N.N. Bogolyubov (Moscow), I.N. Vekua (Moscow), I.M. Vinogradov (Moscow), B.V. Gnedenko (Kiyev), N.I. Muskhelishvili (Tbilisi), L.S. Pontryagin (Moscow), T.A. Sarymsakov (Tashkent), S.L. Sobolev (Moscow), A.L. Shaginyan (Yerevan). The members of delegation A.N. Kolmogorov, M.A. Lavrent'yev, I.G. Petrovskiy could not participate. Tourists (delegated by the Academy of Sciences of the USSR): A.V. Bitsadze (Moscow), L.V. Keldysh (Moscow), O.A. Ladyzhenskaya (Leningrad), D.Ye. Men'shov (Moscow), Yu.A. Mitropol'skiy (Kiyev), Ye.F. Mishchenko (Moscow), P.S. Novikov (Moscow), O. A. Oleynik (Moscow), Yu.V. Prokhorov (Moscow), S.Kh. Sirazhdinov (Tashkent), K.A. Sitnikov (Moscow), Yu.M. Smirnov (Moscow), V.A. Statulyavichus (Vil'nyus), D.A. Suprunenko (Minsk), I.R. Shafarevich (Moscow). Tourists (delegated by the Ministry of Higher Education of the USSR): N.K. Bari (Moscow), V.V. Vagner (Saratov),

Card 1/2

International Congress of Mathematicians at  
Edinburgh (Short Information)

SOV/42-14-1-24/27

A.G.Kurosh (Moscow), S.G.Mikhlin (Leningrad), V.V.Nemytskiy (Moscow), N.P.Romanov (Tashkent). Lectures announced by V.I. Arnol'd, Yu.V.Linnik, A.A.Markov, I.G.Petrovskiy, Ye.M.Landis have been read by other speakers. The lectures of N.A.Akhiyezer, I.M.Gel'fand, M.G.Kreyn, S.N.Chernikov have not been delivered.

Card 2/2

16(1)

AUTHORS: Aleksandrov, P.S., Mishchenko, Ye.F. SOV/42-14-3-17/22

TITLE: Lev Semenovich Pontryagin (On the Occasion of his 50-th Birthday)

PERIODICAL: Uspekhi matematicheskikh nauk, 1959, Vol 14, Nr 3,  
pp 195 - 202 (USSR)

ABSTRACT: The authors appreciate the distinguished merits of L.S. Pontryagin and give a short biography of him. Pontryagin was born in 1908, matriculation in 1925 in Moscow; he was a follower of P.S. Aleksandrov. The first paper of Pontryagin was published in 1927.  
The authors mention A.N. Kolmogorov, G.V. Tolstova, M.F. Bokshteyn, V.G. Boltyanskiy, M.M. Postnikov, A.A. Andronov, R.V. Gamkrelidze, Ye.F. Mishchenko.  
A list of the publications from 1927 to 1959 with 79 titles and a photograph of Pontryagin are given.

Card 1/1



ALEXANDROV, P.; PONOMAREV, V.

Some classes of n-dimensional spaces. Sib.mat.zhur.1 no.1:  
3-13 My-Je '60. (MIRA 13:11)  
(Spaces, Generalized)

ALEKSANDROV, Pavel Sergeyevich

On the matrization of topologic spaces. Bul Ac Pol mat 8 no.3:135-  
140 '60. (EEAI 9:11)

(Topology)

(Spaces, Generalized)

ALEKSANDROV, P.S. (Bolshevo-Komarovka)

Some results in the theory of topological spaces, obtained during  
the last twenty-five years. Usp. mat. nauk 15 no.2:25-95 Mr-Apr  
'60. (MIRA 13:9)

(Topology)

(Spaces, Generalized)

ALEKSANDROV, P.S.; VISHIK, M.I.; SAUL'YEV, V.K.; EL'SGOL'TS, L.E.

Lazar' Aronovich Liusternik; on his 60th birthday. Usp. mat.  
nauk 15 no.2:215-230 Mr-Ap '60. (MIRA 13:9)  
(Liusternik, Lazar' Aronovich, 1899-)