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## Foreign Documents Branch C I A Periodical Abstracts

3 June 1948

SCIENTIFIC

Number 42

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NOTE: All Russian periodicals listed below are available in Foreign Documents Branch, CIA. The Chinese periodical is available in Department of State.

Abstracted in this issue:

<u>Title</u>	<u>Issue</u>	<u>Date</u>
<u>Russian Periodicals</u>		
"Doklady Akademii Nauk SSSR, Novaya Seriya" (Reports of the Academy of Sciences of the USSR, New Series) Cards 1-13, 17, 18, 22-31, 34, 36-85, 88-100	Vol LIX No 1 No 3 No 6	Jan 1948 21 Jan 1948 Feb 1948
"Izvestiya Akademii Nauk SSSR, Seriya Geograficheskaya i Geofizicheskaya" (News of the Academy of Sciences of the USSR, Geography and Geophysics Series) Cards 32, 33, 35, 87, 101-104	Vol XII No 1	Jan/Feb 1948
"Promyshlennaya Energetika" (Industrial Energetics) Cards 14-16	No 2	Feb 1948
"Torfyanaya Promyshlennost'" (Peat Industry) Cards 19-21	No 2	Feb 1948
<u>Chinese Periodical</u>		
"Chin-yung Chou-pao" (Financial Weekly) Card 86	Vol XVIII No 14	31 Mar 1948

NOTE

In indexing these abstracts the following guides are used: MEDICINE - "Quarterly Cumulative Index Medicus," American Medical Association; CHEMISTRY - "Chemical Abstracts Subject Index," American Chemical Society; GENERAL - "Subject Headings for Technical Libraries," US Department of Commerce, Office of Technical Services.

Distribution

State	6
Army	24
Navy	30
Air Force	6
Library of Congress	5
AEC	3
RDB	2
CIA	16
FDB	<u>20</u>
Total	112

## FDB Periodical Abstracts Scientific No 42

USSR/Chemistry - Cyclic Compounds Chemistry - Synthesis	21 Jan 1948	USSR/Chemistry - Sulfonation Chemistry - Cycloalkanones	21 Jan 1948
"Synthesis of Polycyclical Compounds. New Method of Producing Homologs of 1-, 2-Benzanthracene," B. M. Mikhaylov, T. K. Kozminskaya, Inst Normal and Pathol Morphol, Acad Med Sci USSR, 2½ pp		"Polycycloketone Sulfates (Theory of Sulfonation)," A. M. Lukin, G. B. Zavarikhina, Inst Org Chem, Acad Sci USSR, 3 pp	
"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 3		"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 3	
Authors developed method for producing 10-alkyl derivatives of 1-, 2-benzanthracene considerably surpassing other methods for simplicity and final product of hydrocarbons. Method based on use of lithium organic compound of 1-, 2-benzanthracene (II), produced by dual reaction of exchange between 10-bromine-1-,		Finds that assertion of P. Pfeiffer on role of ketone sulfates as intermediate product in sulfonation of these ketones by sulfuric acid does not correspond to experimental data and must be rejected. Sulfonation of polycycloketones takes place usually with high concentration of sulfuric acid and at relatively high temperatures. Submitted by Academician A. Ye. Poray-Koshits, 8 Oct 1947.	
FDB	42T1	FDB	42T2
USSR/Chemistry - Cyclic Compounds (Contd)	21 Jan 1948	USSR/Chemistry - Peroxides, Organic Chemistry - Synthesis	21 Jan 1948
2-benzanthracene (I) and n-butyllithium. Submitted by Academician A. I. Abrikosov, 8 Sep 1947.		"Methylcyclohexane Peroxide," K. I. Ivanov, V. K. Savinova, All-Union Thermotech Inst imeni F. E. Dzerzhinskiy, 4 pp	
"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 3		Authors showed in previous article that it is difficult to make decahydronaphthalene react with molecular oxygen, but it reacts relatively easily with oxygen in the liquid phase under action of ultraviolet light, with formation of hydrogen peroxide I. To study behavior of other representatives of the series of cyclanes, particularly those containing aliphatic	
FDB	42T1	FDB	42T3
USSR/Chemistry - Ethylenes, Polymerization Chemistry - Stereochemistry	21 Jan 1948	USSR/Chemistry - Peroxides, Organic (Contd)	21 Jan 1948
"Role of Stereochemical Factors in Polymerization Processes," V. V. Korshak, K. K. Samplavskaya, Inst Org Chem, Acad Sci USSR; Moscow Chemicotech Inst imeni D. I. Mendeleev, 4 pp		side chains, and peroxide compounds formed in this process, authors oxidized methylcyclohexane in liquid form with radiation by ultraviolet light. Report results of experiment. Submitted by Academician S. S. Nametkin, 23 Oct 1947.	
"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 3		"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 3	
Provides basis to conclude that stereochemical relationships are deciding factors determining the possibility of polymerization of tri-, tetra, and sometimes disubstituted ethylenes. Submitted by Academician A. N. Nesmeyanov, 1 Dec 1947.		"Effect of Various Cations on the Anode Process with Electrolysis of Their Chlorides," N. A. Izgaryshev, M. G. Khachatryan, Corr Members, Acad Sci USSR, 3 pp	
FDB	42T4	FDB	42T5
USSR/Chemistry - Crystallization Chemistry - Silica	21 Jan 1948	USSR/Chemistry - Electrolysis Chemistry - Anodes, Processes at	Feb 1948
"Influence of the Liquid Phase on Process of Crystallization of Silica," V. A. Bron, Ural Affiliate, All-Union Sci Res Inst Fire Resistant Materials, 2 pp		"Effect of Various Cations on the Anode Process with Electrolysis of Their Chlorides," N. A. Izgaryshev, M. G. Khachatryan, Corr Members, Acad Sci USSR, 3 pp	
"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 3		"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 6	
Presents data to show that the degree of formation of tridymite is determined not by amount of fusion, but its melting point, and, consequently, the mobility at maximum heating temperature. The curve of formation of tridymite also shows that the temperature of fusion for any mineralizer is safe up to 1300-1350° C, after which it drops sharply in the degree of formation of		Gives results of study of the action of electrolysis, and polarization curves for lithium, magnesium, and barium chlorides, and shows causes of differences in the action of cations.	
FDB	42T5	FDB	42T6

RESTRICTED	FDB Periodical Abstracts Scientific No 42	RESTRICTED
USSR/Chemistry - Crystallization (Contd) 21 Jan 1948	USSR/Chemistry - Gramicidin Chemistry - Amines	Jan 1948
tridymite of Dinas. Dimensions of tridymite crystals decrease. Submitted by Academician D. S. Belyankin, 13 Oct 1947.	"The Biologically Active Group in Gramicidin S," M. P. Znamenskaya, P. A. Agatov, A. N. Belozerskiy, Inst Biochem imeni A. N. Bakh, Inst Microbiol, Acad Sci USSR, 4 pp	
FDB 42T5	"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 1	
USSR/Chemistry - Ethers Chemistry - Electric Moment	Records results of experiments to determine the group in Gramicidin S responsible for its activity. Pays particular attention to the free amine group in gram-icidin S, and its biologic activity. Describes meth-ods for isolating the amine group. Finds that gram-icidin S treated with benzene or acetelene loses its biologic activity. Submitted by Academician A. I. Oparin, 15 Sep 1947. FDB 42T7	Jan 1948
"Dipole Moments of Halogen Displaced Ethers of Car-bonic Acids," M. A. Lufanova, Ya. K. Syrkin, Corr Mem Acad Sci USSR, Inst Fine Chem Tech imeni M. V. Lomon-osov, 3 1/2 pp	USSR/Chemistry - Luminescent Materials Chemistry - Zinc Sulfides	Jan 1948
"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 1	"New Type of Zinc Sulfide Luminophors," S. A. Frid-man, A. A. Cherepnev, Phys Inst imeni P. N. Lebedev, Acad Sci USSR, 2 1/4 pp	
Describes results obtained from the measurement of dipole moments of series of substances in benzene at temperature of 25°. Electron polarization determined by refraction. Submitted, 12 Nov 1947.	"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 1	
FDB 42T8	Recently zinc sulfide luminophors replaced alkali earth luminophors in practical uses for phosphores-cence. Describes some advantageous properties of zinc sulfide luminophors permitting long periods of phosphorescence. Submitted by Academician S. I. Vavilov, 5 Nov 1947.	
USSR/Chemistry - Dielectrics Chemistry - Barium Tetratitanates	FDB 42T9	
"Dielectric Properties of Barium Tetratitanate and Other Dielectrics of the TiO <sub>2</sub> -BaO Systems," G. I. Skanavi, Phys Inst imeni P. N. Lebedev, Acad Sci USSR, 3 pp	USSR/Chemistry - Oxygen Compounds Chemistry - Oxygen, Ions	Jan 1948
"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 1	"Relationship of Oxygen Molecules to an Electron," I. A. Kazarnovskiy, Corr Mem, Acad Sci USSR, Lab Inorg Chem, Phys Chem Inst imeni L. Ya. Karpov, 4 pp	
Presents methods of dividing TiO <sub>2</sub> -BaO dielectrics into groups on basis of their dielectric permeability and X-ray pictures of polygraphic materials referring to relation between the components. Simultaneously, upon completion of this work by Skanavi, Bunting and asso-ciates in the US published article discussing analo-	"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 1	
FDB 42T10	Describes electrostatic energy of KO <sub>2</sub> , RbO <sub>2</sub> and CsO; van der Waals' force; potential of quadruple moment of the O <sub>2</sub> ion; repelling force, and lattice energy. Submitted, 15 Nov 1947.	
USSR/Chemistry - Dielectrics (Contd) Jan 1948	FDB 42T11	
gous properties of barium tetratitanate. Submitted by Academician S. I. Vavilov, 18 Sep 1947.	USSR/Electricity Photoelectric Sensitization Condensers, Optical	21 Jan 1948
	"Use of Condenser Method in Study of the Internal Photoeffect of Sensitizers," Ye. Putseyko, State Opt Inst, 4 pp	
	"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 3	
	Discusses applicability of condenser method in study of some questions on the theory of photosensitization by organic dyes. Finds that use of method with ap-plication of supplementary electrical field, not only makes it possible to increase photoelectric sensi-tivity of semiconductors, but in number of cases to	
FDB 42T10	FDB 42T12	

RESTRICTED	FDB Periodical Abstracts Scientific No 42	RESTRICTED
USSR/Electricity Frequency Measurements Mathematics, Applied	Jan 1948	USSR/Electricity (Contd) 21 Jan 1948
"Construction of Frequency Variation Diagrams," Academician V. P. Nikitin, V. K. Turkin, N. P. Kunitskiy, 4 pp		determine class of semiconductor in question. Submitted by Academician A. N. Terenin, 10 Oct 1947.
"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 1		
Discusses construction of subject diagrams to illustrate relation of coefficients derived from differential equations for variable frequency systems. Diagrams may be used in the test of cyclic frequency variations having tendency to become stationary. Submitted, 6 Nov 1947.		
FDB	42T13	FDB
USSR/Electricity Industrial Equipment Transformers, Oil Filled	Feb 1948	USSR/Electricity Dryers, Electric Infrared
"Pyranol Transformers" 1 p		"Infrared Drying," I. M. Fedorov, Engr, Cen Lab, "Dinamo" Plant imeni S. M. Kirov, 1 p
"Prom Energetika" No 2		"Prom Energetika" No 2
Complains that certain industrial enterprises were supplied with transformers flooded with pyranol without instructions for their operation. Discusses disadvantages of normal transformer oils. Gives details on use of pyranol and methods of starting up the transformers.		Claims that "Dinamo" plant is industrial pioneer of infrared drying. Describes construction of lamp furnaces, and includes diagrams showing heat curves of KPDS-1Sh motor in a 6-kw lamp furnace.
FDB	42T14	FDB
USSR/Electricity Furnaces, Electric Heating, Electric	Feb 1948	USSR/Electricity Light - Measurements Photometry
"Choice of a Rational System of Electric Furnace Firing," B. S. Meshel', Engr, 2½ pp		"Theory of the Flicker Method in Photometry," S. O. Mayzel', Illumination Eng Sec, All-Union Elec Eng Inst imeni V. I. Lenin, 2½ pp
"Prom Energetika" No 2		"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 1
Discusses energetics of initial heating and the non-continuous system. Concludes that furnaces using this system must be produced with small thermal capacity and must admit a large forced injection.		Wide use made of flicker method for measuring illuminating power of light sources, whose color is different from color of the standardized light source. Method makes no further allowances for variations of color fields, after the flicker of various intensities becomes discernible. Submitted by Academician S. I. Vavilov, 19 Oct 1947.
FDB	42T16	FDB
USSR/Electricity Fields, Electrostatic Cavitation	Jan 1948	USSR/Engineering Peat Industry Water System
"Magnitude of the Electrical Field in Cavities Formed by Supersonic Cavitation of a Liquid," G. L. Natanson, Lab Aerosols, Phys Chem Inst imeni L. Ya. Karpov, 2½ pp		"Choice of Diameters of Water Supply Pipes," I. V. Savenko, Engr, 1½ pp
"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 1		"Torf Prom" No 2
Ya. I. Frenkel' states that the electric field is due to uneven distribution of ions along walls of the cavities formed. Author discusses flat surface of disintegration, and explains functions in numerous mathematical formulas. Submitted by Academician A. N. Frumkin, 25 Sep 1947.		Stresses importance of increasing water flow in supply pipes and decreasing their diameter. Describes water supply conditions in certain peat enterprises. Tables show best diameters for the greatest flow.
FDB	42T18	FDB
		42T19

RESTRICTED	FDB Periodical Abstracts Scientific No 42	RESTRICTED
USSR/Engineering Peat Industry Peat - Properties	Feb 1948	USSR/Engineering Peat Industry Machines
"Analysis of the Relation between Calorific Value, Ash Content, and Degree of Decomposition of Peat," V. V. Rakhmanov, Candidate Geog Sci, 6 pp		"Peat Machines for Bog Development," G. D. Gorbuto- vich, 3 pp
"Torf Prom'" No 2		"Torf Prom'" No 2
Gives mathematical formulas to determine calorific value, ash content, and degree of decomposition of peat, and results of experiments on lowland and upland peat.		Describes various types of peat machines, concluding that machines working in bogs should be constructed as powerful electric truck tractors capable of excavational work.
FDB	42T20	FDB
USSR/Engineering Hydrology Mathematics, Applied	Jan 1948	USSR/Engineering Petroleum Industry Emulsifiers, Oil
"Basic Equation of Consolidation of an Earth Medium," V. A. Florin, All-Union Sci Res Inst Hydroeng imeni B. Ye. Vedenev, 3 1/2 pp		"Emulsifiers of the Emba Oil Emulsions," V. G. Ben'- kovskiy, Cent Sci Res Lab, Kazakhstan Oil Union, 2 pp
"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 1		"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 6
Gersevanov and others studied various frequent occurrences of the consolidation of a water-soaked earth medium, treating it as a two-phase system. Describes basic facts which must be established to solve the plane and extended problem of consolidation, i.e., phenomenon of contraction or expansion during period		Describes extraction methods of emulsifiers from natural oil emulsions, and gives details of experiments showing high stability of Emba oil emulsions. Submitted by Academician P. A. Rebinder.
FDB	42T22	FDB
USSR/Engineering (Contd)	Jan 1948	USSR/Engineering Metallurgy, Ferrous Austenite
when the earth medium, dependent on its own weight, is acted upon by some outward force or variation in the pressure regime. Submitted by Academician I. S. Leybanzon, 12 Sep 1947.		"The Question of Stabilizing Supercooled Austenite," P. P. Petrosyan, 2 1/2 pp
		"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 6
		Establishes relation between the increase of martensitic phase with isothermic support and the duration of delay in conversion. Shown to be of value in clarifying the stabilization of a supercooled austenite.
FDB	42T22	FDB
USSR/Geology Oceanography Petroleum	21 Jan 1948	USSR/Geology Tectonics
"Dissolved Organic Matter and Its Accumulation in Sedimentary Layers," V. G. Datsko, Lab Hydrochem, Azov-Black Sea Inst Fishing Ind and Oceanography, 3 pp		"Regional Structures Controlling the Mercurial-antimonite Mineralization of Southern Fergana," N. M. Sinitsyn, 5 pp
"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 3		"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 3
Internal sea basins, particularly the Caspian, have high concentration of organic matter in the water, basic part of which is in dissolved state. Dissolved organic matter is stable in relation to oxidation and its consumption by bacteria. Since the amount of dissolved organic matter is significantly greater than		Genesis and configuration of the Southern Fergana zone held to be dependent upon the structure of the first order: Upper Paleozoic depression and upheaval. Latitudinal course of the mercurial-antimonite zone of early and late lower and upper structures of the Alaysk and Turkestan mountain ranges does not permit the mineralization of Southern Fergana to be con-
FDB	42T25	FDB

RESTRICTED	FDB Periodical Abstracts Scientific No 42	RESTRICTED	
USSR/Geology (Contd)	21 Jan 1948	USSR/Geology (Contd)	21 Jan 1948
<p>other forms in reservoirs, important role is ascribed to it in accumulation of initial material for the formation of oil. Stability of the dissolved organic matter permits its accumulation and preservation of accumulations until conditions are favorable for the formation of oil. Submitted by Academician S. I. Mironov, 1 Nov 1947.</p>		<p>ected with the latitudinal Western Gissarsk mercurial-antimonic zone and alpine deposits of Kugitang and treatment as zones of the same age. Submitted by Academician D. V. Nalivkin, 28 Nov 1947.</p>	
FDB	42T25	FDB	42T26
USSR/Geology	21 Jan 1948	USSR/Geology Petroleum	Jan 1948
<p>"Differentiated Gabbro-dabase Intrusion of the Khetaglubokoye Region of Taymyr Peninsula," M. Ye. Yakovleva, 4 pp</p>		<p>"Faces and Chemical Types of Jurassic Diabases of the Central Caucasus," A. P. Lebedev, Inst Geol Sci, Acad Sci USSR, 4 pp</p>	
<p>"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 3</p>		<p>"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 1</p>	
<p>Intrusion contains six layers of gabbro diabase: 1) prismatic-granular, 2) prismatic-ophitic, 3) Poikilitic-ophitic, 4) picrite, 5) taxite, and 6) contact. Describes each in detail. Submitted by Academician D. S. Belyankin, 19 Nov 1947.</p>		<p>Divides diabase formations into several groups on basis of geologic and petrographic characteristics. Describes chemical characteristics of 24 diabases. Obtains results by complete and partial chemical analysis. Submitted by Academician D. S. Belyankin, 9 Jul 1947.</p>	
FDB	42T27	FDB	42T28
USSR/Geology	Jan 1948	USSR/Geology Geological Prospecting Oil	Feb 1948
<p>"Age of the Tsalkinskiy Lava Complex (Gruziya SSR, Southern Slope of the Adzharo-Trialetskiy Range)," G. M. Zaridze, N. F. Tatrishvili, 2½ pp</p>		<p>"One Feature of the Fault Fissures in the Emba Salt Bosses," G. Ye.-A. Ayzenshtodt, All-Union Sci Res and Geol Exploration Oil Inst, 2½ pp</p>	
<p>"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 1</p>		<p>"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 6</p>	
<p>Describes lava deposits of the Tsalkinskiy region. In 1936, Zheltov stated that this lava is of brachyanticlinal or brachysynclinal origin. Gives results of 1946 expedition by authors into the Tsalkinskiy region. Describes some fossil remains discovered, e.g., Elephas planifrons. Data obtained led to conclusion that these lava deposits were of the Mindel or Mindel-Riss glacial epochs. Submitted by Academician D. S. Belyankin, 11 Oct 1947.</p>		<p>Selects some of the Emba salt bosses for examination with idea of prospecting for oil there. Indicates geologic age and capacities of four salt bosses, and tabulates results of experiments.</p>	
FDB	42T29	FDB	42T30
USSR/Geology Geological Prospecting Minerals	Feb 1948	USSR/Geophysics Wave Propagation - Velocity Ground Waves	Jan/Feb 1948
<p>"Thomsonite from Kurseba (Caucasus) Teschenites," M. N. Shkabara, 1½ pp</p>		<p>"Average Speed of Propagation of Elastic Waves under Conditions in the East Apsheron Region," A. M. Epinat'yeva, 10 pp</p>	
<p>"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 6</p>		<p>"Izv Akad Nauk SSSR, Ser Geog i Geofiz" Vol XII, No 1</p>	
<p>Teschenites exposed 20 km from town of Kutaisa on the Tkribal railroad. Tskhal-Tsitela River (Krasnaya) cuts through the teschenites almost transversely to their trend. Describes experiments on crystals from these deposits.</p>		<p>Study of aspects affecting value of average speed of reflected waves made in the East Apsheron region. Verified values of average speed used to establish approximate law of changes of speed with depth for this region.</p>	
FDB	42T31	FDB	42T32



RESTRICTED	FDB Periodical Abstracts Scientific No 42	RESTRICTED
USSR/Geophysics Ground Waves Wave Analysis	Jan/Feb 1948	USSR/Hydrology Water, Underground Jan 1948
"Determining Effective Speeds under Conditions of Poorly Correlated Reflections," Yu. V. Riznichenko, Inst Theoretical Geophys, Acad Sci USSR, 3 pp		"Conditions for Formation of Underground Waters in the Tersko-Kumsk Artesian Basin," S. A. Shagoyants, 3 pp
"Izv Akad Nauk SSSR, Ser Geog i Geofiz" Vol XII, No 1		"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 1
Proposes methods to determine effective average speeds by means of simultaneous treatment of several comparatively short annual graphs of reflected waves. Submitted by Academician Yu. O. Shmidt.		General characteristics and subterranean water regional map of the Tersko-Kumsk artesian basin. Submitted by Academician D. S. Belyankin, 11 Oct 1947.
FDB	42T33	FDB
USSR/Hydrology Deserts Water, Ground	Jan/Feb 1948	USSR/Hydrology Water, Underground Jan 1948
"Depth of Physical and Geographical Reaction under Sandy Desert Conditions," V. N. Kunin, Inst Geog, Acad Sci USSR, 12 pp		"General Form of the Equation of an Underground Current (Feed) of Rivers," B. I. Kudelin, 3 pp
"Izv Akad Nauk SSSR, Ser Geog i Geofiz" Vol XII, No 1		"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 1
Describes analysis of effect of physical and geographic conditions on the ground waters in a sandy desert, e.g., Kara-Kum desert in Turkmen SSR. Submitted by Academician A. A. Grigor'yev.		Describes subterranean river currents on basis of data obtained as result of studies on all categories of subterranean waters, taking part in subterranean feeding of rivers. Permits classification of river basins on basis of type of subterranean flow serving the river. Submitted by Academician D. S. Belyankin, 18 Oct 1947.
FDB	42T35	FDB
USSR/Mathematics - Topology	Feb 1948	USSR/Mathematics, Applied 21 Jan 1948
"Accessible Points of a Functional Compact," D. Mil'man, Odessa Electrotech Inst Communications, 4 pp		"General Method of Calculating Static Systems in an Established Condition," Ye. A. Vaynrib, G. V. Spivak, 4 pp
"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 6		"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 3
Refers to previous article by author on same subject. Describes functional topology, determination of accessible points of a functional compact, and accessible points of a circumferential boundary.		Functions of distribution must be functions of such variables that they remain constant in the movement of a system along a phase line. These variables are additive integrals of motion. Designates three cases. In one case the forces act on part of the system and the forces are heterogeneous or applied to limits of the system. Examines this case in general form, and finds a function of distribution for this case. Submitted by Academician A. A. Lebedev, 15 Nov 1947. FDB
FDB	42T37	FDB
USSR/Medicine - Tissue Medicine - Cells	21 Jan 1948	USSR/Medicine - Wheat Medicine - Hybridity Feb 1948
"Transformation and Proliferation of Father Pacini Corpuscles in Skin Cultures," Ya. A. Vinnikov, Ye. A. Berlin, Inst of Neurology, Acad Med Sci USSR, 4 pp		"Obtaining Amphidiploide by Crossing Two Autotetraploids of Wheat," A. R. Zhebrak, A. S. Afanas'yeva, Agr Acad imeni K. I. Timiryazev, 4 pp
"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 3		"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 6
Explains tissue nature, hence the genesis of cells of an internal vas, and covering elements of concentric membranes of external capsules of Father Pacini corpuscles. Submitted by Academician I. I. Shmal'gauzen, 2 Nov 1947.		Describes successful experiments which led to obtaining new amphidiploide to be used for the study of myosis.
FDB	42T39	FDB
		42T40

RESTRICTED	FDB Periodical Abstracts Scientific No 42		RESTRICTED
USSR/Medicine - Regeneration Medicine - Cancer	21 Jan 1948	USSR/Medicine - Flies Medicine - Cells, Staining	21 Jan 1948
<p>"Retardation of Regeneration Processes by Substances Causing Cancer," A. Filatov, Dynamics of Development Lab, Experimental Med Inst, Acad Med Sci, Leningrad, 2½ pp</p> <p>"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 3</p> <p>Experiments show that it is impossible to doubt that substances causing cancer retard the regeneration capacity in amphibia and mammals. Describes experiments to support this view.</p>		<p>"Study of Reverse Substantial Changes in Cells of Drosophila by the Vital Staining Method," M. Ye. Lobashev, Biol Inst, Leningrad State U, 4 pp</p> <p>"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 3</p> <p>Discovers, by vital staining method, reversible increase of adsorptive properties of cytoplasm of the sex cells in direct dependence upon the dose of X-rays and temperature. Changes in the sorptive properties of cytoplasm are indirect index of reversible substantial changes in the sex cells. Time of restoration (reversibility) of substantial changes in</p>	
FDB	42T41	FDB	42T42
USSR/Medicine - Heredity Medicine - Flies	21 Jan 1948	USSR/Medicine - Flies (Contd)	21 Jan 1948
<p>"Maternal Effect in Drosophila Melanogaster. Influence of the Genotype of the Mother on Speed of Development of Descendants," R. V. Khesin, 4 pp</p> <p>"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 3</p> <p>Reports experiment to verify hypothesis that the "maternal effect" is a general regularity of earlier period of development of characteristics, of action of genes influencing character of development in the first stages of ontogenesis. Presents data to show that development of the embryo proceeds in conformance with the genotype of the mother and not the zygote.</p>		<p>the cells to the "norm" depends upon: depth of accumulated irritation in the cell, conditions of temperature, and many other factors. Submitted by Academician K. M. Bykov, 17 Nov 1947.</p>	
FDB	42T43	FDB	42T42
USSR/Medicine - Heredity (Contd)	21 Jan 1948	USSR/Medicine - Influenza Medicine - Rats	21 Jan 1948
<p>Concludes that early stages of development are under control of the maternal organism, and that specific weight of influence of the maternal genotype and genes of the zygotes on development of characteristics are approximately equal. Submitted by Academician I. I. Shmal'gauzen, 17 Sep 1947.</p>		<p>"Susceptibility of Wild Rats to Grippe Virus," I. S. Gryaznov, 4 pp</p> <p>"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 3</p> <p>Experiments show that the Rattus norvegicus is exceptionally sensitive to grippe virus. Surpasses all types of mice and white rats in this respect. Healthy wild rats, easily infected by drops from infected rats, demand additional measures of isolation in working with them in a group. Submitted by Academician N. F. Gamaleya, 17 Oct 1947.</p>	
FDB	42T43	FDB	42T44
USSR/Medicine - Plants Permafrost	21 Jan 1948	USSR/Medicine - Fruits Medicine - Strawberries	21 Jan 1948
<p>"News of Root Systems of Wild and Cultivated Plants in Permafrost Regions," V. P. Dadykin, Frozen Soils Study Inst imeni V. A. Obruchev, Acad Sci USSR, 4 pp</p> <p>"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 3</p> <p>Observations contradict belief that the root system of plants developing in conditions of constantly cold soil (in permafrost) are exclusively in the surface of the soil. Notices very wide range of adaptive variability of root systems of plants to cold soils, from extreme localization in the surface layers of the soil to the capacity of the plant to deepen its root</p>		<p>"Influence of Growth Substances on Fruit Formation in Strawberries (Fragaria Bucharica)," K. Ye. Ovcharov, Ye. K. Nizkovskaya, Plant Physiol Inst imeni K. A. Timiryazev, Acad Sci USSR, 1½ pp</p> <p>"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 3</p> <p>Experiments indicated that blooms of cultivated strawberries produced seedless fruit when treated with preparation of growth substances. Authors made similar experiment with wild strawberries growing in the Tadzhikistan mountains. Used preparations of 2-, 4-dichlorophenoxy acetic acid, 2-, 4-dichlorophenoxy-</p>	
FDB	42T45	FDB	42T46

RESTRICTED

FDB Periodical Abstracts Scientific No 42

RESTRICTED

USSR/Medicine - Plants (Contd)

21 Jan 1948

sprouts into the permafrost layer, and still keep its roots alive. Submitted by Academician V. A. Obruchev, 29 Oct 1947.

FDB

42T45

USSR/Medicine - Clover  
Medicine - Seeds

21 Jan 1948

"Influence of 2-, 4-Dichlorophenoxy Acetic Acid on the Formation of Seeds in Clover," B. P. Sokol'skaya, Ivanovsk Oblast Experimental Farming Sta, 2 pp

"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 3

Reports laboratory and field experiments conducted in 1947 on the influence of growth substances on seed formation. Three-year growth of red clover chosen for experiment with 2-, 4-dichlorophenoxy acetic acid as growth substance. Calculation of number of heads before introduction of growth substance showed average of 110 - 120 per square meter, the normal quantity

FDB

42T47

USSR/Medicine - Clover (Contd)

21 Jan 1948

for third year of growth. Heads of clover changed their form after introduction of growth substance. Number of seeds per head of clover increased approximately 34.1%. Submitted by Academician N. A. Maksimov, 16 Nov 1947.

FDB

42T47

USSR/Medicine - Infusoria  
Medicine - Respiration

21 Jan 1948

"Change of Intensity of Respiration of Infusoria Bursaria Truncatella in the Interval between Two Divisions," V. V. Barbarin, L. M. Solov'yeva, Leningrad State Pedagogical Inst imeni A. I. Gertsena, 2½ pp

"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 3

Change of respiration in infusoria in different periods between the two divisions shows regularly repeating change in metabolism of the cell, and permits conclusion that division of the cell is not a mechanical process depending only upon the breach in a certain mass of protoplasm and nucleus, but that in a given

FDB

42T49

USSR/Medicine - Fruits (Contd)

21 Jan 1948

n-butyric acid, and  $\alpha$ -naphthyl acetate as growth substances. Results showed that in such plants as *Fragaria bucharica*, functioning only with pollen in usual conditions, can be made to produce fruit with use of growth substances. Submitted by Academician N. A. Maksimov, 15 Nov 1947.

FDB

42T46

USSR/Medicine - Plants  
Medicine - Nitrogen

21 Jan 1948

"Effect of Phosphate and Nitrogen Starvation on Plants," O. F. Tuyeva, S. A. Samoylova, Plant Physiol Inst imeni K. A. Timiryazev, Acad Sci. USSR, 4 pp

"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 3

Tissue of phosphate- and nitrogen-starved plants showed a high capacity to absorb and assimilate elements they lacked. Tissues of the root systems of starved plants acquired not only these properties, but very great capacity of desorption of these compounds. Accumulation of ammonia nitrogen in tissues of leaves developed as specific peculiarity in

FDB

42T48

USSR/Medicine - Plants (Contd)

21 Jan 1948

phosphate starvation. Submitted by Academician N. A. Maksimov, 15 Nov 1947.

FDB

42T48

USSR/Medicine - Reproduction  
Medicine - Fish

21 Jan 1948

"Material on the Biology of Reproduction of the Amur Pseudogudgeon *Pseudogobio rivularis* (Bas.) (Pisces, Cyprinidae)," V. D. Lebedev, Zool Inst, Moscow State U imeni M. V. Lomonosov, 3 pp

"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 3

Presents data on breeding conditions of the *Pseudogobio rivularis*. Observations made on the Amur River 90 miles below Khabarovsk in 1947. Describes nest, eggs, and their period of development in detail. Submitted by Academician L. S. Berg, 26 Oct 1947.

FDB

42T50

RESTRICTED	FDB Periodical Abstracts Scientific No 42	RESTRICTED
<p>USSR/Medicine - Infusoria (Contd) 21 Jan 1948</p> <p>case the cell goes through a specific process of ontogenesis. Submitted by Academician I. I. Shmal'gauzen, 21 Oct 1947.</p> <p>FDB 42T49</p>	<p>USSR/Medicine - Nervous Systems 21 Jan 1948 Medicine - Atropine</p> <p>"Elimination of the Atropine Action of Acetylcholine on the Central Nervous System," Ye. B. Bab'skiy, Physiol Lab, Moscow State Pedagogical Inst imeni V. I. Lenin, 4 pp</p> <p>"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 3</p> <p>Question of atropine action on the effects of acetylcholine has important significance in study of the mediatory role of acetylcholine in the central nerve system. Question studied and two series of experiments conducted. In first series, authors studied effect of atropine on changes in the chronaxia of</p> <p>FDB 42T51</p>	
<p>USSR/Medicine - Cold, Effects 21 Jan 1948 Medicine - Frogs</p> <p>"Condition of Vertebrates in Freezing," S. N. Matsko, Inst Experimental Physiol and Therapy, Ministry of Health, USSR, 4 pp</p> <p>"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 3</p> <p>Adult frogs (<i>Rana temporaria</i> and <i>Rana ridibunda</i>) subjected to freezing in experiment. Presents extensive data from observations under following headings: 1) condition of vertebrates in freezing, 2) process of ice formation in freezing vertebrates, and 3) characteristics of temperature curve of the body in freezing vertebrates. Submitted by Academician I. I. Shmal'gauzen, 4 Nov 1947.</p> <p>FDB 42T52</p>	<p>USSR/Medicine - Nervous Systems (Contd) 21 Jan 1948</p> <p>motor zone of cortex of the large half of dog's brain caused by introduction of acetylcholine, and in second series, atropine action on changes of spontaneous electrical activity of nerve centers of frogs due to the influence of acetylcholine. Submitted by Academician Ya. O. Parnas, 25 Oct 1947.</p> <p>FDB 42T51</p>	
<p>USSR/Medicine - Onions Feb 1948 Medicine - Hormones</p> <p>"Effect of Heteroauxine upon Colloidochemical Properties of the Protoplasm of Onion Cells," L. V. Mozhaeva, Agr Acad imeni K. A. Timiryazev, 4 pp</p> <p>"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 6</p> <p>Describes experiments carried out to examine through a microscope evident changes in a cell taking place under the influence of heteroauxine. Gives results in tabular form. Submitted by Academician N. A. Maksimov.</p> <p>FDB 42T53</p>	<p>USSR/Medicine - Insects Feb 1948 Medicine - Spermatogenesis</p> <p>"Achromatic Apparatus in the Spermatogenesis of Certain Orthoptera," L. S. Peshkovskaya, P. I. Zhivago, Inst Cytology, Histology, and Embryol, Acad Sci USSR, 4 pp</p> <p>"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 6</p> <p>Discusses preliminary data obtained as result of using acid hydrolysis in the spermatogenesis of Orthoptera. Used about 15 types belonging to the Acrididae, Locustidae, and Gryllidae family as material for experiments. Submitted by Academician L. A. Orbeli.</p> <p>FDB 42T54</p>	
<p>USSR/Medicine - Cells Feb 1948 Medicine - Staining</p> <p>"Problem of the Diffused Coloring of a Cell by Certain Basic Vital Dyes," N. L. Fel'dman, Lab Cytology, Inst Experimental Med, Acad Sci USSR, 1½ pp</p> <p>"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 6</p> <p>Examines question of overcoming the fact that diffused dyes poison a cell and paralyze its granular-forming capabilities, and that physicochemical qualities of diffused dyes are such that they cannot be mixed into granules.</p> <p>FDB 42T55</p>	<p>USSR/Medicine - Plants Feb 1948 Medicine - Reproduction</p> <p>"Problem of Controlling Plant Propagation," Yu. P. Miryuta, 3 pp</p> <p>"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 6</p> <p>Describes experiments that led to formation of male blooms in female plants of the <i>Cannabis</i> species by applying conditions found in a short day of 10-12 hours. Submitted by Academician N. A. Maksimov,</p> <p>FDB 42T56</p>	

RESTRICTED	FDB Periodical Abstracts Scientific No 42		RESTRICTED
USSR/Medicine - Alkalosis Medicine - Onions	Feb 1948	USSR/Medicine - Plants - Diseases Medicine - Tobacco	Feb 1948
"Alkylation of the Gene Molecule," I. A. Rapoport, Inst Cytology, Histology and Embryol, Acad Sci USSR, 4 pp		"Effect of Length of Day upon Reproduction of the Tobacco Mosaic Virus in Tissues of Hybrid Tobacco," K. S. Sukhov, A. M. Vovk, Inst Genetics, Acad Sci USSR, 2½ pp	
"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 6		"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 6	
Gives in detail experiments showing the frequency of lethal mutations in a semichromosome and under the influence of three alkylating reagents. Submitted by Academician L. A. Orbeli.		Describes experiments confirming previous relation established by authors between synthetic activity of proteases in hybrid tobacco tissues and reproduction speed of the tobacco mosaic virus in them.	
FDB	42T57	FDB	42T58
USSR/Medicine - Beets Medicine - Fungi	Feb 1948	USSR/Medicine - Birds Medicine - Reproduction	Feb 1948
"Protective Reactions in Beet Foliage Affected by Cercospora Beticola," Ya. Ye. Ellengorn, Ye. G. Gikashvili, Lab Remote Hybridization, Acad Sci USSR, 3½ pp		"New Data on Biology and Propagation of Birds in South Ussuri Kray," K. A. Vorob'yev, Oriental Base, Acad Sci USSR, 4 pp	
"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 6		"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 6	
Describes experiments designed to study changes produced in the tissues of beet foliage by the fungus Cercospora Beticola, and physiologic conditions of cells affected by cercosporiosis.		Lists 12 birds, with habits and breeding characteristics, observed during recent ornithologic expeditions in South Ussuri Kray.	
FDB	42T59	FDB	42T60
USSR/Medicine - Mosquitoes Medicine - Stigmata	Feb 1948	USSR/Medicine - Cells, Nuclei Medicine - Proteins	Feb 1948
"Functional Adaptation of Abdominal Stigmata in Mosquitoes (Sem. Culicidae, Diptera)," O. N. Vinogradskaya, Inst Malaria, Med Parasitology and Helminthology, Acad Sci USSR, 3 pp		"Nucleoproteins and Reactivity of the Core," A. N. Trifonova, Leningrad State Stomatological Inst, 3½ pp	
"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 6		"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 6	
Establishes differences in the form of poststigmatal cells of abdominal stigmata in certain types of stigmata on one hand, and certain types of Anopheles and Aedes on the other.		Examines question of what changes an interkinetic core, i.e., physiologically active, undergoes with various actions of solutions of carbamide and chloral hydrate on the cell. Submitted by Academician I. I. Shmal'gauzen.	
FDB	42T61	FDB	42T62
USSR/Medicine - Pituitary Body Medicine - Drugs, Effect	Jan 1948	USSR/Medicine - Fish Medicine - Larva, Growth	Jan 1948
"Comparison of the Goitrogenic Action of Sulfamides and Thiouracil in Experiments on Chicks," A. A. Voytkovich, Kazakh Med Inst, Alma-Ata, 4 pp		"The Daily Rhythm of the Growth of the Carp Larvae (Cyprinus Carpio L.)," V. I. Olifan, Inst Cytology, Histology and Embryol, Acad Sci USSR, 2 pp	
"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 1		"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 1	
Various conclusions referring to activity of the hypophysis. Experiments on hypophysis tissues of various animals showed varying amounts of thyrotropin. Birds showed lowest content. Chicks gave best reactions to sulfamides. Records experiments and results. Submitted by Academician L. A. Orbeli, 2 Sep 1947.		Describes studies conducted to determine physiology of fish larva, and to establish development of larvae. Submitted by Academician L. A. Orbeli, 19 Sep 1947.	
FDB	42T63	FDB	42T64

RESTRICTED	FDB Periodical Abstracts Scientific No 42	RESTRICTED
USSR/Medicine - Nervous System, Sympathetic Medicine - Calcium	Jan 1948	USSR/Medicine - Leaves Medicine - Photosynthesis Jan 1948
"Microphysiological Study of Peculiarities of Secretion of Calcium Ions in the Heart in Irritation of Sympathetic Nerves," Corr Mem, Acad Sci USSR; Kh. S. Koshtoyants, I. A. Keder-Stepanova, V. A. Shidlovskiy, Lab General and Comparative Physiol, Moscow State U imeni M. V. Lomonosov, 2½ pp		"Role of Leaves in the Photoperiodic Reaction of a Long Day Plant," M. Kh. Chaylakhyan, G. A. Samygin, Plant Physiol Lab, Plant Physiol Inst imeni K. A. Timiryazev, Acad Sci USSR, 3¼ pp
"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 1		"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 1
Experiments conducted to explain problem of which form and where, according to the individual histologic structure of the myocardium, does the separation of ions in a medium take place. Submitted, 13 Nov 1947.		Gives results of experiments conducted to confirm theories put forth by Lang and Melchers, on photoperiodic reactions in long day plants. Experiments conducted during summers of 1946 and 1947. Submitted by Academician N. A. Maksimov, 21 Oct 1947.
FDB 42T65		FDB 42T66
USSR/Medicine - Bone, Regeneration Medicine - Hormones, Sex	Jan 1948	USSR/Medicine - Nucleins Medicine - Cells, Division Jan 1948
"Influence of the Sex Hormone on Regeneration of Bones," L. F. Berezkina, Lab of Histogenesis, Inst Evolutionary Morphol, Acad Sci USSR, 3¼ pp		"Cytophysical Distinction between Amitosis and Mitosis," G. Roskin, M. Struve, Moscow State U imeni M. V. Lomonosov, 2½ pp
"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 1		"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 1
Castration slows the process of bone regeneration. Administration of sex hormones to castrated patients overcomes the bone regeneration slowing effect of castration. Administration of estrone to a normal male did not produce any stimulating effect on regeneration of bones of mice. No qualitative differences noted in any of the experiments conducted. Submitted by Academician I. I. Shmal'gauzen, 24 Sep 1947.		Basic object: Determine role of the cytoplasmic nucleic acid in cells, divided amitotically. Great difficulty experienced in recreating this division in laboratory conditions. Submitted by Academician I. I. Shmal'gauzen, 15 Sep 1947.
FDB 42T67		FDB 42T68
USSR/Medicine - Almonds Medicine - Cells	Jan 1948	USSR/Medicine - Plants Medicine - Enzymes, Adsorption of Jan 1948
"Karyotip of Almonds," A. G. Araratyan, Cytology Sec, Inst Plant Genetics, Acad Sci USSR, 3 pp		"Effects of Temperature Variation on Adsorption of Invertases by the Tissues of Higher Plants," N. M. Sisakyan, T. P. Verkhovtseva, Inst Biochem imeni A. N. Bakh, Acad Sci USSR, 2½ pp
"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 1		"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 1
Gives results of studies on two types of almonds: wild <i>Amygdalus Fenzliana</i> (fritsch) and cultivated <i>Amygdalus communis</i> L. Specific studies conducted on the nuclear form of the somatic cells. Drawings show karyotips of the wild and cultivated almond. Submitted by Academician N. A. Maksimov, 15 Oct 1947.		Gives results of laboratory experiments to determine character of those changes taking place in regard to adsorptive ability of plant tissues under various temperature conditions. Increased osmotic pressure increases the adsorption of tissues. Submitted by Academician A. I. Oparin, 9 Sep 1947.
FDB 42T69		FDB 42T70
USSR/Medicine - Plants Medicine - Nicotine	Jan 1948	USSR/Medicine - Glycogen, In Liver and Muscle Medicine - Albumin Jan 1948
"Demethylation of Nicotine in a Plant Cell," G. Il'in, Inst Biochem imeni A. N. Bakh, Acad Sci USSR, 3¼ pp		"Absorption Spectrum of a Union of Glycogen with Albumin," Ye. L. Rozenfel'd, Kh. M. Ravikovich, Lab Physiol Chem, Acad Sci USSR, Inst Biol and Med Chem, Acad Med Sci USSR, 2½ pp
"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 1		"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 1
Reports first results of experimentally carrying out that complex process taking place in the leaves of <i>Nicotiana glutinosa</i> and amphidiploida., i.e., transfer of nicotine into normikotin. However, Il'in was able to show only that the N-CH <sub>2</sub> group is the most active and that nicotine can also take very active part in the cycle of biochemical changes in the plant cell. Submitted by Academician A. I. Oparin, 22 Sep 1947.		Studies conducted by means of spectra to determine the union of muscle glycogen with muscle albumin. Comparisons made of absorption spectra in the ultra-violet range of muscle albumin (myocene and nyogene) with absorption spectra of the union of albumin with muscle glycogen. Submitted by Academician Ya. O. Parnas, 25 Sep 1947.
FDB 42T71		FDB 42T72

RESTRICTED	FDB Periodical Abstracts Scientific No 42	RESTRICTED
<p>USSR/Medicine - Sterility Medicine - Flies</p> <p>Jan 1948</p> <p>"Sterility of Descendants of Heterospermous Species of <i>Drosophila Melanogaster</i>," M. M. Kamshilov, Lab Phenogenesis, Inst Evolutionary Morphol imeni A. N. Severtsov, Acad Sci USSR, 2 1/2 pp</p> <p>"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 1</p> <p>Fifty-four experiments conducted on 11,713 cultures to determine if longevity characteristics transferred through the male as well as the female. Results obtained confirmed the hypothesis of mutational effect of heterosperms. Submitted by Academician I. I. Shmal'gauzen, 23 Sep 1947.</p> <p>FDB 42T73</p>	<p>USSR/Medicine - Heredity, Mechanism Medicine - Flies</p> <p>Jan 1948</p> <p>"Distribution of High Mutability in the <i>Drosophila Melanogaster</i> Population," N. D. Duseyeva, 3 pp</p> <p>"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 1</p> <p>Studies over long period showed that average is one yellow male for each 4,000 normal males in <i>Drosophila melanogaster</i> population. Presents some facts explaining reason for this 1:4,000 variation in the fly population. Submitted by Academician L. A. Orbeli, 19 Sep 1947.</p> <p>FDB 42T74</p>	
<p>USSR/Medicine - Embryology Medicine - Frogs</p> <p>Jan 1948</p> <p>"Resistance of the Bud of the <i>Rana Temporaria</i> to Harmful Agents at Different Stages of Development," F. Gurevich, Lab Growth Dynamics of an Organism, Inst Experimental Med, Acad Med Sci, Leningrad, 3 pp</p> <p>"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 1</p> <p>Describes 16 and 32 layers of blastomeres, the blastula, the morula, and early gastrula. Does not discuss the matter of reaction mechanisms of phytocides, however, does mention that this reaction cannot be classed as osmotic action. Submitted by Academician I. I. Shmal'gauzen, 18 Sep 1947.</p> <p>FDB 42T75</p>	<p>USSR/Medicine - Plants Rubber</p> <p>21 Jan 1948</p> <p>"Is Rubber Consumed in Kok-Saghyz?" S. M. Mashtakov, Sci Res Inst Natural Rubber, 4 pp</p> <p>"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 3</p> <p>Shows that in discussion of physiological role of rubber hydrocarbons the viewpoint that polyprene in plants is reserve nutrient substance is unconvincing. Viewpoint becomes even less tenable when demonstrated by study of the course of biochemical processes taking place in the roots of a 2-year kok-saghyz plant, without taking account of its biological properties. Rubber hydrocarbons are not consumed in the process</p> <p>FDB 42T76</p>	
<p>USSR/Medicine - Heredity Medicine - Flies</p> <p>Jan 1948</p> <p>"Physiological Difference between Two Populations of <i>Drosophila Melanogaster</i>," R. V. Khesin, Zool Inst, Moscow State U imeni M. V. Lomonosov, 4 pp</p> <p>"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 1</p> <p>Studies conducted to answer four problems: 1) Are there physiological variations in <i>Drosophila melanogaster</i>? 2) What is the percentage incidence of such differences? 3) How long are these differences preserved in laboratory propagation of a line? 4) Is there a similar internal divergence in males and females? Results showed that the difference between</p> <p>FDB 42T77</p>	<p>USSR/Medicine - Plants (Contd)</p> <p>21 Jan 1948</p> <p>of normal life activity of the kok-saghyz and not a reserve nutrient substance. Submitted by Academician N. A. Maksimov, 22 Oct 1947.</p> <p>FDB 42T76</p>	
<p>USSR/Medicine - Heredity (Contd)</p> <p>Jan 1948</p> <p>individual <i>Drosophila melanogaster</i> is greater in males than in females. Submitted by Academician I. I. Shmal'gauzen, 17 Sep 1947.</p> <p>FDB 42T77</p>	<p>USSR/Medicine - Hibridity Medicine - Flies</p> <p>Jan 1948</p> <p>"Elimination of a Chromosome in Intertype Hybrids of <i>Drosophila</i> and the Problem of Subsequent Hybridization," N. N. Sokolov, Inst Cytology, Histology, and Embryol, Acad Sci USSR, 4 pp</p> <p>"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 1</p> <p>Results obtained from genetic and cytologic analyses, for the purpose of determining indicator for elimination of chromosomes. However, data obtained can be used in referring only to dot-type chromosomes of the VI pairs. More complete report will be published in later article. Submitted by Academician L. A. Orbeli, 19 Sep 1947.</p> <p>FDB 42T78</p>	

RESTRICTED	FDB Periodical Abstracts Scientific No 42	RESTRICTED
<p>USSR/Medicine - Plants Medicine - Reproduction</p> <p>Jan 1948</p> <p>"Connection between Reproductive Development and the Survival of a Perilla in Conditions of Darkness," V. O. Kazaryan, Bot Inst, Acad Sci Armenian SSR, 3 pp</p> <p>"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 1</p> <p>Reports results of experiments conducted in 1946 on red-leafed perilla, showing more clearly the relation between reproductive development and degree of resistance to long periods of darkness. Submitted by Academician N. A. Maksimov, 1 Sep 1947.</p> <p>FDB 42T79</p>	<p>USSR/Medicine - Wheat Medicine - Photosynthesis</p> <p>Jan 1948</p> <p>"Length of the Light Stage in Standard Types of Summer Wheat and Peculiarities of Their Form Development during a Short Day," K. V. Livanov, Krasny Kut State Selective Breeding Sta, Krasny Kut, Saratov Oblast, 2½ pp</p> <p>"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 1</p> <p>Describes experiments conducted to determine effect of short day on summer wheat, particularly in regard to development of form during short days. Submitted by Academician N. A. Maksimov, 3 Oct 1947.</p> <p>FDB 42T80</p>	
<p>USSR/Medicine - Plant Parasites Medicine - Parasites</p> <p>Jan 1948</p> <p>"Use of Growth Substances for Control of Broom Rape (Orobanche Aegyptiaca Pers)," K. Ye. Ovcharov, Plant Physiol Inst imeni K. A. Timiryazev, Acad Sci USSR, 2½ pp</p> <p>"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 1</p> <p>Experiments conducted to find substance to control broom rape. Good results obtained from use of growth substances on grass rust led author to attempt using similar substances to cure broom rape. Studies and experiments conducted in tomato fields of the Farm imeni Kirov, Zheleznodorozh Region, Stalinabad</p> <p>FDB 42T81</p>	<p>USSR/Metals Magnesium Compounds Glass</p> <p>Feb 1948</p> <p>"Process of Glass Formation When Heating a Four-component Magnesium Mixture," I. I. Kitaygorodskiy, I. D. Tykachinskiy, Chemicotech Inst imeni D. I. Mendeleev, 4 pp</p> <p>"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 6</p> <p>Gives experimental data to prove that in four-component mixture, reactions of dissociation of silicate precipitation carbonates and of liquifaction begin earlier, proceed more energetically and end at lower temperatures than in three-component sodium-calcium mixture.</p> <p>FDB 42T82</p>	
<p>USSR/Medicine - Plant Parasites (Contd)</p> <p>Jan 1948</p> <p>Oblast, Tadzhik SSR. Submitted by Academician N. A. Maksimov, 15 Nov 1947.</p> <p>FDB 42T81</p>	<p>USSR/Metals Ore Deposits Iron Ores</p> <p>Jan 1948</p> <p>"Iron Ore Deposits in the Motmos-Doschatoye Valleys of the Vyksinskiy Region, Gorkiy Oblast," L. M. Miropol'skiy, G. L. Miropol'skaya, 2½ pp</p> <p>"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 1</p> <p>Presents 14 points of interest regarding the iron ore deposits of the Motmos and Doschatoye Valley regions. Point made of finding clay-silt rocks called "sinik" in the iron ore deposits, and that in future surveys it will aid greatly to note occurrence of such "sinik." Submitted by Academician D. S. Belyankin, 17 Oct 1947.</p> <p>FDB 42T83</p>	
<p>USSR/Metals Ore Deposits Iron Ores</p> <p>Jan 1948</p> <p>"Iron Ore Deposits in the Karelo-Finnish SSR," K. K. Khazanovich, 4 pp</p> <p>"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 1</p> <p>Generally describes iron-deposit region lying short distance north of Gimol'skiy Lake, in the general area 62-53 to 63-15 North and 32-00 to 32-35 East. Area surveyed in 1945-1946 by means of aerial photographs. Submitted by Academician D. S. Belyankin, 27 Jun 1947.</p> <p>FDB 42T84</p>	<p>USSR/Metals Spectrum Analysis Iron</p> <p>Feb 1948</p> <p>"Method of Spectral Analysis of Sulfide and Oxide (Iron and Manganese) Ores," L. N. Indichenko, Lab of Spectral Analysis, Inst Geol Sci, Acad Sci USSR, 2½ pp</p> <p>"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 6</p> <p>Describes method of spectral analysis of ores giving true spectrograph of the analyzed substance without deforming its composition, and showing more exact intensity relations of highly volatile and infusible components.</p> <p>FDB 42T85</p>	



## FDB Periodical Abstracts Scientific No 42

CHINA/Nuclear Physics - Uranium Nuclear Physics - Thorium	31 Mar 1948	USSR/Nuclear Physics - Cosmic Rays Nuclear Physics - Trajectories	Jan/Feb 1948
"Regulations on Control of Uranium and Thorium," Exec Yüan, 1 p		"Determining the Trajectory of Cosmic Rays and Time Fields in Media with Varying Speeds," I. S. Berzon, Inst Theoretical Geophys, Acad Sci USSR, 16 pp	
"Chin-yung Chou-pao" Vol XVIII, No 14		"Izv Akad Nauk SSSR, Ser Geog i Geofiz" Vol XII, No 1	
Effects government control over uranium, thorium and other radioactive minerals. Controls extend over mining areas, exploitation and processing, export, military use, and negotiations with friendly nations on research and equipment.		Discusses analysis of various methods to determine time fields, and suggests means to calculate the trajectory of cosmic rays with assistance of yearly graphs.	
ST	42T86	FDB	42T87
USSR/Physics Ionosphere Ionospheric Measurements	21 Jan 1948	USSR/Physics Ionosphere Ionospheric Measurements	21 Jan 1948
"First Observations of a Nocturnal Ionized Layer Lying Above the F <sub>2</sub> Layer," A. N. Kazantsev, 4 pp		"A Special Type of Ionosphere Disturbance," N. V. Mednikova, Sci Res Inst of the Earth's Magnetism, 4 pp	
"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 3		"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 3	
Discusses first observations of ionized layer lying above the F <sub>2</sub> layer made in 1934. Results compared with recent observations of same phenomenon. Conclusions are that above the F <sub>2</sub> layer an ionized layer is frequently observed having a critical frequency less than the critical frequency of the F <sub>2</sub> layer. This layer frequently observed in disturbed condition of		Discusses extraordinary northern light phenomenon observed by Meteorological Station, Institute of the Earth's Magnetism near Moscow, 16 Feb 1947. Concludes that with the usual ionospheric disturbances characterized by lowering of critical frequencies and increase of altitude of the F <sub>2</sub> layer at night,	
FDB	42T88	FDB	42T89
USSR/Physics (Contd)	21 Jan 1948	USSR/Physics (Contd)	21 Jan 1948
the ionosphere and possibly created by corpuscular radiation of the sun. As a rule, the layer is a nocturnal layer, appearing about sunset and disappearing at sunrise. Submitted by Academician B. A. Vvedenskiy, 13 Nov 1947.		a special type of disturbance exists, characterized by appearance of additional layer of ionosphere situated higher than the normal F <sub>2</sub> layer. Submitted by Academician B. A. Vvedenskiy, 13 Nov 1947.	
FDB	42T88	FDB	42T89
USSR/Physics X-ray Analysis Mica	21 Jan 1948	USSR/Physics High Temperature Research Crucibles	Feb 1948
"Chemical Constitution and Classification of Mica," D. P. Serdyuchenko, 4 pp		"New Method of Experimental Work at High Temperatures," Ya. I. Ol'shanskiy, 3 pp	
"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 3		"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 6	
Suggests rational classification of mica based on its X-ray structure. Classification permits distinction of number of polymorphic modifications. Furthermore, calculation of chemical composition of mica by X-ray structure formula shows atomic composition of tetrahedral and octahedral layers, as well as the "K" layer. Submitted by Academician D. S. Belyankin, 17 Nov 1947.		Describes difficulties of carrying out experimental work at temperatures exceeding 2,000° C owing to necessity of having stable material for the crucible. Suggests method of work precluding use of crucibles when experimenting at high temperatures.	
FDB	42T90	FDB	42T91

<del>RESTRICTED</del>		FDB Periodical Abstracts Scientific No 42		<del>RESTRICTED</del>	
USSR/Physics Shock Mathematics, Applied	Feb 1948	USSR/Physics Relaxation Phenomena Sound, High Frequency	Feb 1948		
<p>"Diffusion of Shock from a Point Impulse in an Elastic Semispace Covered by a Liquid Layer," N. Zvolenskiy, Geophys Inst, Acad Sci USSR, 4 pp</p> <p>"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 6</p> <p>Gives equations to calculate shock diffusion, and discusses character of the impulse given to the initial moment. Submitted by Academician L. S. Leybenzon.</p>		<p>"Relaxation Phenomena in Liquids in a Supersonic Field," V. N. Tsvetkov, V. E. Eskin, 3 pp</p> <p>"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 6</p> <p>Shows that acoustic double refraction of liquids in corresponding interval of supersonic oscillation frequency can be used to determine the orientated relaxation of molecules in low-molecular liquids.</p>			
FDB	42T92	FDB	42T93		
USSR/Physics Hysteresis, Magnetic Magnetic Fields, Rotating	Feb 1948	USSR/Physics Ionization Electrons	21 Jan 1948		
<p>"The Theory of Losses by Hysteresis in Rotating Fields," N. S. Akulov, T. A. Yelkina, Magnetic Lab, Inst Phys, Moscow State U imeni M. V. Lomonosov, 4 pp</p> <p>"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 6</p> <p>Describes basic laws whereby magnetic permeability and losses by hysteresis are calculated in cases of weak magnetic fields with variable intensity and of fields with constant intensity.</p>		<p>"Ionization of Molecules KI, NaI and CaCl by Electrons," N. I. Ionov, Leningrad Physicotech Inst, Acad Sci USSR, 2 1/2 pp</p> <p>"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 3</p> <p>Describes results of experiments on ionization of bundles of molecules of alkali-haloid salts by electrons. Dependence of the intensity of mass lines upon change in density of the molecular bundles over large interval of change in density showed that all positive ions observed in ionization of molecules of</p>			
FDB	42T94	FDB	42T95		
USSR/Physics Molecular Structures Electrons	21 Jan 1948	USSR/Physics (Contd)	21 Jan 1948		
<p>"Rapid Methods of Calculating the Structural Factor," N. V. Belov, Corr Mem, Acad Sci USSR, 2 pp</p> <p>"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 3</p> <p>Gives short table and graph for rapid calculation of the structural factor and electron density.</p>		<p>the salts were formed by elementary acts, and the influence of secondary processes were not observed in the experiments. Submitted by Academician A. F. Ioffe, 20 Nov 1947.</p>			
FDB	42T96	FDB	42T95		
USSR/Physics Light - Dispersion Mathematics, Applied	21 Jan 1948	USSR/Physics Statics Mechanics, Applied	21 Jan 1948		
<p>"Theory of Dispersion of Light on Admixtures in the Atmosphere and Hydrosphere," K. S. Shifrin, 4 pp</p> <p>"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 3</p> <p>By using method of successive approximations, i.e., analyzing unknown effective electrical field in a series according to <math>\alpha</math>, solution is sought for the integral equation</p> $\vec{E}_3 \phi(\vec{r}) = \vec{E}_0 e^{i\vec{k} \cdot \vec{r}} + \text{rot rot} \int \alpha(\vec{r}') \vec{E}_3 \phi(\vec{r}')$ $\frac{4\pi e i k R}{R} dV' - \frac{8\pi}{3} \alpha(\vec{r}) \vec{E}_3 \phi(\vec{r})$		<p>"Longitudinal-transverse Deflection of a Beam on an Elastic Base," Sh. Ye. Mikeladze, Tbilisi State U imeni I. V. Stalin, 4 pp</p> <p>"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 3</p> <p>Derives a general equation in practical and convenient form for loaded curved (distended) beam on elastic base. Equation used to determine deflection, bend, curve moment and transverse strength for any value of the abscissa. Submitted by Academician L. S. Leybenzon, 4 Nov 1947.</p>			
FDB	42T97	FDB	42T98		

FDB Periodical Abstracts Scientific No 42		FDB Periodical Abstracts Scientific No 42	
USSR/Physics (Contd)	21 Jan 1948	USSR/Physics Spectrum Analysis X-ray Analysis	Jan 1948
which determines the spatial area of electrical field inside and outside a sphere.		"New Method of Quantitative X-ray Spectrum Analysis," I. B. Borovskiy, X-ray Chem Lab, Inst Geol Sci, Acad Sci USSR, 2½ pp	
		"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 1	
		Quantitative X-ray emission spectrum analysis of elements based on comparison of the relative intensity of lines of known element and element being compared. Describes as result of experiments, that it is possible to conduct quantitative optical analysis by determining the width of some "standard"	
FDB	42T97	FDB	42T99
USSR/Physics Corona Discharges Corona, Solar	Jan 1948	USSR/Physics (Contd)	Jan 1948
"Coefficient of Recombination of Ions in a Corona Discharge of the Atmosphere," V. I. Popkov, Energetics Inst imeni G. M. Krzhizhanovskiy, Acad Sci USSR, 3½ pp		line on the height of the peak of the line of element being studied. Submitted by Academician S. I. Vavilov, 31 Oct 1947.	
"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 1			
In cases of electrical discharges in air, e.g., corona discharges, a recombination of ions of minute dimensions, moving about in the discharge field with high velocity, occurs. Describes case where growth of recombined ions is not uniform. Submitted by Academician A. V. Vinter, 21 Sep 1947.			
FDB	42T100	FDB	42T99
USSR/Physics Atmosphere - Disturbances Aerosols	Jan/Feb 1948	USSR/Physics Fields, Electrostatic Flow, Fluid	Jan/Feb 1948
"Coagulation of Aerosol Particles in a Turbulent Atmosphere," Ye. N. Teverov, 12 pp		"Effect of an Electric Field on a Liquid Stream," Ya. I. Frenkel', G. P. Vager, Main Geophys Observatory, Leningrad, 4 pp	
"Izv Akad Nauk SSSR, Ser Geog i Geofiz" Vol XII, No 1		"Izv Akad Nauk SSSR, Ser Geog i Geofiz" Vol XII, No 1	
Ultramicroscopic measurements made and speed constant calculated for number of particles of smoke diffused in surface layer of the atmosphere. Relation established between speed constant of turbulent coagulation and coefficient of turbulent diffusion.		Conducted experiment using a longitudinal electric field on a vertical liquid stream. Found that moderate field stabilizes stream of water and that the stream begins to pulsate due to accumulation of a large drop on its upper end.	
FDB	42T101	FDB	42T102
USSR/Physics Glass, Optical Optics	Jan/Feb 1948	USSR/Physics Diffusion, Thermal Mathematics, Applied	Jan/Feb 1948
"Effect of the Position of an Aerological Theodolite Prism with Full Interior Reflection upon the Collimation Angle," I. Ya. Tanatar, 6 pp		"Process of Heat Diffusion on Heterogeneous Media," L. I. Rubinshtein, Inst Theoretical Geophys, Acad Sci USSR, 20 pp	
"Izv Akad Nauk SSSR, Ser Geog i Geofiz" Vol XII, No 1		"Izv Akad Nauk SSSR, Ser Geog i Geofiz" Vol XII, No 1	
Investigates effect of deflection angles $\Theta$ and $\psi$ of subject prism relative to two datum lines, and examines effect of their distortion upon the collimation angle $C$ , relative to a "normal" position. Establishes functional relation of $C$ to $\Theta$ and $\psi$ and other quantities.		Examines question of heat diffusion in polycrystalline system between whose components heat exchange takes place according to Henry's law. Solves first and second marginal problems for semiarea and cross section in the case of the bicomponent system.	
FDB	42T103	FDB	42T104

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