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Foreign Documents Branch C I A Periodical Abstracts

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SCIENTIFIC

Number 77

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NOTE: All periodicals listed below are available in Foreign Documents Branch, CIA.

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 1-18, 28-30, 34,35, 37-76, 82, 86-89, 94-101,10.	Vol LX No 3 No 4	Apr 1948 May 1948
"Mekhanizatsiya Trudoyemkikh i Tyazhelykh Rabot" (Mechanization of Labor-Consuming and Heavy Work) Cards 19-26, 90-93	No 3 No 4	Mar 1948 Apr 1948
"Priroda" (Nature) Cards 27, 31-33, 36, 77-81, 83-85, 102,103	No 3	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.

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<p>USSR/Chemistry - Ethylene, Polymerization May 1948 With Methylene Radicals Chemistry - Polymerization, Catalysts for</p> <p>"On the Condensation Action of Methylene Radicals on Ethylene," Ya. T. Eydus, Acad N. D. Zelinskiy, N. I. Ershov, 3 pp</p> <p>"Dok Ak Nauk SSSR" Vol LX, No 4</p> <p>Report of experiments on above subject, which led to discovery of new catalytic hydrolymerization of ethylene in presence of small quantities of carbon monoxide. Submitted 10 Mar 1948.</p> <p>FDB 77T1</p>	<p>USSR/Chemistry - Sulfuric Acid May 1948 Chemistry - Sulfonation</p> <p>"On the Reaction Forms of Sulfuric Acid and Its Simplest Derivatives (The Theory of Sulfonation)," A. M. Lukin, Inst Org Chem, Acad Sci USSR, 4 pp</p> <p>"Dok Ak Nauk SSSR" Vol LX, No 4</p> <p>Describes two main schools of thought concerning form in which sulfuric acid reacts with aromatic compounds during sulfonation. Explains own theory, with diagram showing how hypothetical dissociation of H₂SO₄ is affected by temperature and concentration. Submitted 8 Feb 1948.</p> <p>FDB 77T2</p>
<p>USSR/Chemistry - Polymerization, in Soap May 1948 Solutions Chemistry - Emulsifiers</p> <p>"On the Mechanism of Emulsion Polymerization; Polymerization in Water and Soap Solutions," P. M. Khomikovskiy, Phys Chem Inst imeni L. Ya. Karpov, 4 pp</p> <p>"Dok Ak Nauk SSSR" Vol LX, No 4</p> <p>Increased speed of emulsion polymerization, as compared with polymerization in homogeneous systems, has not been satisfactorily explained. Colloidal solution of monomers in solutions of emulsifiers and micelle polymerization do not account for increase in speed. Author describes his experiments and comments on results. Submitted 7 Jan 1948.</p> <p>FDB 77T3</p>	<p>USSR/Chemistry - Methane May 1948 Chemistry - Oxidation</p> <p>"The Photochemical, Mercury Sensitized Oxidation of Methane; Research on the Intermediate Products," A. B. Nalbandyan, Inst Tech Phys, Acad Sci USSR, 4 pp</p> <p>"Dok Ak Nauk SSSR" Vol LX, No 4</p> <p>Previous experiments showed that when a mixture of methane and oxygen, in presence of mercury vapor, is illuminated by a mercury quartz lamp, a chain reaction is initiated which leads to formation of carbon monoxide, dioxide, and water. Present investigation concerns mechanism of this process. Describes</p> <p>FDB 77T4</p>
<p>USSR/Chemistry - Reaction Kinetics May 1948 Chemistry - Combustion</p> <p>"The Problem of the Interpretation of the Critical Conditions of Chemical Kinetics," I. Ye. Sal'nikov, Inst Chem Phys, Acad Sci USSR, 3 pp</p> <p>"Dok Ak Nauk SSSR" Vol LX, No 4</p> <p>So-called critical conditions, when nature of a reaction alters sharply, are of fundamental importance in modern chain kinetics. Shows that basic aspects of a quantitative theory of differential equations, and of a nonlinear theory of fluctuation based on them, allow new interpretation of critical conditions. Refers to cold flame combustion. Submitted 18 Feb 1948.</p> <p>FDB 77T5</p>	<p>USSR/Chemistry - Methane (Contd) May 1948</p> <p>apparatus and method. Concludes that formaldehyde appears as intermediate product, carbon monoxide is formed by photodecomposition, and carbon dioxide by oxidation of monoxide. Submitted 3 Feb 1948.</p> <p>FDB 77T4</p>
<p>USSR/Chemistry - Chlorophylls, Fluorescence May 1948 of Chemistry - Phthalocyanine, Magnesium Derivatives</p> <p>"The Attenuation of the Fluorescence of Magnesium Phthalocyanine and Chlorophyll by Foreign Molecules," V. B. Yevstigneyev and A. A. Krasnovskiy, Inst Biochem imeni A. N. Bakh, Acad Sci USSR, 4 pp</p> <p>"Dok Ak Nauk SSSR" Vol LX, No 4</p> <p>Description and results of subject experiments. Fluorescence attenuations of magnesium phthalocyanine and chlorophyll are similar, which proves that effect is not connected with labile hydrogen atoms in</p> <p>FDB 77T6</p>	<p>USSR/Chemistry - Resonance, Absorption of May 1948 Chemistry - Erbium, Salts of</p> <p>"Resonance Paramagnetic Absorption in Er⁺⁺⁺ and Ce⁺⁺⁺ Salt Solutions," B. M. Kozyrev, Phys Tech Inst, Kazan Affiliate, Acad Sci USSR, 2 pp</p> <p>"Dok Ak Nauk SSSR," Vol LX, No 4</p> <p>Reports experiments carried out on erbium nitrate, and concentrated solutions. In solid state, displays no appreciable alteration in paramagnetic absorption Q, when H varies from 20 to 400 Oersted; in dilute solution, effect becomes noticeable. Position of maximum absorption for solutions of 0.3 to .03 M/l</p> <p>FDB 77T7</p>

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<p>USSR/Chemistry - Chlorophylls, Fluorescence of (Contd) May 1948</p> <p>chlorophyll molecule and shows resemblance between tetraporphin and porphin systems of conjugate double bonds. Molecule oxidizers with electron affinity (quinone, oxygen) greatly attenuate fluorescence of pigments investigated while reducers (hydroquinone, ascorbic acid, NaI and KI) are far less active. Submitted 12 Feb 1948.</p> <p>FDB 77T6</p>	<p>USSR/Chemistry - Resonance, Absorption of May 1948 (Contd)</p> <p>is when $H \sim 130$ Oe. Hence Lande's factor $g = 1.14 \pm 0.05$. This corresponds closely to theoretical value $g = 1.2$. Analogous results were obtained for cerium chloride solutions. Author interprets these phenomena. Submitted 18 Feb 1948.</p> <p>FDB 77T7</p>
<p>USSR/Chemistry - Peroxidases Chemistry - Catalases Apr 1948</p> <p>"A New Method for the Study of Peroxidase in the Presence of Polyphenoloxidase and Catalase," M. A. Bokuchava, Inst Biochem imeni A. N. Bakh, Acad Sci USSR, 4 pp</p> <p>"Dok Ak Nauk SSSR" Vol LX, No 3</p> <p>By old method at times was impossible to differentiate between peroxidases and polyphenoloxidases since both formed in similar manner. New method permits determination of presence of peroxidases even in presence of polyphenoloxidase and catalase. Submitted by Acad A. I. Oparin 27 Feb 1948.</p> <p>FDB 77T8</p>	<p>USSR/Chemistry - Chlorophyll, Restoration Chemistry - Ascorbic Acid Apr 1948</p> <p>"Reversible Photochemical Restoration of Chlorophyll by Ascorbic Acid," A. A. Krasnovskiy, Inst Biochem imeni A. N. Bakh, Acad Sci USSR, 4 pp</p> <p>"Dok Ak Nauk SSSR" Vol LX, No 3</p> <p>Studies possibility of photochemical restoration of chlorophyll and magnesium dicyanide found in green cells in compounds with ascorbic acid, citric, racemic and ethyl esters, phenylhydrazine, and hydroquinone. Submitted by Acad A. N. Terenin 19 Feb 1948.</p> <p>FDB 77T9</p>
<p>USSR/Chemistry - Precipitations Chemistry - Chromatography Apr 1948</p> <p>"Chromatographic Analysis of Precipitations" T. B. Gapon and Ye. N. Gapon, Moscow Tech Inst of Fish Industry and Hatcheries imeni A. I. Mikoyan, 4 pp</p> <p>"Dok Ak Nauk SSSR" Vol LX, No 3</p> <p>Describes chromatographic analysis of precipitations as an integral part of process of chromatographic analysis. Submitted by Acad M. M. Lubinin 14 Feb 1948.</p> <p>FDB 77T10</p>	<p>USSR/Chemistry - Ethylene, Oxide of Medicine - Heredity, Mechanisms Apr 1948</p> <p>"The Action of Oxides of Ethylene, Glycide and Glycols on the Mutation Gene," I. A. Rapoport, Inst Cytology, Histology and Embryol, Acad Sci USSR, 4 pp</p> <p>"Dok Ak Nauk SSSR" Vol LX, No 3</p> <p>Genetic analyses of mutation activity of oxides of ethylene permit data to be obtained on internal mechanisms of gene mutations. Submitted by Acad L. A. Orbeli 16 Feb 1948.</p> <p>FDB 77T11</p>
<p>USSR/Chemistry - Ethane, 1,2-Dihalogeno-, Chemistry - Isomers, Rotational of 1,2-Dihalogeno- Apr 1948</p> <p>"Research on the Rotation Isomer of 1,2-Dihalogenoethanes by Combination Diffusion of Light," O. L. Aronov, V. M. Tatevskiy, A. V. Frost, Moscow State U imeni M. V. Lomonosov, Sci Res Inst Org Intermediate Products and Dyestuffs imeni Voroshilov, 4 pp</p> <p>"Dok Ak Nauk SSSR" Vol LX, No 3</p> <p>Studies constant of equilibrium of rotation isomers of dihalogenoethanes by method of measuring intensity of lines of a spectrum formed by combined dispersion of light of components and including effect of temperature factor. Submitted by Acad A. A. Balandin 18 Feb 1948.</p> <p>FDB 77T12</p>	<p>USSR/Chemistry - Alkali Metal Halides Chemistry - Fluorides Apr 1948</p> <p>"Complex Formation Between the Fluorides of Alkaline Metals and Metals of the Fourth Group," Ye. P. Dergunov and A. G. Bergman, Lab of Fused Salts, Inst Gen and Inorg Chem imeni N. S. Kurnakov, Acad Sci USSR, 4 pp</p> <p>"Dok Ak Nauk SSSR" Vol LX, No 3</p> <p>Authors have two goals: (1) to explain experimental method of obtaining data for studying fluorides of alkaline metals with fluorides of fourth group, and (2) to report results of studies conducted on tertiary system of RbF-ThF. Submitted by Acad I. I. Chernyayev 16 Feb 1948.</p> <p>FDB 77T13</p>

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USSR/Chemistry	- Tri-isobutylene Chemistry - Oxidation	Apr 1948	USSR/Chemistry - Benzene, Electron Formulas of Chemistry - Naphthaline
"The Oxidation of Tri-isobutylene," A. P. Meshcheryakov, 2 pp			"The Principle of Alternation of Spin and π -Electron Formulas; Benzene, Naphthaline, Oxygen and Other Examples," V. A. Izmail'skiy, Moscow State Pedagogical Inst imeni V. P. Potemkin, 4 pp
"Dok Ak Nauk SSSR" Vol LX, No 3			"Dok Ak Nauk SSSR" Vol LX, No 3
Discovery of new method for oxidation of tri-isobutylene permits a selective oxidization of isomers for purpose of obtaining mixtures of acid with not readily accessible methyl-tributylneopentilacetic acid. Submitted by Acad A. N. Nesmeyanov 24 Feb 1948.			Discusses principles of alternation of spin and applies theories to molecules of various chemical compounds. Submitted by Acad A. Ye. Poray-Koshits 26 Feb 1948.
FDB		77T14	FDB
			77T15
USSR/Chemistry	- Reaction Kinetics	Apr 1948	USSR/Electronics Particles, Charged
"The Thermokinetic Model of Homogeneous Periodic Reactions," I. Ye. Sal'nikov, Inst Phys Chem, Acad Sci USSR, 4 pp			"On the Second Boundary Case of Electronic Optics," G. V. Spivak and R. A. Lukatskaya, Phys Faculty, Moscow State U imeni M. V. Lomonosov, 4 pp
"Dok Ak Nauk SSSR" Vol LX, No 3			"Dok Ak Nauk SSSR" Vol LX, No 3
Describes certain conditions under which thermokinetic oscillations become auto-oscillations. Submitted by Acad N. N. Semenov 18 Feb 1948.			Discusses two problems: (1) experimental method for obtaining qualitative representations for determined situations and at atmospheric pressure, and (2) interpretation of mechanism which causes dispersion of charged particles, guaranteeing their movement in accordance with external forces for a given situation. Submitted by Acad A. A. Lebedev 19 Feb 1948.
FDB		77T16	FDB
			77T17
USSR/Engineering	Turbines Mathematics, Applied	May 1948	USSR/Engineering Pumps, Centrifugal Alloys, Acid Resisting
"The Computation of Profile Losses of Reaction Turbines and Compressor Grids During the Continuous Flow Past Them of a Gas," N. M. Markov, Gen Sci Res Turbine and Boiler Inst imeni I. I. Polzunov, 4 pp			"Centrifugal Pump 4 NVK-2" $\frac{1}{2}$ p
"Dok Ak Nauk SSSR" Vol LX, No 4			"Mekh Trud i Tyazh Rabot" No 3
Defines coefficient of loss and obtains following expression for it:			First sulfuric acid pump to be made in USSR is a four-inch, two-impeller centrifugal pump that is electrically driven. States principal dimensions. Materials used are special acid resisting bronze and stainless steel.
$C_v = \frac{E_v}{E_{adia}} = \frac{\epsilon \cdot \sum H^{***} U^3 \delta^{**}}{(\frac{g_0}{g} - \epsilon \cdot \sum H^* U \delta^{**}) c_0^2}$			
Submitted 5 Sep 1947.			
FDB		77T18	FDB
			77T19
USSR/Engineering	Atomization Paints - Spraying	Mar 1948	USSR/Engineering Construction Equipment Caissons, Compressed Air
"Noncompressor Atomization of Viscous Liquids at Pressures of 15-150 Atmospheres," G. I. Feferboym, 4 pp			"Lowering Caissons With the Aid of Hydromechanization," I. Yu. Barenboym, Engr, Hero of Socialist Labor, 4 pp
"Mekh Trud i Tyazh Rabot" No 3			"Mekh Trud i Tyazh Rabot" No 3
Gives detailed account of apparatus designed for subject purpose by author's institute. Based on principle of hydraulic intensifier, needs no air compressor. Liquid is handled by electrically driven gear wheel pump. Presents sectional drawings of system and photographs showing spray. Apparatus has proved very successful with paint and can be adapted for use with fuels, oils, etc.			Lists difficulties encountered when lowering caissons for building railroad bridge across rivers. These were overcome by system of hydromechanization described with sketch. Mud of river bed was loosened by monitor and removed by ejector. Fully automatic caissons, obviating men working under pressure, are now in experimental stage.
FDB		77T20	FDB
			77T21

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USSR/Engineering Drills, Oil Well Drilling Equipment "Methods of Developing the Technology of Drilling Shafts," G. I. Man'kovskiy, Dr Tech Sci, Laureate of Stalin Prize, 4 pp "Mekh Trud i Tyazh Rabot" No 3 In USSR, shaft drilling has been done with oil drilling equipment; but problems are basically different. Describes in detail specially designed shaft drilling apparatus. There is need for further development in this line.	Mar 1948	USSR/Engineering Cranes, Lifting Loading, Equipment "Basic Problems of the Mechanization of Transfer Work in Maritime Ports," D. B. Shapirovskiy, Head of Development and Reconstruction of Ports Section, Ministry of Maritime Fleet, 4 pp "Mekh Trud i Tyazh Rabot" No 3 Refers to achievements of dock workers in second year of Five-Year Plan. Describes mechanization of loading and unloading--autotrucks, autocranes, etc.--and improvements effected by reconstruction of 5-ton
FDB	77T22	FDB
USSR/Engineering Tools, Cutting Machines, Drilling "Light Cutting and Drilling Machine LBS-1," V. N. Bobrov, Engr, 2 p "Mekh Trud i Tyazh Rabot" No 4 Describes new machine produced by Tomsk Works imeni Vakhrushev, GlavVostokUgleMash. Machine is capable of drilling vertically, horizontally, or at any intermediate angle. It will effectively replace heavier SBM-3 and SBM-1 drilling machines.	Apr 1948	USSR/Engineering (Contd) and 25-ton cranes. This should ensure fulfillment of third year of Five-Year Plan.
FDB	77T24	FDB
USSR/Engineering Computers "Mechanization of Computation in the Plant 'Dinamo' imeni Kirov," S. A. Sheveleva, 3 pp "Mekh Trud i Tyazh Rabot" No 4 Describes advantages of using a punch card system, similar to IBM, for accounting at subject plant.	Apr 1948	USSR/Engineering Computers "The Introduction of Mechanized Computations - A Vital National Economic Task," A. M. Fisson, 2 1/2 pp "Mekh Trud i Tyazh Rabot" No 4 Accounting in USSR appears to be very laborious task. Author describes advantages to be gained from introduction of mechanized methods for accounting and making calculations.
FDB	77T25	FDB
USSR/Geography Caverns Topography "Underground Topography," N. A. Gvozdetkiy, 12 pp "Priroda" No 3 General account of caves, their structure, fauna and flora, accompanied by diagrams of some USSR caves. Cave study has been put on firm basis by a resolution passed at Cave Conference of Jan 1947.	Mar 1948	USSR/Geological Prospecting Minerals, Deposits Phosphates "Goyacite in the Belikov Formations on the Eastern Slopes of the Urals," N. V. Rengarten, 3 pp "Dok Ak Nauk SSSR" Vol LX, No 3 Subject formations are closely related to Alapayev type iron ore deposits. Describes nature and characteristics of subject deposits. Submitted by Acad D. S. Belyankin 17 Feb 1948.
FDB	77T27	FDB

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USSR/Geology Petrology Tectonics May 1948 "A Lithological Analysis of the Deposits of the Upper Part of the Tartar Stratum in the Region of the Cheboksarsk Volga Area," Yu. V. Sementovskiy, Geol Inst, Kazan' Affiliate, Acad Sci USSR, 3 pp "Dok Ak Nauk SSSR" Vol LX, No 4 Describes analysis and results. States that by applying this method to lower formations of a Permian system it is possible to determine time of origin of tectonic structures of region and establish their subsequent history. Submitted 10 Mar 1948. FDB 77T29	USSR/Geology Tectonics Petrology Apr 1948 "Instrusions in the Area Between the Terter and Kyurok-Char Rivers in Azerbaydzhan SSR," A. N. Solovkin, 2 1/2 pp "Dok Ak Nauk SSSR" Vol LX, No 3 Composition and characteristics of subject intrusions which were studied by author during 1945. Submitted by Acad D. S. Belyankin 14 Feb 1948. FDB 77T30	
USSR/Geology Freezing Rock Formation Mar 1948 "The Effect of Freezing in the Southern Lake Onega Region," M. M. Tolstikhina, 1 p "Priroda" No 3 Describes boulder fields being formed by plantation in subject region. FDB 77T31	USSR/Geophysics Solar Phenomena Mar 1948 "Halos in Siberia," V. F. Chistyakov, 1 p "Priroda" No 3 Reports series of observations of halos made from 1938 to 1942 in Krasnoyarsk region of Siberia. There is close connection between solar and lunar halos. FDB 77T32	
USSR/Geophysics Glaciers Mar 1948 "On the Origins of Glaciations in the Quaternary Period," B. K. Breshenkov, 14 pp "Priroda" No 3 Summarizes existing Ice Age theories. Reviews paleobotanic evidence of extent and period of glaciation. Discusses case for polar alteration theory with diagram of supposed movement of North Pole from Oligocene Age to present day. Stresses need for further research, especially of moraine fauna and flora. FDB 77T33	USSR/Nuclear Physics - Ionization Chambers Nuclear Physics - Ionization May 1948 "On the Fluctuations of Current in an Ionization Chamber With Finite Collection Time," I. Ya. Barit and M. I. Podgoretskiy, Phys Inst imeni P. N. Lebedev, Acad Sci USSR, 4 pp "Dok Ak Nauk SSSR" Vol LX, No 4 Previous treatments of subject have assumed that time of collection of ions is negligibly small compared with RC and that ionizing particles cause uniform ionization within chamber. Present article discusses subject without these limitations. Submitted 14 Feb 1948. FDB 77T34	
USSR/Nuclear Physics - Helium Group Gases Nuclear Physics - Radon May 1948 "On the Possibility of the Formation of Compounds With Aluminum Bromide and Chloride by Inert Gases," B. A. Nikitin, Corr Mem, Acad Sci USSR, E. M. Ioffe, 1 p "Dok Ak Nauk SSSR" Vol LX, No 4 Explains how hydrogen sulfide phosphide form intramolecular compounds with aluminum bromide chloride. Describes experiments with radon to form similar compound AlCl ₃ .Rn. Concludes this is not possible. Submitted 1 Mar 1948. FDB 77T35	USSR/Nuclear Physics - Mesons Nuclear Physics - Nuclear Theory Mar 1948 "The Disintegration of Negative Mesotrons in Matter," Yu. G. Pliner, 2 pp "Priroda" No 3 Outlines mesotron theory of nuclear forces. Time of spontaneous disintegration of negative mesotrons was calculated according to this theory. (Proc Ph Mat Soc Jap 1939). Describes recent experiments of Conversi, Pancini, Piccioni and Sigurgeirsson, Jamakava. Calculates disintegration time from their results. This differs from theoretical time, thus disproving mesotron theory of nuclear forces. FDB 77T36	

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<p>USSR/Mathematics - Transformations Mathematics - Formulas</p> <p>May 1948</p> <p>"On the Vinogradov-Corput Transformation Formulas," Ye. A. Anfert'yeva, 4 pp</p> <p>"Dok Ak Nauk SSSR" Vol LX, No 4</p> <p>In works of Acad I. M. Vinogradov and van der Corput on evaluating sums</p> $S = \sum_{\lambda=0}^{q+F-1} e^{2\pi i F(\lambda)}$ <p>formulas are given for transformation of such sums. Author shows how Vinogradov-Corput method can be used to obtain approximate transformations of such func-</p> <p>FDB 77T37</p>	<p>USSR/Mathematics - Matrices</p> <p>Apr 1948</p> <p>"On an Interpolation Process of Academician S. N. Bernshteyn," D. L. Bernshteyn, 4 pp</p> <p>"Dok Ak Nauk SSSR" Vol LX, No 3</p> <p>Explains method whereby Bernshteyn's process can be expanded and applied to wide class of module matrices. Submitted by Acad V. I. Smirnov 27 Feb 1948.</p> <p>FDB 77T38</p>	
<p>USSR/Mathematics - Transformations (Contd) May 1948</p> <p>tions as $S(x) = \sum_{n=1}^{\infty} e^{-\frac{n^m}{N}} e^{-2\pi i \alpha n^m}$</p> <p>where $m \geq 2$ integer, $\lambda = (1/N + 2\pi i \alpha)^{1/m}$</p> <p>Submitted 4 Mar 1948.</p> <p>FDB 77T37</p>	<p>USSR/Medicine - Skin, Regeneration Medicine - Burns</p> <p>May 1948</p> <p>"The Regeneration of the Skin of a Frog After a Burn," V. V. Rayvid, Inst of Experimental Med, Acad Sci USSR, 4 pp</p> <p>"Dok Ak Nauk SSSR" Vol LX, No 4</p> <p>Reports subject experiments. Burns of various depths were inflicted on different parts of body and re- generative processes observed. Stresses differences between regeneration in mammals and amphibians. Submitted 25 Feb 1948.</p> <p>FDB 77T39</p>	
<p>USSR/Medicine - Regeneration Medicine - Tissue, Transplantation</p> <p>May 1948</p> <p>"The Problem of the Possibility of Bipolar Regen- eration in Vertebrate Animals," T. B. Korobova, Second Moscow Med Inst imeni I. V. Stalin, 4 pp</p> <p>"Dok Ak Nauk SSSR" Vol LX, No 4</p> <p>Reports subject experiments. Method used was grafting of tadpoles tails, subsequent regenerative processes being observed in vivo with magnifying glass. Length of experiments varied from 20 to 45 days. Various stages are described with sketches. Submitted 12 Feb 1948.</p> <p>FDB 77T40</p>	<p>USSR/Medicine - Zoology Medicine - Taxonomy</p> <p>May 1948</p> <p>"On the Nomenclature of Certain Mammals," V. G. Geptner, Zool Museum, Moscow State U imeni M. V. Lomonosov, 4 pp</p> <p>"Dok Ak Nauk SSSR" Vol LX, No 4</p> <p>List of proposed alterations in names of various species of orders Duplicidentata, Glires and Artio- dactyla. Submitted 30 Jan 1948.</p> <p>FDB 77T41</p>	
<p>USSR/Medicine - Marine Organisms Medicine - Fish</p> <p>May 1948</p> <p>"The Yearly Cycle of Loss of Color in Sea Ruff," Z. A. Vinogradova, Karadagsk Biol Sta, Acad Sci Ukrainian SSR, 3 pp</p> <p>"Dok Ak Nauk SSSR" Vol LX, No 4</p> <p>Loss of color in sea ruff first observed in Dec 1946, in sea ruff which had been in aquarium since previous May. Gives results of observations on four ruff. Loss of color occurs all year round, independently of season, at mean intervals of 28 days. Alterations in rhythm depend on characteristics of individual fish and not on environment. Submitted 1 Mar 1948.</p> <p>FDB 77T42</p>	<p>USSR/Medicine - Zoology Medicine - Taxonomy</p> <p>May 1948</p> <p>"The Extent and Distribution of the Genus Synurella (Crustacea, Amphipoda)," Ya. A. Birshteyn, Sci Res Inst Zool, Moscow State U imeni M. V. Lomonosov, 4 pp</p> <p>"Dok Ak Nauk SSSR" Vol LX, No 4</p> <p>General discussion of subject with special reference to classification difficulties. Describes two new species in detail with sketches of distinguishing features. Submitted 8 Mar 1948.</p> <p>FDB 77T43</p>	

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<p>USSR/Medicine - Plants Medicine - Nutrition</p> <p>May 1948</p> <p>"The Stimulation of Root Formation in Vine Cuttings by Growth Substance," I. N. Kondo, Gen Asia Affiliate, All-Union Inst Viniculture and Viticulture "Magarach", 4 pp</p> <p>"Dok Ak Nauk SSSR" Vol LX, No 4</p> <p>Reports subject experiments. Most effective growth substance for stimulating root formation was heter-auxin. All substances tested, except 2, 4-dichlor-phenoxyacetic acid, retarded bud formation, but this may be advantageous in a hot dry climate. Submitted 15 Feb 1948.</p> <p>FDB 77T44</p>	<p>USSR/Medicine - Plants Medicine - Photosynthesis</p> <p>May 1948</p> <p>"The Photochemical Activity of Isolated Granules of Chloroplasts," T. F. Andreyeva and L. Ye. Zubkovich, Inst Plant Physiol imeni K. A. Timiryazev, Acad Sci USSR, 4 pp</p> <p>"Dok Ak Nauk SSSR" Vol LX, No 4</p> <p>Method used was that of Barburg. Suspension of chloroplast granules was prepared from leaves and illuminated by 200-watt lamps. Quinone was then added and oxygen evolved was measured. Photochemical activity was expressed as cu mm of oxygen per hour per</p> <p>FDB 77T45</p>
<p>USSR/Medicine - Biology Medicine - Rodents</p> <p>May 1948</p> <p>"On Historical Variations in the Distribution and Numbers of <i>Microtus Arvalis</i> Pall," A. A. Maksimov, Inst of Evolutionary Morph imeni A. N. Severtsov, Acad Sci USSR, 3 pp</p> <p>"Dok Ak Nauk SSSR" Vol LX, No 4</p> <p>Grey vole is rarely found in forests but flourishes in grasslands. Consequently, its distribution and numbers have increased as more land was brought under tillage in USSR. Efficient harvesting can, however, reduce vole population. Submitted 2 Mar 1948.</p> <p>FDB 77T46</p>	<p>USSR/Medicine - Plants (Contd)</p> <p>May 1948</p> <p>mgm of chlorophyll for leaves of various ages. Increased photochemical activity was observed in granules of older leaves. Submitted 6 Mar 1948.</p> <p>FDB 77T45</p>
<p>USSR/Medicine - Wheat Medicine - Hybridity</p> <p>May 1948</p> <p>"The Sesquidiploids of Hard Wheats," A. R. Zhebrak, Active Mem, Acad Sci Belorussian SSR, Moscow Agr Acad imeni K. A. Timiryazev, 4 pp</p> <p>"Dok Ak Nauk SSSR" Vol LX, No 4</p> <p>Describes sesquidiploids of <i>Triticum durum</i>, first produced by author in 1946 by crossing amphidiploids <i>T. durum</i> x <i>T. Timopheevi</i> ($2n=56$) with <i>T. durum</i> ($2n=28$). Tabulates characteristics of wheats thus produced. Further investigations are in progress. Submitted 2 Mar 1948.</p> <p>FDB 77T47</p>	<p>USSR/Medicine - Flies Medicine - Heredity, Mechanism</p> <p>May 1948</p> <p>"The Specificity and Cycle of Mutability in Natural Populations of <i>Drosophila Melanogaster</i>," N. D. Duseyeva, 4 pp</p> <p>"Dok Ak Nauk SSSR" Vol LX, No 4</p> <p>Tabulates results of study made of natural mutations in flies in 26 towns in USSR. Mutability of white gene was plotted on monthly basis for Alma-Ata, Stalinabad, and Voronezh, thus enabling periodic fluctuations to be observed. Author offers no explanation of this phenomenon. Submitted 17 Feb 1948.</p> <p>FDB 77T48</p>
<p>USSR/Medicine - Chromosomes Medicine - Heredity, Mechanism</p> <p>May 1948</p> <p>"The 'Time of Action' of the Curly Gene," S. I. Alikhanyan, Sci Res Inst imeni M. V. Lomonosov, 4 pp</p> <p>"Dok Ak Nauk SSSR" Vol LX, No 4</p> <p>This gene acts in two stages in <i>Drosophila melanogaster</i>: 6 days from time egg is laid, and on ninth day, 6 hours before emergence of fly from chrysalis. First effect increases wing curvature, second diminishes it. Describes series of experiments where incubation was subject to artificial stimulation and retardation (temperature, lack of oxygen caused by carbon dioxide</p> <p>FDB 77T49</p>	<p>USSR/Medicine - Plants Medicine - Metabolism, Effects of Light on</p> <p>May 1948</p> <p>"On Peculiarities of Day and Night Metabolism in Plants," B. Rubin, Ye. Artsikhovskaya, V. Sokolova, Inst Biochem imeni A. N. Bakh, Acad Sci USSR, 3 pp</p> <p>"Dok Ak Nauk SSSR" Vol LX, No 4</p> <p>Optimum operating temperature of ferments which control hydrocarbon changes in plants is not constant. Optimums alter in course of growth of organism, direction of these alterations reflecting degree of adaptability of plant to one of most important factors of external medium, such as temperature.</p> <p>FDB 77T50</p>

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FDB Periodical Abstracts Scientific No 77

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<p>USSR/Medicine - Chromosomes (Contd) May 1948</p> <p>or ether). Effect on wings was observed in each case. Results are discussed. Submitted 16 Feb 1948.</p> <p>FDB 77T49</p>	<p>USSR/Medicine - Plants (Contd) May 1948</p> <p>Experiments are described and graphs are plotted showing synthesis and decomposition of sucrose against temperature (day and night). Submitted 31 Dec 1947.</p> <p>FDB 77T50</p>
<p>USSR/Medicine - Nematodes May 1948 Medicine - Taxonomy</p> <p>"The Analysis of the Generic Components of Nematodes of the Family Atractidae Travassos, 1919," Acad K. I. Skryabin, Helminthol Lab, Acad Sci USSR, 3 pp</p> <p>"Dok Ak Nauk SSSR" Vol LX, No 4</p> <p>Present classification of nematodes is based on views of Yorke and Maplestene. Author criticizes system and suggests various changes. Submitted 4 Mar 1948.</p> <p>FDB 77T51</p>	<p>USSR/Medicine - Proteins May 1948 Medicine - Antigens and Antibodies</p> <p>"Restored Proteins as Antigens," I. F. Leont'yev and M. P. Znamenskaya</p> <p>"Dok Ak Nauk SSSR" Vol LX, No 4</p> <p>Report subject experiments. Proteins used were glycinin from Glycine hispida Max, legumin from Pisum sativum L. and edectin from Cannabis sativa L. Proteins were restored by nascent hydrogen. Method of investigation was anphylaxis of guinea pigs. Results show that restored proteins lost their immunobiological activity to a considerable extent. Submitted 27 Jan 1948.</p> <p>FDB 77T52</p>
<p>USSR/Medicine - Roentgen Rays May 1948 Medicine - Skin, Regeneration</p> <p>"Is the Recovery of the Regenerative Faculty Possible in X-Rayed Axolotl Tissues?" E. Ye. Umanskiy and Yu. A. Basina, Inst Biol, Kharkov State U, 3 pp</p> <p>"Dok Ak Nauk SSSR" Vol LX, No 4</p> <p>Extremity of axolotl was subjected to X-ray dose of 7,000 Roentgen at 100 kv. Distance from anticathode to object 25 cm without filter. TR tube at 180 kv. This dose completely suppressed regenerative faculty of extremity and tail of axolotl. Some days later normal skin was grafted onto area, which was then</p> <p>FDB 77T53</p>	<p>USSR/Medicine - Fish Apr 1948 Medicine - Taxonomy</p> <p>"On the Systematic Position of the Group Heterostraci," P. P. Balabay, 3 pp</p> <p>"Dok Ak Nauk SSSR" Vol LX, No 3</p> <p>Discusses two basic questions: members of Heterostraci group, and systematic position of group. Submitted by Acad I. I. Shmal'gauzen 16 Feb 1948.</p> <p>FDB 77T54</p>
<p>USSR/Medicina - Roentgen Rays (Contd) May 1948</p> <p>amputated. Regeneration was assessed by counting mitoses in blasteme, X-rayed tissue, and transplanted skin. Tabulates results and concludes that it is not possible to restore X-rayed tissue by contact with sound tissue. Submitted 1 Mar 1948.</p> <p>FDB 77T53</p>	<p>USSR/Medicine - Cells, Inclusions Apr 1948 Medicine - Cells, Structure</p> <p>"The Problem of the Structure, Classification and Function of the Nucleoli," P. I. Zhivago. Inst of Cytology, Histology and Embryol, Acad Sci USSR, 4 pp</p> <p>"Dok Ak Nauk SSSR" Vol LX, No 3</p> <p>Results of studies conducted by the author on subject facts. Submitted by Acad L. A. Orbeli 17 Feb 1948.</p> <p>FDB 77T55</p>

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USSR/Medicine - Diphtheria, Bacilli Medicine - Lipoids "Some Compositional Features of Lipoids in the Diphtherial Microbe," Ye. M. Gubarev and Ye. K. Lubenets, Rostov-on-the-Don Epidemiological and Microbiol Inst, 4 pp "Dok Ak Nauk SSSR" Vol LX, No 3 Results of experiments conducted to determine nature of some of complex compositions found in some lipoids. Submitted by Acad Ya. O. Parnas 11 Feb 1948.	Apr 1948	USSR/Medicine - Albumin Medicine - Muscles "Comparative Biochemical Research of Coagulable Albumins in the Striated Muscles at Various Stages of Phylogenesis and Ontogenesis," I. I. Ivanov and B. S. Kasavina, First Moscow Med Inst, 4 pp "Dok Ak Nauk SSSR" Vol LX, No 3 Studies on coagulable albumins in somatic muscles at various stages of development of animal, particularly during embryo and fetus stage of mice, rats, and guinea pigs. Submitted by Acad L. A. Orbelli 7 Feb 1948.	Apr 1948
FDB	77T56	FDB	77T57
USSR/Medicine - Plants Medicine - Physiology "Respiratory Gas Exchange in Citrus Fruits, and Its Role in the Resistance Phenomenon of the Fruits," B. A. Rubin, Ye. V. Artsikhovskaya and T. M. Ivanova, Inst Biochem imeni A. N. Bakh, Acad Sci USSR, 3 pp "Dok Ak Nauk SSSR" Vol LX, No 3 States that resistance factor must be studied as active physiological process, and that in this connection respiratory gas exchange plays a leading role. Studies conducted on subject phenomenon in lemons, mandarins and oranges. Submitted by Acad A. I. Oparin 10 Jan 1948.	Apr 1948	USSR/Medicine - Flies Medicine - Heredity, Mechanisms "The Nature of High Yellow Gene Mutability in Natural Populations of the Drosophila Melanogaster," N. D. Duseyeva, 4 pp "Dok Ak Nauk SSSR" Vol LX, No 3 Results of series of tests to determine reasons for high mutability of yellow in natural populations. In event of genotypic control of genes, increased mutability can have either recessive or dominant character. Submitted by Acad L. A. Orbelli 17 Feb 1948.	Apr 1948
FDB	77T58	FDB	77T59
USSR/Medicine - Chromosomes Medicine - Heredity, Mechanisms "The Inter-Relation Between Chromosome Components, the Cellular Nucleotides, the Rapidity of Development, and the Appearance of an Indicator," N. I. Nuzhdin, Inst of Genetics, Acad Sci USSR, 4 pp "Dok Ak Nauk SSSR" Vol LX, No 3 Results of experiments showed that author's hypothesis on role of homo- and heterozygote factor in mutations of chromosome or its components, was correct. As a result, this hypothesis is now accepted by geneticists, cytologists, and biochemists. Submitted by Acad V. N. Sukachev 20 Feb 1948.	Apr 1948	USSR/Medicine - Heredity, Mechanism Medicine - Rabbits "On the Interaction of the Azure and Madder Color Factors in the 'Soviet Madder' Family of Rabbits," S. M. Sarkisyan, 4 pp "Dok Ak Nauk SSSR" Vol LX, No 3 Since subject rabbit was developed 10 years ago, its breeding became an industry, meat is used as food and pelt is utilized as fur. Gives results of experiments showing effect of light grey rabbits on blue rabbits when the two are interbred. Submitted by Acad I. I. Shmal'gauzen 5 Feb 1948.	Apr 1948
FDB	77T60	FDB	77T61
USSR/Medicine - Insects Medicine - Light, Effects "Photoperiodic Reaction of Insects Under Conditions of Artificial Illumination," A. S. Danilevskiy, Leningrad State U, 4 pp "Dok Ak Nauk SSSR" Vol LX, No 3 Tests conducted to determine effect of length of natural daylight period on development of insects. Further experiments were conducted to determine effects of artificial light, and permitted tests with various photo periods but with other conditions unchanged. Submitted by Acad I. I. Shmal'gauzen 26 Feb 1948.	Apr 1948	USSR/Medicine - Biology Medicine - Environment "On Corophiidae Biocoenosis in the Caspian and Black Sea Rivers," F. D. Mordukhay-Boltovskoy, Rostov-on-the-Don State U imeni V. M. Molotov, 4 pp "Dok Ak Nauk SSSR" Vol LX, No 3 Description of biocoenosis of muds around Azoc-Black Sea and Caspian basins. Submitted by Acad L. S. Berg 23 Feb 1948.	Apr 1948
FDB	77T62	FDB	77T63

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USSR/Medicine - Hormones, Effects Medicine - Embryology	Apr 1948	USSR/Medicine - Ticks Medicine - Taxonomy	Apr 1948
"The Relation of the Metamorphosis of Bufo Viridis (Laurenti) to the Centers of the Midbrain," Tat'yana Ivanova and L. Zhuravleva, Kazakh Med Inst imeni V. M. Molotov, 4 pp		"New Species of Ticks of the Family Tyrophagus Ouds., 1923 (Tyroglyphidae, Acarina)," V. I. Volgin, 3 pp	
"Dok Ak Nauk SSSR" Vol LX, No 3		"Dok Ak Nauk SSSR" Vol LX, No 3	
Studies on development of decerebralized toad embryos subjected to hormone applications during first stages of formation. Submitted by Acad L. A. Orbeli 17 Feb 1948.		Description of characteristics of following new species: Tyrophagus formicetorum sp.nov.; Tyrophagus Zachvatkini sp.nov.; and Tyrophagus mixtus sp.nov. Submitted by Acad Ye. N. Pavlovskiy 23 Feb 1948.	
FDB	77T64	FDB	77T65
USSR/Medicine - Insects Medicine - Taxonomy	Apr 1948	USSR/Medicine - Locusts Medicine - Taxonomy	Apr 1948
"On the Revision of the Family Ericoccus Sign (Insecta, Homoptera, Coccoidae)," N. S. Berkhsenius, Zool Inst, Acad Sci USSR, 3 pp		"New Species and Subspecies of Locusts (Orthoptera, Acrididae) From Beludshistan," G. Ya. Bey-Biyenko, 3 pp	
"Dok Ak Nauk SSSR" Vol LX, No 3		"Dok Ak Nauk SSSR" Vol LX, No 3	
Presents revised classification and arrangement of subject species. Submitted by Acad Ye. N. Pavlovskiy 23 Feb 1948.		Characteristics of Duroniella kostylevi sp.nov. (Sketch of head and left whisker), Acretylus longopes subfasciatus subsp.nov.; Sphingonotus paradixus sp.nov.; and Anacridium aegyptium rubrispinum subsp. nov. Submitted by Acad Ye. N. Pavlovskiy 23 Feb 1948.	
FDB	77T66	FDB	77T67
USSR/Medicine - Wheat Medicine - Pollen	Apr 1948	USSR/Medicine - Blood, Calcium Medicine - Parathyroidectomy, Results	Apr 1948
"The Results of Overpollination Between Tetraploid and Diploid Buckwheat," S. L. Frolova, and V. V. Mansurova, Inst Cytology, Histology and Embryol, Acad Sci USSR, 4 pp		"Reduction of Calcium Content in the Internal Medium of Parathyroidectomized Frogs," R. P. Zhenevskaya, Inst of Evolutionary Morph imeni A. N. Severtsov, Acad Sci USSR, 3 pp	
"Dok Ak Nauk SSSR" Vol LX, No 3		"Dok Ak Nauk SSSR" Vol LX, No 3	
Results of experiments conducted for 6 years on subject phenomenon. Submitted by Acad V. N. Sukachayev 31 Jan 1948.		Studies to determine calcium content in blood of subject frogs and amphibia during various seasons of year. Submitted by Acad I. I. Shmal'gauzen 24 Feb 1948.	
FDB	77T68	FDB	77T69
USSR/Medicine - Heart, Cardiography Medicine - Invertebrates	Apr 1948	USSR/Medicine - Reflexs, Motor Chemistry - Phenamine	Apr 1948
"Features of Electrocardiograms of Invertebrata (Grape Snails)," G. D. Smirnov and T. M. Turpayev, Inst of Evolutionary Morph imeni A. N. Severtsov, Acad Sci USSR, 3 pp		"The Effect of Phenamine on the Motor Reflexes of Makak Monkeys," L. G. Voronin and G. I. Shirikova, Sukhumi Biol Sta, Acad Med Sci USSR, 4 pp	
"Dok Ak Nauk SSSR" Vol LX, No 3		"Dok Ak Nauk SSSR" Vol LX, No 3	
Experiments and studies on electrocardiograms showed that these are dependent not only on factors relative to development of excitation in myocardium but on sum of processes which result from coordinated action of various parts of heart. Submitted by Acad I. I. Shmal'gauzen 27 Feb 1948.		Studies to determine stimulating effect of phenamine on motor reflexes of subject monkeys. Submitted by Acad L. A. Orbeli 27 Feb 1948.	
FDB	77T70	FDB	77T71

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SECRET

USSR/Medicine - Marine Organisms
Medicine - Cells, Nuclei

Apr 1948

"The Oxidizing Exchange of the Nucleus of the Ovocyte in the Triton," T. P. Platova, Inst Cytology, Histology and Embryol, Acad Sci USSR, 4 pp

"Dok Ak Nauk SSSR" Vol LX, No 3

Results of experiments conducted to evaluate intensity of oxidizing exchange observed during studies on isolated nuclei. Submitted by Acad L. A. Orbeli 17 Feb 1948.

FDB

77T72

USSR/Medicine - Plants
Medicine - Cells, Division

Apr 1948

"The Distribution of Basophilic Cells and of Mitosis in the Meristem of Radicles in Higher Plants," B. V. Kedrovskiy and K. P. Trukhacheva, Inst Cytology, Histology and Embryol, Acad Sci USSR, 4 pp

"Dok Ak Nauk SSSR" Vol LX, No 3

Results of studies conducted on 13 types of angiospermae, to show great affinity of fixed plasma in young cells of primary meristem to basic aniline dyes. Submitted by Acad L. A. Orbeli 29 Jan 1948.

FDB

77T73

USSR/Medicine - Secretions
Medicine - Insects

Apr 1948

"The Ecological and Physiological Origins of the Secretions of Honey Dew by Aphididae and Other Homoptera," M. S. Gilyarov, Inst of Evolutionary Morphimeni A. N. Severtsov, Acad Sci USSR, 4 pp

"Dok Ak Nauk SSSR" Vol LX; No 3

Results of ecological experiments and studies permit explanation of physiological significance of secretion of sugar by aphididae and clarify cases when such secretion does not take place in Homoptera. Submitted by Acad I. I. Shaml'gauzen 27 Feb 1948.

FDB

77T74

USSR/Medicine - Parasites
Medicine - Insects

May 1948

"Intraspecies and Intra-genus Parasitism and the Evolution of Hymenoptera," V. V. Popov, Zool Inst, Acad Sci USSR, 4 pp

"Dok Ak Nauk SSSR" Vol LX, No 4

Of 82,000 known species of hymenoptera 39,000 are, in broad sense of term, parasitic. Describes various degrees of parasitism among different genera. Suggests their emergence is similar to that of inquilinism in higher hymenoptera but conditioned by evolutionary factors. Submitted 1 Mar 1948.

FDB

77T75

USSR/Medicine - Thyroid, Physiology
Chemistry - Sulfapyridine

May 1948

"Strengthening the Thyreotropic Reaction in Chicks on the Basis of the Introduction of Methylthiouracil," P. A. Vunder, Saratov State U imeni N. G. Chernyshevskiy, 4 pp

"Dok Ak Nauk SSSR" Vol LX, No 4

Experiments carried out on 5-day old chicks, using methylthiouracil or sulfidine injection. Tabulates thyroid gland weights corresponding to various routines adopted. Suggests various reasons to account for rapidity of thyreotropic reaction. Submitted 1 Mar 1948.

FDB

77T76

USSR/Medicine - Sounds
Medicine - Muscles

Mar 1948

"The Reaction of Protoplasm to Audible Sounds," Prof I. F. Leont'yev, 1 p

"Priroda" No 3

Reports subject series of experiments, using frog's muscle (m. sartorius) and special sound generator of frequency 100-10,000 cycles and intensity 0-120 decibels. Found that reaction reached maximum at 3,000 cycles. Possible explanation is existence of resonance system in protoplasm.

FDB

77T77

USSR/Medicine - Tubercle Bacilli
Medicine - Odors

Mar 1948

"The Nature of the Aromatic Substance of the Tuberculosis Bacilli," I. F. Leont'yev, 2 p

"Priroda" No 3

Microbiologists have known for a long time about pleasant smell of bouillon culture of tuberculosis bacilli. One reason for it discovered in 1944 by Goris and Sabetay of the Pasteur Institute, Paris. They isolated beta-phenylethyl alcohol from dry bacilli. This substance is chief constituent of concentrated essence of roses.

FDB

77T78

USSR/Medicine - Soil
Medicine - Plants

Mar 1948

"Observations on the Problem of the Formation of 'Pegs' in Kemerovo Oblast'," I. V. Zykov, 1 p

"Priroda" No 3

The "pegs" are islets of wood in the Siberian steppes. Main flora are birches and pines. Author attributes their presence to beds of vanished rivers.

FDB

77T79

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<p>USSR/Medicine - Mosquitoes, Eradication Medicine - Malaria, Prevention</p> <p>Mar 1948</p> <p>"Antimalaria Treatment of Carp Ponds With DDT Preparation," G. Shpet and N. Kononova, 1 p</p> <p>"Priroda" No 3</p> <p>Describes subject experiments, carried out in laboratory and on carp ponds. DDT dose, lethal for anopheline mosquito larvae, is harmless both to carp and invertebrates they eat.</p>	<p>USSR/Medicine - Malaria, Prevention Medicine - Mosquitoes, Eradication</p> <p>Mar 1948</p> <p>"New Developments in the Control of Malaria Mosquitoes," Prof Iv. A. Rubtsov, 1 p</p> <p>"Priroda" No 3</p> <p>Eyewitness account of successful malaria control in Pontine Marshes of Italy by spraying dwellings with DDT. Describes visit to central malaria station at Latina. Recommends method for adoption in USSR.</p>	<p>FDB 77T80</p>
<p>USSR/Medicine - Heredity, Mechanism Medicine - Heredity</p> <p>Apr 1948</p> <p>"Phenocopies of Mutations, Unlike Natural Selection," Yu. M. Olenov, K. F. Galkovskaya, A. D. Pushnitsyna, Gen X-Ray, Radiological and Cancer Inst, 4 pp</p> <p>"Dok Ak Nauk SSSR" Vol LX, No 3</p> <p>Analysis of data collected on wide distribution and frequently observed mutations showed phenotypic analogies but there was lack of similarity even in individual populations. Submitted by Acad I. I. Shmal'gauzen 10 Oct 1947.</p>	<p>USSR/Medicine - Nerves Optic Medicine - Phosphorus and Phosphorous Compounds</p> <p>Mar 1948</p> <p>"Radioactive Phosphorus and Optic Nerves," Prof I. F. Leont'yev, 1 p</p> <p>"Priroda" No 3</p> <p>Reviews previous work in this field. Describes Buckner's experiments in detail. Radioactive phosphorus was administered subcutaneously into rabbit, one of whose eyes was shaded. Animal subsequently suffocated and optical nerve was then examined. P³² content was same in both eyes. This shows that phosphorus exchange is unaffected by natural stimulation.</p>	<p>FDB 77T82</p>
<p>USSR/Medicine - Ultraviolet Rays Medicine - Nerves</p> <p>Mar 1948</p> <p>"Ultraviolet Microscopy of Nerve Cells," Prof I. F. Leont'yev, 1 p</p> <p>"Priroda" No 3</p> <p>Describes experiment carried out by Ye. Moiseyev on cells of spinal ganglions of rabbits, cats and dogs. Method based on absorption of ultraviolet ray by chromatophilic substance of cells. Results show that this substance, which is a disseminated liquid in vivo, can alter qualitatively and quantitatively in response to stimuli.</p>	<p>USSR/Medicine - Flies Medicine - Heredity, Mutations</p> <p>Mar 1948</p> <p>"The Mutational Action of Chemical Substances," D. V. Lebedev, 2 pp</p> <p>"Priroda" No 3</p> <p>Describes how Rapoport, working in USSR, produced lethal mutations in flies with formaldehyde and hexamethylenetetramine. Refers to yperite experiments of Auerbach in England on fungi, continued by Horowitz in US. Summarizes work of Texas University, where action of chemical compounds on Staphylococcus Aureus was combined with that of ultra-violet ray.</p>	<p>FDB 77T84</p>
<p>USSR/Metals Flotation Gold</p> <p>May 1948</p> <p>"The Problem of the Effect of Adsorption and the Chemical Action of Oxygen on the Flotation Properties of Gold, Silver and Copper Surfaces," I. N. Plaksin, Corr Mem, Acad Sci USSR; S. V. Bessonov, Inst of Mining, Acad Sci USSR, 3 pp</p> <p>"Dok Ak Nauk SSSR" Vol LX, No 4</p> <p>Discusses results of experiments on above subject. Readings are tabulated and plotted, showing boundary angle of wetting against time of contact with water for each metal. Submitted 9 Mar 1948.</p>	<p>USSR/Metals Nickel Alloys Resistance, Electrical</p> <p>May 1948</p> <p>"Anomalous Variation of Electrical Resistance in Ni₂Mn Alloy in a Magnetic Field," A. Komor and I. Portnyagin, Ural Industrial Inst imeni S. M. Kirov, Ural Affiliate, Acad Sci USSR, 2 pp</p> <p>"Dok Ak Nauk SSSR" Vol LX, No 4</p> <p>Peculiarity of Ni₂Mn is that spontaneous magnetivity and Curie temperature depend on heat treatment. Readings for resistance variation for both alloys were obtained for temperatures of 77° and 293° (centigrade</p>	<p>FDB 77T86</p>
<p>FDB 77T86</p>	<p>FDB 77T87</p>	<p>FDB 77T81</p>

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REF ID: A66527

<p>USSR/Metals Copper Alloys Resistance, Electrical</p> <p>Apr 1948</p> <p>"The Electrical Resistance of the Alloy Cu₂Pb in a Transverse Magnetic Field and the Outer Order of Atoms," A. Komar and I. Portnyagin, Ural Industrial Inst imeni S. M. Kirov, Ural Affiliate, Acad Sci USSR, 2 pp</p> <p>"Dok Ak Nauk SSSR" Vol LX, No 3</p> <p>Subject alloy belongs to class known as regulated alloys. Regulation of atoms of this alloy decreases its electrical resistance (resistance ρ and Hall's</p> <p>FDB 77T88</p>	<p>USSR/Metals (Contd)</p> <p>May 1948</p> <p>absolute). Strength of magnetic field was varied from 0 to 20 kOe. Results, shown graphically, are difficult to reconcile with N. S. Akulov's theory. Submitted 24 Feb 1948.</p> <p>FDB 77T87</p>
<p>USSR/Metals (Contd)</p> <p>Apr 1948</p> <p>constant R). Decrease of these values results in change of energy spectrum of electrons in lattice, as well as change in relation between alloy atoms and ions of lattice. Submitted by Acad S. I. Vavilov 28 Feb 1948.</p> <p>FDB 77T88</p>	<p>USSR/Minerals Gypsum Cement</p> <p>May 1948</p> <p>"Research on the Gypsum of the Stalinogorsk Deposit," P. P. Budnikov, Corr Mem, Acad Sci USSR, 2 pp</p> <p>"Dok Ak Nauk SSSR" Vol LX, No 4</p> <p>Gives tables of chemical analysis of specimens from above deposit and properties of various cements prepared from them. Submitted 9 Mar 1948.</p> <p>FDB 77T89</p>
<p>USSR/Mines Machines, Loading Coal</p> <p>Apr 1948</p> <p>"First Experience With the Operation of the S-153 Coal-Loading Machine in the Mines of the Tula Coal Combine," I. A. Akulov, Engr, 2 pp</p> <p>"Mekh Trud i Tyazh Rabot" No 4</p> <p>Describes construction and performance of subject machines, produced by factories of Ministry of Machine Construction and used for first time in 1947 in shafts of TulaUgol Combine.</p> <p>FDB 77T90</p>	<p>USSR/Mining Tools, Cutting Coal</p> <p>Mar 1948</p> <p>"An Analytical Method of Determining Optimum Conditions for Cutting With Cutting Machines," Prof M. I. Slobodkin, Dr Mech Sci, 4 pp</p> <p>"Mekh Trud i Tyazh Rabot" No 3</p> <p>Author deduces and solves necessary equations for determining optimum cutting and feeding speeds of coal-cutting machines which vary, according to seam being worked.</p> <p>FDB 77T91</p>
<p>USSR/Mining Methods Coal</p> <p>Apr 1948</p> <p>"Vital Tasks of Coal-Combine Construction," G. V. Rodionov, Cand Tech Sci, Laureate of Stalin Prize, 5 pp</p> <p>"Mekh Trud i Tyazh Rabot" No 4</p> <p>Lists various vital tasks for coal-combine construction agencies in USSR, as means of increasing mechanization of basic tasks in coal mining. These combines not only cut coal, but also load it on wagons or conveyor belts. Describes contemporary combines and improvements desired in future combines.</p> <p>FDB 77T92</p>	<p>USSR/Mining Methods Mining Equipment</p> <p>Apr 1948</p> <p>"Experiences With the Introduction of Complete Automatization of Mechanisms and Processes in Mines," Engr I. I. Bazhenov, 7 pp</p> <p>"Mekh Trud i Tyazh Rabot" No 4</p> <p>Shows results of performance and efficiency obtained from an experimental installation by the All-Union Scientific and Research Coal Institute of a complete remote control system for a mine. Experiments conducted at shafts 4/6 of KopeyskUgol Trust. Great advantages realized from new method of regulating mining equipment.</p> <p>FDB 77T93</p>

SECRET		FDB Periodical Abstracts Scientific No 77		SECRET	
USSR/Physics Solar Radiation Radiation - Measurements	May 1948	USSR/Physics Phosphorescence Phosphorus	May 1948		
<p>"The Total Radiation With a Cloudless and Cloudy Sky," N. N. Kalitin, 3 pp</p> <p>"Dok Ak Nauk SSSR" Vol LX, No 4</p> <p>Report of observations made at Pavlovsk (near Leningrad) 1931-1940. Direct solar radiation was measured with thermoelectric actinograph and diffuse radiation with piranograph. Total radiation was obtained by adding above readings and checked by solarograph. Results show that solar radiation varies least--9%. Diffuse radiation varies by 23% and total by 13%. Submitted 5 Mar 1948.</p>		<p>"The Emission Spectra of Phosphorus in Mixtures of Alkaline Halides," O. V. Fialkovskaya, Sci Res Phys Inst, Leningrad State U, 4 pp</p> <p>"Dok Ak Nauk SSSR" Vol LX, No 4</p> <p>Discusses results of subject experiments. Describes preparation of phosphorus. Alkaline halide systems used were of type (KCl + KBr) + TlCl. Results were plotted with ordinate intensitivity in usual units and abscissa wave length in A units.</p>			
	77T94	FDB	77T95		
USSR/Physics Phosphorescence Viscosity	May 1948	USSR/Physics Wave Mechanics Wave Analysis	Apr 1948		
<p>"On the Relation of the Duration of Phosphorescence of Organic Luminophores to the Viscosity of the Solvent," B. Ya. Sveshnikov and P. P. Dikun, State Optical Inst, 4 pp</p> <p>"Dok Ak Nauk SSSR," Vol LX, No 4</p> <p>Reports subject experiments. Organic luminophores used were rhoduline orange for low viscosities (0.2 poise) and hard candy for high viscosities (6 poises). Viscosity was altered by varying solvents, e.g., glycerine, ethylene glycol, etc. Exciting light</p>		<p>"On One Generalization of the Weil Formula for the Wave Field Under an Absorbing Flame," G. D. Malyuzhinets, Phys Inst imeni P. N. Lebedev, Acad Sci USSR, 4 pp</p> <p>"Dok Ak Nauk SSSR" Vol LX, No 3</p> <p>Description of scalar wave field $u(x,y,z)$ on an absorbing plane $z=0$, which is produced by sources distributed along a semispace $z>0$. Submitted by Acad S. I. Vavilov 4 Mar 1948.</p>			
	77T96	FDB	77T97		
USSR/Physics (Contd)	May 1948	USSR/Physics Crystallography Atomic Structure	Apr 1948		
<p>came from high pressure mercury lamp. Illumination was measured with Fabri-Helhof photometer. Results are shown graphically and discussed.</p>		<p>"The Contraction of Lanthanides and Interatomic Distances," E. S. Sarkisov, 4 pp</p> <p>"Dok Ak Nauk SSSR" Vol LX, No 3</p> <p>In previous article (Vol XLVIII, No 7, 1947) author discussed rather complex equation for calculating atomic radius of elements in a crystal. Presents simpler method. Submitted by Acad I. I. Chernyayev 19 Feb 1948.</p>			
	77T96	FDB	77T98		
USSR/Physics Electromagnetic Waves Reflectors	Apr 1948	USSR/Physics Luminescence Phosphors	Apr 1948		
<p>"The Solution of the Problem of the Diffraction of a Spherical Electromagnetic Wave From a Paraboloid of Rotation of Indefinite Dimensions," R. G. Mirimanov, Inst Automatics and Telemekh, Acad Sci USSR, 4 pp</p> <p>"Dok Ak Nauk SSSR" Vol LX, No 3</p> <p>Interesting factors in electrodynamics are spherical waves caused by electrical or magnetic dipoles. Discusses case where waves, caused by an electrical dipole, are brought into focus of a rotating paraboloid of indefinite dimensions, until axis of dipole is</p>		<p>"The Kinetics of the Afterglow of Crystallophosphors," E. I. Adirovich, Phys Inst imeni P. N. Lebedev, Acad Sci USSR, 4 pp</p> <p>"Dok Ak Nauk SSSR" Vol LX, No 3</p> <p>Strict mathematical calculations show solutions to Blokhintsev's and De Groot's equations for case where there is prolonged afterglow of phosphors. Author also discusses kinetics and duration of spontaneous afterglow. Submitted by Acad S. I. Vavilov 26 Feb 1948.</p>			
	77T99	FDB	77T100		

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USSR/Physics (Contd)

Apr 1948

perpendicular to axis of paraboloid. Submitted by Acad B. A. Vvedenskiy 17 Feb 1948.

USSR/Physics

Apr 1948

Wave Mechanics
Mathematics, Applied

"On the Near-Periodicity of the Generalized Solution for the Wave Equation," Kh. L. Smolitskiy, 4 pp

"Dok Ak Nauk SSSR" Vol LX, No 3

Presents several solutions for various conditions of S. L. Sobolev's wave equation. Submitted by Acad S. L. Sobolev 26 Feb 1948.

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USSR/Physics

Mar 1948

Solar Phenomena
Sun Spots

USSR/Physics

Mar 1948

Electrodes
Spectrum Analysis

"Sun Spots April-June 1947," A. P. Moiseyev, 2 pp

"Priroda" No 3

Describes sun spots during this period. Mentions spring storms in European part of USSR. Storms may be associated with large group of spots visible at that time.

"Electric Spark Transference in Spectrum Analysis," K. I. Taganov, 6 pp

"Priroda" No 3

Every electrical discharge between two current conducting electrodes is accompanied by transfer of material from one electrode to other. Author describes importance of this fact in spectrum analysis, particularly in stylograph.

FDB

77T102

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77T103

USSR/Oceanology

May 1948

Bottom Sediments

List of Abbreviations
used in FDB Periodical Abstracts

"The Forms of the Accumulation of the Conglomerate Alluvium on the Caucasus Coast of the Black Sea," V. E. Zenkovich, Inst of Oceanology, Acad Sci USSR, 4 pp

"Dok Ak Nauk SSSR" Vol LX, No 4

Along this coast three streams of conglomerate deposits move from northwest to southeast, consisting of material of predominantly alluvial origin. Describes structure of resultant formations with aid of sketches. Submitted 9 Feb 1948.

ID	Intelligence Division Library
AMC	Air Documents Division, Air Materiel Command
ST	Reference Division, State Department
EM	Bureau of Mines, Department of Interior
BS	National Bureau of Standards
SI	Smithsonian Institution
LC	Library of Congress
FDB	Foreign Documents Branch, CIA
COM	Department of Commerce
AF	A-2 Library, USAF

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