VASIL'YEV, L.L.; SOSNOVSKAYA, Z.A.

Role of factors affecting the central nervous system in the course of a parabiotic process in the heart. Trudy Inst. fiziol. 6:18-23 '57. (MIRA 11:4)

1. Laboratoriya obshchey nervno-myshechnoy fiziologii (zaveduyushchiy L.L. Vasil'yev).
(BRAIN) (HEART)

USSR/Human and Animal Physiology (Normal and Pathological) T
Nervous System. General Problems.

Abs Jour : Ref Zhur Biol., No 6, 1959, 26948

Author : Vasil'yev, L.L.

Inst : Institute of Experimental Medicine, AS Latvian SSR

Title : On Pathogenesis and Therapy of Nervous Diseases in the Light of Contemporary Concepts of Parabiosis.

Orig Pub : Tr. In-ta eksperim. med. AN Latv.SSR, 1957, 13, 217-225

Abstract : Two phases of inhibition in the development of parabiotic process were discovered: I - electro-positive, in which the inhibition of excitability and conductivity is connected with the increase of functional mobility, and II - electro-negative, which is characterized by progressing decrease of lability. The I phase is regarded as an expression of tissue adaptation to long-lasting alterating

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USSR/Human and Animal Physiology (Normal and Pathological) T
Neuro-Muscular Physiology.

Abs Jour : Ref Zhur Biol., No 6, 1959, 26930

Author : Vasil'yev, L.L.

Inst : Kiew University

Title : Experiment of Quantitative Evaluation of Nerve Adaptation to Parabiotizing Action of a Direct Current Cathode

Orig Pub : Nauk. zap. Kiewsk. un-t, 1957, 16, No 17, 43-48

Abstract : The experiments were conducted on intact neuro-muscular specimens (sciatic nerve-gastrocnemic muscle) taken from different frogs. The method of "minimum polarization of nerve" was utilized. After having induced, in the part of nerve which is on the cathode, the state of parabiotic nonconductivity by means of letting through

Card 1/3

USSR/Human and Animal Physiology (Normal and Pathological) T
Neuro-Muscular Physiology.

Abs Jour : Ref Zhur Biol., No 6, 1959, 26930

"the constant of slope" a decreased and "the constant of level" b fell to zero. Experiments with nerves enriched by Ca gave the opposite result. Constants a and b, which determine the course of hyperbolic curve of threshhold cathode parabiosis, may truly serve as quantitative index of nerve adaptation to parabiotizing action of a cathode. -- F.I. Mumladze

Card 3/3

Blagodatova, Ye. T.

BLAGODATOVA, Ye.T.; VASIL'YEV, L.L.

Effect of amytal and chloral hydrate anesthesia on the anti-parabiotic activity of nerve centers [with summary in English]. Fiziol.zhur. 43 no.9:842-860 S '57. (MIRA 10:11)

1. Laboratoriya obshchey nervno-myshechnoy fiziologii Instituta fiziologii im. I.P.Pavlova AN SSSR, Leningrad.

(NERVE MUSCLE PREPARATION,
parabiosis, eff. amobarbital & chloral hydrate anesth. (Rus))
(AMOBARBITAL, anesthesia and analgesia,
eff. on parabiosis in nerve-musc. prep. (Rus))
(CHLORAL HYDRATE, anesthesia and analgesia,
same)

USSR / Human and Animal Physiology (Normal and Pathological). T
Neuromuscular Physiology.

Abs Jour : Ref Zhur - Biologiya, No 13, 1958, No. 60680

Author : Vasil'yev, L. L.
Inst : Leningrad State University
Title : The Simultaneous Effect of Lesion-Producing Agents on the Specific and Non-Specific Reactivity of the Nerve

Orig Pub : Uch. zap. LGU, 1957, No 222, 38-48

Abstract : The local effect of an antigenic (horse) serum (S) on the sciatic nerve (neuromuscular preparation) in the region of threshold cathode parabiosis was tested. In thirteen tests done on the preparation from sensitized frogs, seven showed a noticeable drop in the level of the curve on the threshold parabiosis (LCTP) when it was put on the cathode part of the nerve. The drop mostly began immediately after S application, and sometimes 3 - 5

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Kafedra. fiziol cheloveka i zhivotnykh

Abs Jour : Ref Zhur - Biologiya, No 13, 1958, No. 60680

minutes later. In control tests, there was no lowering of LCTP under the effect of S. Consequently, the local anaphylactic effect of S on the nerve was added to the parabiotic effect of the cathode. The lowering of LCTP was also obtained when S was applied to the exposed interstitial brain. In a series of tests, the threshold cathode parabiosis was produced in the part of the nerve which was connected both to the muscles and to the brain. In most of these tests done on sinsitized frogs, after the administration of decisive doses of S there occurred a sufficiently well expressed lowering of the LCTP. In this way, in all the described cases the parabiotic state of the nerve part, produced and kept at the threshold level, became deepened. -- F. I. Mumladze

VASIL'YEV, L. L. (Prof. Dr.) Corr. Mbr. Acad. Med. Sci. USSR

"Atmospheric Ions and Health," Punjab Med. Journal, Vol. VII, No. 7, Feb. 58.

VASIL'YEV, Leonid Leonidovich, prof.; FILIPPOV, L., red.; TROYANOVSKAYA, N., tekhn.red.

[Mysterious phenomena of the human psyche] Tainstvennye iavleniia chelovecheskoi psikhiki. Moskva, Gos.izd-vo polit.lit-ry, 1959. 118 p. (MIRA 12:11)

1. Chlen-korrespondent Akademii meditsinskikh nauk (for Vasil'yev).
(Psychology, Physiological)

MYASISHCHEV, Vladimir Nikolayevich, prof., red.; KHVILIVITSKIY, Teodor Yakovlevich, starshiy nauchnyy sotrudnik, red.; GRASHCHENKOV, N.I., prof., red.; ANAN'YEV, B.G., prof., red.; VASIL'YEV, L.L., prof., red.; GILYAROVSKIY, V.A., prof., red. [deceased]; OMOROKOV, L.I., prof., zasluzhennyy deyatel' nauki, red.; PROTOPOPOV, V.P., prof., red. [deceased]; BEHKENBLIT, Z.M., red.; RULEVA, M.S., tekhn.red.

[V.M.Bekhterev and modern problems in the structure and function of the brain under normal and pathological conditions; transactions of the All-Union Conference in Honor of the 100th Anniversary of V.M.Bekhterev's Birth] V.M.Bekhterev i sovremennye problemy stroeniia i funktsii mozga v norme i patologii; trudy Vsesoiuznoi konferentsii, posviashchennoi stoletiiu so dnia rozhdeniia V.M. Bekhtereva. Pod red. V.N.Miasishcheva i T.IA.Khvilivitskogo. Leningrad, Gos.izd-vo med.lit-ry Medgiz, Leningr.otd-nie, 1959. 294 p. (MIRA 14:2)

(Continued on next card)

MYASISHCHEV, V.N.---(continued) Card 2.
1. Chlen-korrespondent Akademii pedagogicheskikh nauk RSFSR (for Myasishchev). 2. Predsedatel' Uchenogo meditsinskogo soveta Ministerstva zdravookhraneniya SSSR, chlen-korrespondent AN SSSR i deystvitel'nyy chlen AMN SSSR (for Grashchenkov). 3. Deystvitel'nyy chlen Akademii pedagogicheskikh nauk RSFSR (for Anan'yev). 4. Chlen-korrespondent AMN SSSR (for Vasil'yev). 5. Deystvitel'nyy chlen AMN SSSR (for Gilyarovskiy). 6. Deystvitel'nyy chlen AN USSR (for Protopopov).
(NERVOUS SYSTEM)
(BEKHTEREV, VLADIMIR MIKHAILOVICH, 1857-1927)

VASIL'YEV, L.L.

Adaptation and sensitatization of the neural formations during the development of parabiosis (steady excitation) in them. Trudy Inst.fiziol. 8:368-376 '59. (MIRA 13:5)

1. Laboratoriya nervno-myshechnoy fiziologii (zaveduyushchiy - L.L. Vasil'yev) Instituta fiziologii im. I.P. Pavlova AN SSSR.
(NERVOUS SYSTEM)

VASIL'YEV, L.N., prof.; BULATOV, P.K., prof.

Review of A.A.Minkh's book "Ionization of air and its significance for health." Vest.AMN SSSR 14 no.8:86-87 '59. (MIRA 12:11)

1. Chlen-korrespondent AMN SSSR.
(AIR, IONIZED) (MINKH, A.A.)

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VASIL'YEV, L.L.

Biometric methods in neuromuscular physiology. Vest.LGU 14 no.9:153-159 '59. (MIRA 12:5)
(BIOMETRY) (ELECTROPHYSIOLOGY)

VASIL'YEV, L.L.; SOSNOVSKAYA, Z.A.

Parabiotic and "deparabiotic" influences of the central nervous system on the heart. Vest.LGU 14 no.21:116-121 '59.
(MIRA 12:10)

(HEART) (BRAIN) (PARABIOSIS)

VASIL'YEV, L. L.

PHASE I BOOK EXPLOITATION SOV/6150

Akademiya nauk Latviyskoy SSR. Institut eksperimental'noy meditsiny.

Voprosy kurortologii. [t.] 5: Problemy fiziologicheskogo deystviya i terapevticheskogo primeneniya aeroionov (Problems in Health-Resort Therapy. v. 5: Studies of the Physiological Effect and Therapeutic Application of Air Ions). Riga, Izd-vo AN Latviyskoy SSR, 1959. 424 p. (Series: Its: Trudy, t. 20) Errata slip inserted. 1000 copies printed.

Sponsoring Agency: Akademiya nauk Latviyskoy SSR. Institut eksperimental'noy meditsiny.

Editorial Board: Resp. Ed.: L. L. Vasil'yev, Professor, P. D. Perli, Professor, F. G. Portnov, Candidate of Medical Sciences, Ya. Yu. Reynet, Candidate of Physical and Mathematical Sciences, and L.M. Tutkevich, Candidate of Medical Sciences; Ed.: A. Vengranovich; Tech. Ed.: A. Zhukovskaya.

Card 1/3

Problems in Health-Resort (Cont.) SOV/6150

PURPOSE: This book is intended for physicians working at health resorts and for the general practitioner.

COVERAGE: This book, a collection of articles, is essentially the proceedings of the Second Conference on the Physiological Effect and Therapeutic Application of Air Ions, held at Riga (Latvian SSR) in December 1957. The use of negative air ions is believed to be beneficial in the treatment of nonhealing wounds and ulcers which often result from radiation injury. The book contains photos of numerous devices described in the text. Numerous references, mostly Soviet, are given at the end of some of the articles.

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AVAILABLE: Library of Congress

SUBJECT: Biology and Medicine

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IS/wb/bc
2-19-63

VASIL'YEV, L.L., prof.; BULATOV, P.K., prof., nauchnyy red.; VOROB'YEV, G.S., red.izd-va; GURDZHIYEVA, A.M., tekhn.red.

[Influence of atmospheric ions on the body] Vliianie atmosfernykh ionov na organizm. Leningrad, Ob-vo po rasprostraneniiu polit. i nauchn.znanii RSFSR, Leningr.otd-nie, 1960. 55 p. (MIRA 14:3)

1. Chlen-korrespondent AMN SSSR (for Vasil'yev).
(Air, Ionized)

ANFILOV, Gleb; ASRATYAN, E.A.; GULYAYEV, P.I., doktor biol.nauk; LIVANOV, M.N., prof.; KRAYZMER, L.P., kand.tekhn.nauk; VASIL'YEV, L.L.; KLYATSKIN, I., kand.tekhn.nauk

Is thought transference possible? Opinions of Soviet scientists. Znan. sila 35 no. 12:18-23 D '60. (MIRA 13:12)
(Thought transference)

VASIL'YEV, Leonid Leonidovich; BLAGODATOVA, Yelena Tomasovna; SHERSTOBITOV, O.Ye., red. izd-va; SOROKINA, V.A., tekhn. red.

[Central influences eliminating or intensifying parabiosis] TSentral'nye vliianiia, ustraniaiushchie i uglubliaiushchie parabioz. Moskva, Izd-vo Akad. nauk SSSR, 1961. 92 p. (MIRA 14:11)
(NERVES)

VASIL'YEV, L.L.

Characteristics of the stimulating action of arrhthymic (group) stimuli. Trudy 1-go MMI 11:69-73 '61. (MIRA 15:5)

1. Kafedra fiziologii cheloveka i zhivotnykh (zav. - prof. L.L.Vasil'ev) Leningradskogo gosudarstvennogo universiteta.
(NERVOUS SYSTEM)

VASIL'YEV, L.L., prof.

Experiments in psychomagnetism. Nauka i zhizn' 28 no.7:80-82 Jl '61. (MIRA 14:8)

1. Leningradskiy universitet.
(MAGNETISM—PHYSIOLOGICAL EFFECT)

VASIL'YEV, L.L.

Mechanisms of central influences eliminating parabiosis. Trudy Len. ob-va est. 72 no.1:18-23 '61. (MIRA 15:3)
(NERVOUS SYSTEM)

VASIL'YEV, L.L.; KHAVKINA, N.N.

Role of inhibition in the development of fatigue in human muscular work. Nerv sist (Leningrad) 2 no.3:152-159 '62. (MIRA 17:7)

1. Kafedra fiziologii cheloveka i zhivotnykh Fiziologicheskogo instituta imeni Ukhtomskogo Leningradskogo gosudarstvennogo universiteta.

LYKOV, A. V.; VASIL'YEV, L. L.; SHASHKOV, A. G.

"A method for simultaneous determination of all thermal properties of poor heat conductors over the temperature range 80 to 300°K,"

report submitted for 3rd Symp on Thermophysical Properties, Purdue Univ, Lafayette, 22-25 Mar 65.

VASIL'YEV, [illegible], prof.

The initial phases of the parabiotic process. Fiz. sbor. no.4: 36-39 '53 (MIRA 18:1)

1. [illegible] Leningradskogo universiteta.

VERZILIN, Nikita Nikolayevich; D'YAKONOVA-SAVEL'YEVA, Ye.N., red.; VASIL'YEV, L.L., red.; IVANOV, A.V., red.; KOLOSOV, N.G., red.; MAKAROV, P.O., red.; POLKANOV, A.A., red. [deceased]; POLYANSKIY, YU.I., red.; STEPANOV, D.L., red.; SHVETSOVA, E.M., red.; YASHCHURZHINSKAYA, A.B., tekhn. red.

[Cretaceous sediments in the northern part of the Fergana Valley and their oil potential] Melovye otlozheniia severa Ferganskoi vpadiny i ikh neftenosnost'. Leningrad, Gostoptekhizdat, 1963. 219 p. (Leningradskoe obshchestvo estestvoispytatelei. Trudy, vol. 70, no.2). (MIRA 16:12)

VASIL'YEV, L.L.; SOSNOVSKAYA, Z.A.

Effect of stimulating impulses on inhibition foci in the spinal cord. Trudy Inst. fiziol. 10:284-293 '62 (MIRA 17:3)

1. Laboratoriya obshchey nervno-myshechnoy fiziologii (zav.-L.L.Vasil'yev) Instituta fiziologii imeni Pavlova AN SSSR.

VASIL'YEV, L.L., prof.; KOL'TSOVA, M.M., red.; RULEVA, M.S., tekhn. red.

[Significance of N.E.Vvedenskii's physiological theory for neuropathology] Znachenie fiziologicheskogo ucheniia N.E. Vvedenskogo dlia nevropatclogii. Moskva, Medgiz, 1953. 91 p. (MIRA 16:7)

1. Chlen-korrespondent AMN SSSR (for Vasil'yev).
(VVEDENSKII, NIKOLAI EVGEN'EVICH, 1852-1922)
(NERVOUS SYSTEM--DISEASES) (PHYSIOLOGY)

OBROSOV, A.N., otv. red.; MUMINOV, Ya.K., zam. otv. red.; BULATOV, P.K., red.; VASIL'YEV, L.L., red.; DALIMOV, Z.A., red.; KATSENOVICH, R.A., red.; KETKO, M.I., red.; MINKH, A.A., red.; CHERNYAVSKIY, Ye.A., prof., red.; SHRAMKOVA, G.A., red.; TSAY, A.A., tekhn. red.

[Aeroionization and hydroaeroionization in medicine] Aeroionizatsiia i gidroaeroionizatsiia v meditsine; materialy. Red. kollegiia: A.N.Obrosov i dr. Tashkent, Medgiz, 1962. 305 p. (MIRA 16:6)

1. Vsesoyuznaya konferentsiya po aero- i gidroaeroionizatsii, Tashkent, 1960. 2. TSentral'nyy institut kurortologii i fizioterapii, Moskva (for Obrosov). 3. Kafedra fiziologii cheloveka i zhivotnykh Leningradskogo gosudarstvennogo universiteta (for Vasil'yev). 4. Uzbekskiy gosudarstvennyy nauchno-issledovatel'skiy institut kurortologii i fizioterapii im.N.A.Semashko (for Katsenovich). 5. Gospital'naya terapevticheskaya klinika Leningradskogo gosudarstvennogo meditsinskogo instituta im. I.P.Pavlova (for Bulatov).

(AIR, IONIZED--THERAPEUTIC USE)

LYKOV, A. V.; VASIL'YEV, L. L.; SHASHKOV, A. G.

"A method for simultaneous determination of all thermal properties of bad heat conductors over the temperature range 800 to 500°K."

report submitted but not accepted for 3rd Symp on Thermophysical Properties, Lafayette, Ind, 22-26 Mar 65.

Heat & Mass Transfer Inst, AS BSSR, Minsk.

VASIL'YEV, L.L., SUNKOV, G.F.

Method for studying the thermophysical properties of poor heat conductors in the temperature range 80°-500°K. Inzh.-fiz. zhur. 7 no.6:20-25 '64. (MIRA 17:12)

1. Institut teplo- i massoobmena AN Belorusskoy SSR, Minsk.

BP

ACCESSION NR: AP4038001 S/0170/64/000/005/0076/0084

AUTHOR: Vasil'yev, L. L.

TITLE: Method and apparatus for determining the thermal properties of heat insulators in the temperature range of 80-500°K

SOURCE: Inzhenerno-fizicheskiy zhurnal, no. 5, 1964, 76-84

TOPIC TAGS: heat insulator, thermal conductivity measurement, thermal diffusivity measurement, specific heat capacity, cryostat, fused quartz

ABSTRACT: The authors attempted to find the most convenient method of determining the coefficients of thermal conductivity, thermal diffusivity, and the specific heat capacity of thermal insulators. The theory of such a method of determining the thermal properties of poor heat conductors at low temperatures is presented. The design and operation of a cryostat used in the experiments is given. Investigations of the temperature dependence of the thermal properties of fused quartz were carrid out at 80-400°K as an illustration of the elaborated method. It was found that fused quartz can be used as a standard material in testing new methods and equipment employed in the determination of thermal properties of

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ACCESSION NR: AP4038001

materials. The combined use of the stationary and quasi-stationary methods of determining thermal properties in the course of a single experiment provides a means for the mutual checking of experimental data. Orig. art. has: 4 figures, 13 formulas, and 1 table.

ASSOCIATION: Institut teplo-i massoobmena, AN BSSR, Minsk (Institute of Heat and Mass Transfer, AN BSSR)

SUBMITTED: 18Dec63 DATE ACQ: 09Jun64 ENCL: 00

SUB CODE: TD NO REF SOV: 003 OTHER: 004.

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VASIL'YEV, L.L.

International Conference on Heat Transfer. Inzh.-fiz.zhur. 5 no.8:140-144 Ag '62. (MIRA 15:11)
(Heat—Transmission—Congresses)

VASIL'YEV, L.I.

Methods and equipment for determining thermal properties of heat-insulating materials in the temperature range from 80 to 500° K. Inzh.-fiz. zhur. 7 no.5:76-84 My '64. (MIRA 17:6)

1. Institut teplo- i massoobmena AN BSSR, Minsk.

VASIL'Y L.L.

Precision amplifiers for thermal control in the range of low temperatures. Inzh.-fiz. zhur. 6 no.9:105-110 S '63. (MIRA 16:8)

1. Institut teplo- i massoobmena AN BSSR, Minsk.

VISHNEVSKIY, B.P.; VASIL'YEV, L.M.

Results of industrial introduction of complex equipment for moistening coal in a massif. Biul.tekh.-ekon.inform.Gos.nauch.-issl.inst.nauch.i tekh.inform. no.9:14-17 '63. (MIRA 16:10)

BRAGIN, B.K.; VASIL'YEV, L.M.; ZAPEVALOV, N.A.

Low inertia tubular furnace for testing platinum-rhodium platinum thermocouples. Izm. tekh. no.12:19-20 D '64.

(MIRA 18:4)

VASIL'YEV, L.M., Cand Tech Sci -- (diss) "Geodetic operations in the draining of the swamp lands in the Estonian SSR." Mos, 1958, 20 pp (Min of Agr USSR. Mos Inst of Land Organization) 150 copies (KL, 27-58, 109)

VASIL'YEV, I. M.

Suspension mirror level. Geod. i kart. no.6:75 Je '57. (MLRA 10:9)
(Surveying--Instruments)

AUTHOR: Vasil'yev, L. N., Graduate Student SOV/154-58-1-13/20

TITLE: Determining the Parameters of Correction Curves for Introducing Decentrations Automatically (Opredeleniye parametrov korrektsionnykh krivykh dlya avtomaticheskogo vvedeniya detsentratsiy)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Geodeziya i aerofotos"yemka, 1958, Nr 1, pp 101-106 (USSR)

ABSTRACT: In locating air photographs by means of transformed pencils of projecting lines, the inclinations by the angles α and ω of the cameras necessitate the introduction of decentrations: formulae (1) and (2). For an automatic displacement of the air photographs by the quantities Δx and Δy, Professor F. V. Drobyshev suggested a device utilizing a correction curve, which is shown here. - The formulae (8) are derived. These formulae indicate that a section of the curve in the range $-\alpha + \alpha$ determined by the formula (4) can be replaced by another circle of the radius R_o, as the parameter of this circle does not depend on the current coordinate α. It is shown that for the processing of the air photographs obtained with cameras of different focal lengths a set of correction

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Determining the Parameters of Correction Curves for Introducing Decentrations Automatically

curves is necessary. The admissible deviation ΔF of the focal length of the projecting camera from the calculated value F can be computed according to the formula (11). Some inaccuracies of this system are explained. Finally a formula for the decentration error is derived. It is pointed out that an analogous error in the scale inversor of the photoreductor of Professor F. V. Drobyshev occurs in a section with a small radius of curvature of the French curve in an enlargement of 0,6 to 0,8. There are 4 figures and 2 tables.

ASSOCIATION: Moskovskiy institut inzhenerov geodezii, aerofotos"yemki i kartografii
(Moscow Engineering Institute of Geodesy, Aerophotography and Cartography)

Card 2/2

IVANOV, A.I.

AUTHOR: Bol'shakov, V. D., Candidate of Technical Sciences SOV/154-58-2-16/22

TITLE: Scientific and Technical Conference of MIIGA i K (Nauchno-tekhnicheskaya konferentsiya MIIGA i K) I

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Geodeziya i aerofotos"yemka, 1958, Nr 2, pp 111-114 (USSR)

ABSTRACT: From April 24 to 26 a scientific and technical conference of the MIIGA i K (Institute of Geodesy, Aerophotography, and Cartography, Moscow) was held in Moscow. Furthermore, there were four sections in operations on geodesy, aerophotogeodesy, cartography, and on the production of photogrammetrical instruments. More than 300 delegates from 45 institutes took part in the conference at which 28 lectures were given. 20 delegates participated in the discussions. The opening speech was made by the Director of the MIIGA i K, Professor P. S. Zakatov, Doctor of Technical Sciences. The first paper read was that by L. I. Dymov on "The Fight Against Revisionism." L. I. Dymov, Professor, Doctor of Technical Sciences, spoke on "The Setup and the Leveling Principles of the Geodetic Basic Network of the USSR." A. N. Lirovets, Professor, read a paper on "The Elaboration of Aquiangular Coordinates in Some Kinds of Geodetical Networks (On the Basis of the Data Directly Measured in the Ellipsoid)." M. S. Muravyev, Docent, "On a Bench Mark of Special Stability." Y. G. Sulikhanovich, Docent, Candidate of Technical Sciences: "The Life and Scientific Work of A. P. Bolotov." V. D. Bol'shakov: "Optical Measurements of Distances Under Precise Conditions." N. V. Yakovlev, Assistant: "On the Methodology of High-Precision Goniometry in First-Class Triangulations I." N. Ya. Bobir: "On the Problem of Determining Some Elements of Inner Orientation of Side-Angle and Super-Wide Angle Aerial Cameras." A. K. Fyrner, Graduate Student: "On a Level Device With a Freely Suspended Reflector." L. S. Dimitriyev reported on "Geodesy and Cartography at the Beginning of the Soviet Rule." Ye. P. Arkhanov on "An Investigation of the Film Smoothing Device With Supporting Rollers." L. I. Vasil'yev, Graduate Student: "Stereocomparator With Electrical Corrections." V. Ya. Nikhaylov, Docent, Candidate of Technical Sciences: "On the Change of Scale of Aerial Photographs Resulting From Enlargement." P. V. Zakharov: "On the Distinctive Capabilities of Black-and-White and Color Photographs." Yu. N. Kuznetsov, Graduate Student: "The Elements of the Theory of a New High-Speed Shutter." I. G. Sirkis, Professor: "The Present State of Physical-Mathematical Knowledge on the Precise Functioning of Measuring Tools." S. M. Golovin: "Speeding up and Improving the Production of Measuring Tools." L. A. Malkin, Docent, Candidate of Technical Sciences: "On Instruments for the Precise Measurement of Distances." V. S. Mikheychev, Assistant: "Field Tests With the Optical Range Finder CHB-1." V. S. Mev, Assistant: "On the Study of Inaccuracies in the Focusing Devices of Telescopes." E. M. Tolkor, Professor, Doctor of Geographical Sciences: "Some Remarks on Engraving in the Production Process of Original Maps."

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VASIL'YEV, L.N

AUTHOR: None Given SOV/ 6-58-6-21/21

TITLE: Chronicle (Khronika)

PERIODICAL: Geodeziya i kartografiya, 1958, Nr 6, pp. 79-80 (USSR)

ABSTRACT: From April 24 - 26, 1958 a Technical Scientific Conference took place at the Moscow Institute of Surveying-, Aerial Photography- and Cartography Engineers (Moskovskiy institut inzhenerov geodezii, aerofotos"yemki i kartografii).

In the section of aerial-surveying the following lectures were held: N. Ya. Bobir, Docent,- "On the Problem of the Determination of Elements of the Internal Orientation of Aerial Cameras With Wide and Superwide Angles". Ye. P. Arzhanov, Assistant, - "Investigation of the Apparatus for the Straightening of the Film by Means of Waves". (Compressed Airomechanical Method by Docent A. I. Shershen'). V. Ya. Mikhaylov, Docent, - "On the Change of the Scale of Aerial Photographs in the Course of Enlarging". L. N. Vasil'yev, Aspirant, - "Stereocompensator With Electric Corrections". P. V. Zakharov, Teacher, - "On the Fineness of Grain of Black and White as Well as Color Negatives of Aerial Photographs". Yu. M.

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Kuznetsov, Aspirant, - "Elements of the Theory of the New Rapid Shutter".

In the section for surveying and photogrammetric apparatus the following lectures were held: I. G. Sarkin, Professor, - "Physical and Mathematical Theses of the Theorem on the Accuracy of the Apparatus as a Means of Measurements". S. M. Golovin, Docent, - "Accelerating the Production Preparations of New Products and Reducing Their Costs". L. A. Malkin, Docent, -"Apparatus for the Exact Recording of Distances". V. S. Mikheyechev, Assistant, -"Field Tests With the Light Range Finder CBB-1" (In Moscow in August 1957). V. S. Usov, Assistant, - "On the Investigation of the Errors of the Focusing Devices of Telescopes".

In the section of cartography the following lectures were held: N. M. Volkov, Professor, - "On the Engraving in the Production of the Original Publication Editions". A. V. Naumov, Docent, - "Some Problems of the Household of Cartographic Production". G. A. Ginzburg, Docent, - "On the Interrelation of the Distortions in Cartographic Projections". L. A. Bogomolov, Docent, - "The Topographic Evaluation of Aerial Photographs Taken From Airplanes and Helicopters in

the Cartographing of Areas Difficult of Access". A. S. Tolstoukhov, Assistant, - "On the Representation of Reliefs of Plane Areas on Topographic Maps".

1. Cartography 2. Aerial photography 3. Scientific reports

3(4)

AUTHOR: Vasil'yev, I. N., Junior Research Assistant SOV/154-58-5-15/18

TITLE: A Stereocomparator With Electromechanical Correction (Stereokomparator s elektromekhanicheskoy korrektsiyey)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Geodeziya i aerofotos"yemka, 1958, Nr 5, pp 153 - 171 (USSR)

ABSTRACT: This is a presentation of considerations concerning a further development of different variants of photogrammetric space intersecting. The principle suggested in this paper is based upon the use of a stereocomparator which permits differential motions of the film holders parallel to the principal axes of the device. These supports are moved by electrical motors of a servo-system, which are connected with an electrical computer. This computer takes into account the running point coordinates, and continually calculates the corrections during transformations and transforms them to mechanical displacements of the servo-system. Soviet scientists have worked out a method for determining the relation between the coordinates obtained from tilted and horizontal photographs

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through corrections to the cardinal focal length, which considerably simplifies the structure of the formulae (no transcendent functions). If such a new type of corrective device is used, the photographs can be transformed to a case of normal exposure. The transformed values of the coordinates obtained with this device are then used in the computation of points of the terrain according to very simple formulae. Such a type of equipment serves for the determination of a limited number of points. This paper describes the particular features of the theory of the interpretation of photographs in a rectangular frame of reference, this theory being taken account of in the development of the principal lay-out of this device. As the method presented of space intersecting is based upon the work of Professor F. V. Drobyshev and Professor G. V. Romanovskiy a presentation of the basic lines of the theory for this instrument due to these authors is included in this paper. No analysis of the method of space phototriangulation is given, but only the principal procedure for obtaining the space coordinates of points

on the ground surface, which elucidates the operational principle of the device.There are 13 figures, 2 tables and 1 Soviet reference.

ASSOCIATION: Moskovskiy institut inzhenerov geodezii, aerofotos"yemki i kartografii (Moscow Institute of Geodesy, Aerial Surveying and Cartography Engineers)

SUBMITTED: March 10, 1958

VASIL'YEV, L. N., Candidate Tech Sci (diss) -- "A stereocomparator system for spatial phototriangulation using electric computers". Moscow, 1959. 20 pp (Min Higher Educ USSR, Moscow Inst of Engineers of Geodesy, Aerial Photography and Cartography), 150 copies (KL, No 24, 1959, 135)

VASIL'YEV, L.N., kand. tekhn. nauk

SMG-4 Galileo-Santoni stereomicrometer. Izv. vys. ucheb. zav.; geod. i aerof. no.3:85-92 '64. (MIRA 18:3)

1. Moskovskiy institut inzhenerov geodezii, aerofotos'yemki i kartografii.

VASIL'YEV, L.N.

Calculating the tolerances for the adjustment of cardan links in photogrammetric instruments. Geod. i kart. no.9:37-45 S '64. (MIRA 17:12)

VASIL'YEV, L.N., kand. tekhn. nauk

More exact theory of photogrammetric intersection in stereographs. Trudy MIIGAIK no.50:53-56 '62. (MIRA 16:7)

1. Kafedra fotogrammetrii Moskovskogo instituta inzhenerov geodezii, aerofotos"yemki i kartografii.

BLOKHIN, A.S.; BORODZYUK, G.G.; LESHCHINSKIY, A.A.; OKSMAN, A.K.; KOSMINSKIY, O.F.; MANUSHKIN, A.Ye.; MILEVSKIY, Yu.S.; DRIATSKIY, N.M.; VASIL'YEV, V.V.; L'VOVICH, A.A.; ORLEYEVSKIY, M.S.; MOROZ, I.A.; OKSIAN, A.K.; KNEL', G.S.; SOROKIN, M.F.; BUTLITSKIY, I.M.; VASIL'YEV, L.N. [deceased]; GINTS, Yu.R.; VASIL'YEV, G.K.; LUGOVSKOY, N.Ye.; KIRILLOV, Ye.V.; STRUYKINA, N.S.; LEVINOV, K.G.; BLOKHIN, A.S., otv. red.; GURIN, A.V., red.; SLUTSKIN, A.A., tekhn. red.

[K-1920-frequency telephone system] Sistema vysokochastotnogo telefonirovaniia K-1920; informatsionnyi sbornik. [By]A.S. Blokhin i dr. Moskva, Sviaz'izdat, 1962. 319 p. (MIRA 16:4)
(Telephone)

ACC NR: AP6011658 SOURCE CODE: UR/0020/66/167/003/0590/0593

AUTHOR: Mikhaylov, B. M.; Bezmenov, A. Ya.; Vasil'yev, L. S.

ORG: Institute of Organic Chemistry im. N. D. Zelinskiy, Academy of Sciences, SSSR (Institut organicheskoy khimii Akademii nauk SSSR)

TITLE: The process of hydroboronating butadiene-1,3

SOURCE: AN SSSR. Doklady, v. 167, no. 3, 1966, 590-593

TOPIC TAGS: butadiene, diborane, organic synthetic process, reaction mechanism

ABSTRACT: Elsewhere the present authors and V. G. Kiselev report the analysis of products of a diborane reaction with butadiene-1,3 (DAN, 155, 141 (1964). In the present paper the authors synthesized 1-(butene-3-yl) boroacyclopentane (compound V) and 1-crotylboracyclopentane (compound VII) to clarify the structure of the 1-aklenyl boracyclopentane fraction obtained

 UDC: 542.91+547.244

ACC NR: AP6011658

in that reaction. Both compounds were then hydroboronated with diborane. The experimental procedure is detailed. The results indicate that fraction $C_8H_{15}B$ is almost entirely in the form of VII. This is attributed to the verified much faster rate of hydroboronation for V than VII. Participation of the two compounds in the formation of isomeric butanediols during the oxidation of product mix resulting from hydroboronation of butadiene-1,3 was 78% for V and 22% for VII. A schematic representation of the process of mono-hydroboronation, given in the report, negates assumptions by H. C. Brown and associates that diborane is capable of attachment to butadiene-1,3 in the 1,4 position. The paper was presented by Academician B. A. Kazanskiy 26 June 65.

SUB CODE: 07/ SUBM DATE: 21May65/ ORIG REF: 002/ OTH REF: 003

Card 2/2

L 01264-67 EWT(m)/T WW/JW/JWD/WE/RM

ACC NR: AP6003492 SOURCE CODE: UR/0020/66/166/001/0103/0105

AUTHOR: Gal'chenko, G. L.; Zaugol'nikova, N. S.; Skuratov, S. M.; Vasil'yev, L. S.; Beznenov, A. Ya.; Mikhaylov, B. M.

ORG: Moscow State University im. M. V. Lomonosov (Moskovskiy gosudarstvennyy universitet); Institute of Organic Chemistry im. N. D. Zelinskiy, Academy of Sciences, SSSR (Institut organicheskoy khimii Akademii nauk SSSR)

TITLE: Heat of formation of methoxyboracyclopentane and methyl di-n-butylboric acid

SOURCE: AN SSSR. Doklady, v. 166, no. 1, 1966, 103-105

TOPIC TAGS: heat of formation, boron compound, boric acid, heat of polymerization

ABSTRACT: The heat of combustion, ΔH_c, of these compounds was determined calorimetrically, using a precise water calorimeter, and heats of formation were calculated subsequently. Accuracy of determination was ±0.02%. The combustion products, CO_2 and H_3BO_3, were determined gravimetrically or by base titration in the presence of mannite, respectively. Among the compounds investigated, the $(n\text{-}C_4H_9)_2BOCH_3$ burned more completely than the others. The determined ΔH_f° 298.15°K were -911.7 ± 0.6 kcal/mole for liquid $\rightarrow B\text{-}OCH_3$ and -1590.9 ± 0.8 kcal/mole for liquid $(n\text{-}C_4H_9)_2BOCH_3$. The ΔH_c of polymerized $\rightarrow BOCH_3$ was also determined and was -9296.2 ± 1.0 cal/g. Thus, the calculated heat of polymerization was ~-1 kcal/mole. The polymer was prepared by keeping the monomer in sealed ampules for 3 to 8 months at room temperature. It was a clear

Card 1/2 UDC: 541.1.11

L 01264-67

ACC NR: AP6003492 O

viscous liquid with $n_D^{20} = 1.4300$. The calculated heats of formation were -67.6 ± 0.6 kcal/mole for liquid ⌦ $B\text{-}OCH_3$ and -131.9 ± 0.8 kcal/mole for liquid $(n\text{-}C_4H_9)_2BOCH_3$. The calculated heat of cyclization of the ⌦ B cycle was -1.6 ± 1.0 kcal/mole.

SUB CODE: 07/ SUBM DATE: 05Apr65/ ORIG REF: 008/ OTH REF: 005

Card 2/2 awm

L 18566-66 EWT(m)/EWP(j)/T WW/JW/JWD/RM

ACC NR: AP6002699 SOURCE CODE: UR/0062/65/000/012/2111/2120

AUTHORS: Bezmenov, A. Ya.; Vasil'yev, L. S.; Mikhaylov, B. M.

ORG: Institute of Organic Chemistry im. N. D. Zelinskiy, Academy of Sciences, SSSR (Institut organicheskoy khimii Akademii nauk SSSR)

TITLE: Organoboron compounds. Communication 157. Hydroboration of isoprene, cis- and trans-piperylene

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 12, 1965, 2111-2120

TOPIC TAGS: boron, boron compound, organoboron compound, isoprene, diene synthesis

ABSTRACT: The reaction of diborane with isoprene and cis- and trans-piperylene was investigated. The study is an extension of previously published work of the authors (Dokl. AN SSSR (v pechati)). The experimental procedure followed here is described by B. M. Mikhaylov, A. Ya. Bezmenov, L. S. Vasil'yev, and V. G. Kiselev (Dokl. AN SSSR 155, 141, 1964). A reaction mechanism is proposed, and the reaction yields and degree of monohydroboration are tabulated. The experimental results are compared with literature values presented by G. Zweifel, K. Nagase, and H. C. Brown (J. Amer. Chem. Soc. 84, 183, 1962). It was found that the degree of hydro-

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UDC: 542.91+661.718.4

L 18566-66
ACC NR: AP6002699

2

boration obtained was significantly higher than that obtained by Brown et al. The authors conclude that the addition of diborane to diene-hydrocarbons occurs in the 1,2 and 3,4 position; the addition in the 1,4 position does not occur. Orig. art. has: 3 tables and 20 equations.

SUB CODE: 07/ SUBM DATE: 05Jul65/ ORIG REF: 005/ OTH REF: 005

Card 2/2 Sm

MIKHAYLOV, B.M.; VASIL'YEV, L.S.; BEZMENOV, A.Ya.

Transformations of tetraethyl ester of butane-1,4-dithioboronic acid under the effect of amines. Izv. AN SSSR. Ser. khim. no.4: 712-714 '65. (MIRA 18:5)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.

L 56505-65 EWT(m)/EPF(c)/EPR/EWP(j)/EWP(t)/EWP(b) Pc-4/Pr-4/Ps-4 IJP(c)/RPL
JD/WW/JW/JG/RM

ACCESSION NR: AP5013148 UR/0079/65/035/005/0925/0929
547.244

38
B

AUTHOR: Mikhaylov, B. M.; Vasil'yev, L. S.

TITLE: Boron organic compounds. Part 141. Mutual transformations of boron trialkyls, borates, and esters of boron organic acids catalyzed by alkyldiboranes

SOURCE: Zhurnal obshchey khimii, v. 35, no. 5, 1965, 925-929

TOPIC TAGS: boron organic compound, borane, catalysis

ABSTRACT: Boron trialkyls reacting with esters of alkaneboronic acids under mild conditions were used to prepare esters of dialkaneboronic acids. The reaction was applied to dimethyl esters of n-butane-, isopentane- and hexaneboronic acid, and also n-propaneboronic acid di-n-hexyl ester. An equimolar mixture of n-butaneboronic dimethyl ester and tri-n-butylborine in presence of 1.2% tetra-n-butyldiborane is converted to the ester of di-n-butaneboronic acid, which is separated by distillation:

$$R_3B + RB(OR')_2 \underset{R'=CH_3}{\overset{>B-H}{\rightleftharpoons}} 2R_2BOR' \qquad (1)$$

R=n-C_4H_9

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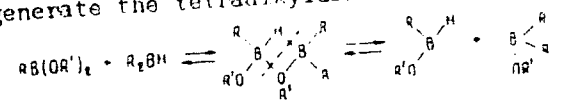
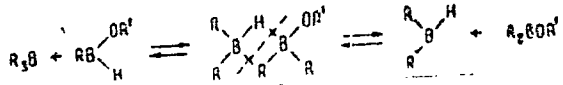
L 56505-65

ACCESSION NR: AP5013148

The mechanism of the above reaction may be represented by the following series of conversions, which regenerate the tetraalkyldiborane catalyst:





Esters of dialkaneboronic acids can also be synthesized from a boron trialkyl and an orthoborate taken in the ratio 2:1, as follows:

$$2R_3B + B(OR')_3 \overset{\rangle B-H}{\rightleftharpoons} 3R_2BOR' \quad (2)$$

This equation is the sum of equations (1) and (3), the latter being

$$R_3B + B(OR')_3 \overset{\rangle B-H}{\rightleftharpoons} R_2BOR' + RB(OR')_2 \quad (3)$$

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ACCESSION NR: AP5013148

For reaction (2), the following series of conversions is possible:

$$R_2BH + B(OR')_3 \rightleftarrows R_2BOR' + (R'O)_2BH$$

$$(R'O)_2BH + BR_3 \rightleftarrows R_2BH + RB\begin{matrix}OR'\\OR'\end{matrix}$$

$$R_2BH + RB(OR')_2 \rightleftarrows RB\begin{matrix}H\\OR'\end{matrix} + R_2BOR'$$

$$RB\begin{matrix}H\\OR'\end{matrix} + BR_3 \rightleftarrows R_2BOR' + R_2BH$$

When dialkaneboronic acids are heated with orthoborates, esters of alkaneboronic acids are readily obtained:

$$R_2BOR' + B(OR')_3 \overset{>B-H}{\rightleftarrows} 2RB(OR')_2 \qquad (4)$$

Orig. art. has: 4 equations.

ASSOCIATION: none

Card 3/4

L 56505-65

ACCESSION NR: AP5013148

SUBMITTED: 26Mar64 ENCL: 00 SUB CODE: OC

NO REF SOV: 004 OTHER: 000

Card 4/4

25762
S/020/61/139/002/012/017
B103/B220

5.2410

AUTHORS: Mikhaylov, B. M., and Vasil'yev, L. S.

TITLE: Reactions of diborane and alkyl boranes with esters of boric and alkyl boric acids and with their thio-analogs

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 139, no. 2, 1961, 385-388

TEXT: B. M. Mikhaylov (in cooperation with V. A. Dorokhov, Ref. 1: DAN, 130, 782, (1960)) continued the studies on diborane and stated that diborane forms with dialkylic esters, besides the expected tetraalkyl diboranes, alkyl boric esters in place of boric esters, achieving good yields:
$8R_2BOR' + B_2H_6 \rightarrow 4RB(OR')_2 + 3(R_2BH)_2$ (1). In the opinion of the authors, (1) has the following mechanism: 1st direction of the primary reaction: The hydrogen atom is replaced in the diborane by an alkyl group and, thus, alkyl-alkoxy borane and alkyl borane are formed:
$R_2BOR' + BH_3 \rightarrow RB\begin{matrix}H\\OR'\end{matrix} + RBH_2$ (2). The former disproportions to alkyl boric ester and alkyl borane: $2RB\begin{matrix}H\\OR\end{matrix} \rightarrow RB(OR)_2 + RBH_2$ (3). (2) and

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Reactions of diborane and alkyl . .

(3) are only diagrammatical representations of the processes. In reality, they proceed with participation of dimer molecules and three center bonds (see diagram). Alkyl borane (3) which contains a B-H bond reacts for its part with dialkyl boric esters substituting an alkyl group for a hydrogen atom: $R_2BOR' + RBH_2 \rightarrow RB\begin{matrix}H\\OR'\end{matrix} + R_2BH$ (4). This results in: (a) dialkyl borane dimerizing to tetraalkyl diborane, and (b) alkyl alkoxy borane which is converted according to (3) into alkyl boric ester and alkyl borane. 2nd direction of the primary reaction: One alkyl group of the dialkyl boric ester is replaced by a hydrogen atom, resulting in the formation of dialkyl borane and alkoxy borane: $R_2BOR' + BH_3 \rightarrow R_2BH + R'OBH_2$ (5). Moreover, the authors think that the following reactions are possible: $R_2BOR' + R'OBH_2 \rightarrow 2RB\begin{matrix}H\\OR'\end{matrix}$ (6), $R_2BH + R'OBH_2 \rightarrow RBH_2 + RB\begin{matrix}H\\OR\end{matrix}$ (7), and $R'OBH_2 \rightarrow (1/3\ R'O)_3B + 2/3\ BH_3$ (8). In case (8) alkoxy boranes are decomposed to orthoborates and to diborane (with intermediate formation of dialkoxy borane). Actually, orthoborates could be obtained in small amounts

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Reactions of diborane and alkyl ...

by fractionating the reaction products. Consequently, also this initial direction of reaction results in the formation of the same final products according to (5) as well as to (3) and (4). Orthoborates react with tetraalkyl diboranes. According to (9) alkyl boric esters are formed slowly at room temperature and rapidly at 60-100°C with a yield of about 80%: $(R_2BH)_2 + 2(R'O)_3B \rightarrow 3RB(OR')_2 + (RBH_2)_2$ (9). In this case, the initial stage is based on the substitution of a hydrogen atom in tetraalkyl borane for an alkoxyl group: $R_2BH + (R'O)_3B \rightarrow R_2BOR' + (R'O)_2BH$ (10). The further conversions of the dialkyl boric esters and dialkyl diboranes (10) are analogous to those in (6)-(8) and (3)-(5), an alkyl boric ester and an alkyl borane being formed. The reactions (1)-(10) are reversible. This is proved by: $3(R_2BH)_2 + 4RB(OR')_2 \rightleftarrows 3R_2BOR' + B_2H_6$ (11), where $R = n\text{-}C_3H_7$; $R' = CH_3$. Also the conversion of dialkyl diborane to diborane and tetraalkyl diborane is reversible: $2R_2B_2H_4 \rightleftarrows R_4B_2H_2 + B_2H_6$ (12). For this reason, the reaction proceeds on boiling of tetraalkyl diborane with orthoborate not according to (9) but to:

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Reactions of diborane and alkyl ...

$3\ (R_2BH)_2 + 8\ (R'O)_3B \longrightarrow 12RB\ (OR')_2 + B_2H_6$ (13). Thus, 100% diborane referred to (13) were isolated after 2 hr of boiling tetra-n-propyl diborane and methyl borate. On distillation of the reaction products, 80% of n-propyl boric dimethyl ester was obtained. Moreover, it was stated that dialkyl diboranes form tetraalkyl diboranes, with boron trialkyls. The tetraalkyl diboranes were used in catalytic quantities in the reactions between boron trialkyls, orthoborates and alkyl boric esters (14), (15), and (16)(see preliminary communication of the authors (Ref. 6: Izv. AN SSSR, OKhN, 1961, No. 3, 531)). At about 200°C, esters either of alkyl or of dialkyl boric acids are formed dependent on the character of the alkyl group in the boron trialkyl. High yields of the esters mentioned (70-90%) are obtained even at 60-100°C by using the catalyst mentioned (or diborane, its alkyl, alkoxyl and alkyl mercapto derivatives):

$R_3B + 2\ (R'O) \xrightarrow{(R_2BH)_2} 3RB\ (OR')_2$ (14). (14) finally takes the form of (9) so that tetraalkyl diborane catalyzes the process and is regenerated continuously. Likewise, esters of dialkyl boric acids are converted to those of alkyl boric acids with a yield of 70-90%;

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Reactions of diborane and alkyl ...

$R_2BOR' + (R'O)_3B \xrightarrow{(R_2BH)_2} 2RB(OR')_2$ (15). Also in this case, first of all dialkyloxy borane is formed which converts the dialkyl boric esters to alkyl boric esters either directly (in analogy to (6) and (3)) or passing the stage of decomposition into diborane and orthoborate (in analogy to (8) and (1)). Thereby, tetraalkyl diborane is regenerated. Finally, a reverse conversion of the esters is possible: dialkyl boric acidcan be formed from an equimolar mixture boron trialkyl - alkyl boric ester by the above-mentioned catalysis:

$R_3B + RB(OR')_2 \xrightarrow{(R_2BH)_2} 2R_2BOR'$ (16). The yield in esters amounts to 50-70%. (1), (15), and (16) are simple in preparative respect and there are not known any other reactions giving the same result. The thio-analogs of the orthoborates and the esters of the acids mentioned behave similarly:

$2(RS)_3B + R_3B \xrightarrow{(R_2BH)_2} 3RB(SR)_2$ (17). where $R = n\text{-}C_4H_9$. A small amount of n-butyl thioboric-n-butyl ester was isolated as by-product. This reaction requires more severe conditions than that with orthoborates. Tetraalkyl

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Reactions of diborane and alkyl ...

mercapto-diborane is a more stable compound than dialkoxy borane which (in analogy to (8)) decomposes easily to diborane and orthoborate. It is concluded from this fact that not dialkoxy borane but diborane reacts in those reactions where dialkoxy boranes are involved and exchange their hydrogen atom against the alkyl group at low temperatures. There are 7 references: 4 Soviet-bloc and 3 non-Soviet-bloc. The two references to English-language publications read as follows: A. B. Burg, H. J. Schlesinger (Ref. 2: J. Am. Chem. Soc., 55, 4020 (1933)); U. Bols, R. Thomas (Ref. 4: Am pat. 2835693 (1958)).

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry imeni N. D. Zelinskiy of the Academy of Sciences USSR)

PRESENTED: March 28, 1961 by B. A. Kazanskiy, Academician

SUBMITTED: March 22, 1961

Card 6/6

MIKHAYLOV, B.M.; VASIL'YEV, L.S.

New methods for synthesizing esters of alkyl boronic acids. Izv.AN SSSR Otd.khim.nauk no.3:531-532 Mr '61. (MIRA 14:4)

1. Institut organicheskoy khimii imeni N.D.Zelinskogo AN SSSR.
(Boronic acid)

BIZMENOV, A.Ya.; VASIL'YEV, L.S.; MIKHAYLOV, B.M.

Organoboron compounds. Report No.157: Hydroboration of isoprene, cis- and trans-piperylene. Izv.AN SSSR.Ser.khim. no.12:2111-2120 '65. (MIRA 18:12)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR. Submitted July 5, 1965.

MIKHAYLOV, B.M.; AKHNAZARYAN, A.A.; VASIL'YEV, L.S.

Synthesis and properties of tetra-n-propyldiborane and tetra-n-butyldiborane. Dokl. AN SSSR 136 no.4:828-831 F '61.
(MIRA 14:1)

1. Institut organicheskoy khimii imeni N.D. Zelinstkogo Akademii nauk SSSR. Predstavleno akademikom B.A. Kanaskim.
(Diborane)

S/062/61/000/003/012/013
B117/B208

1043
S 2400 2203
1202

AUTHORS: Mikhaylov, B. M. and Vasil'yev, L. S.

TITLE: New method of synthesizing alkyl boric acid esters

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, no. 3, 1961, 531-532

TEXT: In this "Letter to the Editor", the authors report that they have found a new method of synthesizing alkyl boric acid esters while studying the properties of tetraalkyl diboranes obtained previously (Ref. 1: B. M. Mikhaylov, A. A. Akhnazaryan, L. S. Vasil'yev, Dokl. AN SSSR 136, 828, 1961). Tetraalkyl diboranes were found to react with orthoborates slowly at room temperature and quickly when heated (80°-100°C), giving alkyl boric acid esters (80-90 % yield).

$$R_4B_2H_2 + 2(R'O)_3B \longrightarrow 3RB(OR')_2 + 1/2\ R_2B_2H_4 \qquad (1)$$

R = n-C_3H_7, n - C_4H_9; R' = CH_3, n-C_3H_7, n - C_7H_{15}.

Reaction (1) proceeds via several stages, alkyl and alkoxyl groups being substituted for the hydrogen in tetraalkyl boranes and their primary

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S/062/61/000/003/012/013
B117/B208

New method of synthesizing alkyl...

conversion products. It was further found that dialkyl diboranes react with trialkyl borines (particularly readily when heated) to give tetraalkyl diboranes: $R_2B_2H_4 + 2R_3B \longrightarrow 2R_4B_2H_2$. The possibility of converting dialkyl diboranes resulting from reaction (1) into tetraalkyl diboranes in the presence of trialkyl borines permitted the synthesis of alkyl boric acid esters from trialkyl borines and ortho-borates under the action of catalytic amounts of tetraalkyl diboranes. In this way, various alkyl boric acid esters were obtained by heating the above components up to 80°-100°C (80-90 % yield) $R_3B + 2(R'O)_3B \xrightarrow{R_5B_2H_2} 3RB(OR')_2$. [Abstracter's note: This is a full translation from the original.] There is 1 Soviet-bloc reference.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry imeni N. D. Zelinskiy, Academy of Sciences USSR)

SUBMITTED: January 16, 1961

Card 2/2

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S/020/61/136/004/014/026
B016/B075

11.1240

AUTHORS: Mikhaylov, B. M., Akhnazaryan, A. A., and Vasil'yev, L. S.

TITLE: Synthesis and Properties of Tetra-n-propyl Diborane and Tetra-n-butyl Diborane

PERIODICAL: Doklady Akademii nauk SSSR, 1961, Vol. 136, No. 4, pp. 828 - 831

TEXT: The authors studied the reaction of diborane with tri-n-propyl boron and tri-n-butyl boron in etheric solution, and determined the following facts: 1) When passing 1 mole of diborane through a 4-mole solution of boron trialkyl at room temperature, tetraalkyl diboranes are produced in a yield of 70-85%, i.e., tetra-n-propyl or tetra-n-butyl diborane. 2) When using an equimolecular quantity of diborane, an asymmetric di-n-propyl diborane is isolated by distilling the reaction products. The second synthesis method is based on the reaction between diborane and olefins (Ref.4). This reaction is catalyzed by different ethers. Reaction of diborane with propylene-1 and butene-1 (ratio 1 : 4) at -70 to -30°C in an etheric medium resulted in a 48% yield of tetraalkyl diboranes. The latter

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are completely stable up to 100°C and can be distilled in vacuo. In benzene solution they are partly dissociated into dialkyl borane. Tetra-alkyl diboranes spontaneously inflame in the open air. They are highly reactive and react with alcohols under the formation of dialkyl boric acid esters. With aniline they form dialkyl phenyl amino boron. Under the action of mercaptans, tetraalkyl diboranes are converted to dialkylthio-boric acid. Such reactions are convenient preparation methods for synthesizing organoboron compounds, since only small quantities of side-products are formed. Tetra-n-butyl diboranes more difficultly react with glycol. In this case, almost equal quantities of glycol esters of di-n-butyl boron and n-butyl boric acid are formed, and, in addition, tri-n-butyl boron. From the formation of the latter, the following was concluded: The action of nucleophilic reagents causes a substitution of hydrogen atoms by tetraalkyl diboranes, and also a disproportionation of tetraalkyl diboranes into boron trialkyls and alkyl boranes. Under the action of a nucleophilic reagent, the alkyl borane thus forming results in an organoboron compound with a radical on the boron atom. On the other hand, boron trialkyl remains either unchanged (e.g., in the reaction with glycol), or enters into reaction and, e.g., with mercaptan, forms an

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ester of dialkyl thioboric acid (Ref.6). In the latter case, hydrogen as well as a small quantity of propane are present in the gaseous reaction products. Asymmetric boron trialkyls can be synthesized by reacting tetraalkyl diboranes with olefins. There are 12 references: 6 Soviet and 4 US.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry imeni N. D. Zelinskiy, Academy of Sciences USSR)

PRESENTED: July 9, 1960, by B. A. Kazanskiy, Academician

SUBMITTED: July 6, 1960

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MIKHAYLOV, B.M.; VASIL'YEV, L.S.

Exchange reactions between boric organoboric acid esters and their thio analogs. Izv.AN SSSR.Otd.khim.nauk no.11:2101-2102 N '61. (MIRA 14:11)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.
(Boric acid) (Boron compounds)

MIKHAYLOV, B.M; VASIL'YEV, L.S.

Organoboron compounds. Report No.99: Reaction of tetraalkyldiboranes with boric acid esters. Izv. AN SSSR. Otd. khim.nauk no.5:827-833 My '62. (MIRA 15:6)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.
(Diborane) (Boric acid)

MIKHAYLOV, B.M.; VASIL'YEV, L.S.

Organoboron compounds. Report No.97: Action of diborane on esters of dialkyl boric acids. Izv.AN SSSR Otd.khim.nauk no.4:628-634 Ap '62. (MIRA 15:4)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.
(Boron hydrides) (Boric acid)

VASIL'YEV, L. S.

"Genezis drevnekitayskoy bronzy i etnokul'turiye svyazi In'."

report submitted for 7th Intl Cong, Anthropological & Ethnological Sciences, Moscow, 3-10 Aug 64.

MIKHAYLOV, B.M.; VASIL'YEV, L.S.

Reactions of diborane and alkyldiboranes with boric and alkylboric acid esters and their thio analogs. Dokl. AN SSSR 139 no.2:385-388 Jl '61. (MIRA 14:7)

1. Institut organicheskoy khimii im. N.D. Zelinskogo AN SSSR. Predstavleno akademikom B.A. Kazanskim.
(Diborane) (Boric acid) (Boron hydrides)

37401
S/062/62/000/005/003/008
B110/B101

5.3410

AUTHORS: Mikhaylov, B. M., and Vasil'yev, L. S.

TITLE: Organoboron compounds. 99. Reaction of tetraalkyl diboranes with boric acid esters

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye khimicheskikh nauk, no. 5, 1962, 827 - 833

TEXT: In continuation of previous papers by the authors (Izv. AN SSSR. Otd. khim. n. 1961, 531; Dokl. AN SSSR 139, 385 (1961)), the conversion of tetraalkyl diboranes with orthoboric acid esters into alkyl boric acid esters is investigated. Trimethyl, tri-n-butyl, tri-n-heptyl, and tri-n-heptyl borate with tetra-n-propyl diborane and tetra-n-butyl diborane were used in different ratios and under different conditions. After 2.5 hrs in the water bath tetra-n-propyl diborane and tri-n-heptyl borate (1:2) give rise to the di-n-heptyl ester of n-propylic acid in a yield of 80 %:
$(R_2BH)_2 + 2(R'O)_3B \rightarrow 3RB(OR')_2 + (1/2)(RBH_2)_2$; $R = n\text{-}C_3H_7$; $R' = n\text{-}C_7H_{15}$.
Some alkyl diborane or dialkoxy borane is also formed. In the initial stage of the reaction between tetraalkyl diboranes and orthoborates,
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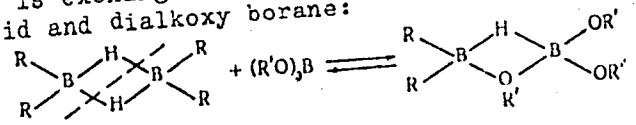
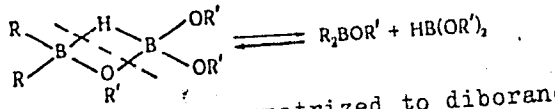
hydrogen is exchanged for the alkoxy group to form the ester of dialkyl boric acid and dialkoxy borane:



(A).

(I)



Alkoxy borane is then symmetrized to diborane and borate according to: $3HB(OR')_2 \rightleftharpoons 2B(OR')_3 + (1/2)B_2H_6$. Diborane then converts dialkyl boric acid ester into alkyl boric acid ester and dialkyl diborane. Since dialkoxy borane possesses a B-H bond, it can also react with the initial tetraalkyl diborane: $(R_2BH)_2 + 2HB(OR')_2 \rightleftharpoons (RBH_2)_2 + 2RB(OR')_2$ or with dialkyl boric acid ester:

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$R_2BOR' + HB(OR') \rightleftarrows RB\begin{matrix}H\\OR'\end{matrix} + RB(OR')_2$. The resulting alkyl alkoxy borane is able to symmetrize to the ester of alkyl boric acid and dialkyl diborane or it may exchange its hydrogen atom for the alkoxy group. The following products were synthesized: (1) n-heptyl ester of di-n-propyl boric acid (b. p. 92 - 97°C/4.5 mm Hg; n_D^{20} = 1.4250), (2) di-n-heptyl ester of n-propyl boric acid (b. p. 120 - 123°C/3.5 mm Hg; n_D^{20} = 1.4292), (3) tri-n-heptyl borate (b. p. 157 - 160°C/3 mm Hg; n_D^{20} = 1.4315), (4) dimethyl ester of n-propyl boric acid (b. p. 58 - 65°C/107 mm Hg; n_D^{20} = 1.3845), (5) di-n-butyl ester of n-propyl boric acid (b. p. 65 - 70°C/3 mm Hg; n_D^{20} = 1.4112), (6) dimethyl ester of n-propyl boric acid (b. p. 45 - 56°C/95 mm Hg; n_D^{20} = 1.3853), (7) di-n-propyl-(phenyl amino) boron (b. p. 76 - 81°C/2 mm Hg; n_D^{20} = 1.5055), (8) dimethyl ester of n-butyl boric acid (b.p. 51 - 54°C/43 mm Hg; n_D^{20} = 1.3950), (9) di-n-butyl-bis-(phenyl

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amino)boron (b. p. 111 - 114°C/4 mm Hg; n_D^{20} = 1.4960), (10) n-butyl-bis-(phenyl amino)boron (b. p. 128 - 132°C/0.08 mm Hg; n_D^{20} = 1.5720).

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry imeni N. D. Zelinskiy of the Academy of Sciences USSR)

SUBMITTED: December 6, 1961

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43219
S/020/62/147/003/024/027
B101/B186

5.2410

AUTHORS: Mikhaylov, B. M., Vasil'yev, L. S., Safonova, E. N.

TITLE: Conversion of cyclic boron compounds under the action of methyl borate

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 147, no. 3, 1962, 630 - 633

TEXT: The following reactions are described: (1) Di-1,4-(1-boracyclopentyl)-butane (I) and methyl borate (molar ratio 1:1) were boiled for 1.5 hrs in the presence of tetra-n-propyl diborane, then kept at 130 - 135°C for another 1.5 hrs, and fractionated; thereby 80.5% 1-methoxy-boracyclopentane (II), b.p. 40.5 - 41.0°C 83 mm Hg, d_4^{20} 0.8421, n_D^{20} 1.4172, was obtained as well as the by-product 1.6-dimethoxy-1,6-diboracyclodecane (III), b.p. 69.5 - 70.0°C/2.5 mm Hg, d_4^{20} 0.9055, n_D^{20} 1.4538. (2) Boiling of II with methyl borate in the presence of tetra-n-propyl diborane yielded 71.5% tetramethyl ester (IV) of butane-1,4-diboric acid, b.p. 54 - 56°C/2.5 mm Hg,

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n_D^{20} 1.4175, and methyl ester (V) of di(4-dimethoxy boryl butyl)-boric acid, b.p. 116 - 120°C/2 mm Hg, n_D^{20} 1.4360. The compounds IV and V were also obtained by reaction between I and methyl borate at a ratio 1 : 5. (3) Interesterification of IV and n-hexanol yielded 98.5% tetra-n-hexyl ester (VI) of butane-1,4-diboric acid, b.p. 198 - 200°C/1.5 mm Hg, d_4^{20} 0.8667, n_D^{20} 1.4402. (4) 72.4% 1-n-hexoxy-boracyclopentane (VII) b.p. 44 - 45°C/2mm Hg, d_4^{20} 0.8586, n_D^{20} 1.4382, and tri-n-hexyl borate, b.p. 129 - 133°C/2.5 mm Hg, n_D^{20} 1.4270 were obtained by keeping VI for 1.5 hrs at 270 - 300°C. The compounds II and VII polymerized when left standing; but the polymer so formed, decomposes again when heated. (5) The reaction of diborane with diallyl dissolved in ether (ratio 1 : 4) yielded di-1,6-(1-boracycloheptyl)-hexane and 6-(1-boracycloheptyl)-hexene-1, b.p. 57 - 59°C/3 mm Hg, d_4^{20} 0.8214, n_D^{20} 1.4630 in almost equimolecular ratios. (6) 81% 1-methoxy boracyclopentane (X), b.p. 42 - 45°C/15 mm Hg, d_4^{20} 0.864, n_D^{20} 1.4391, was

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obtained by heating VIII and methane (ratio 1 : 1) in the presence of tetra-n-propyl diborane. The same reaction (ratio 1 : 5) yielded equimolar amounts of X and tetramethyl ester (XI) of hexane-1,6-diboric acid, b.p. 82 - 84°C/1.5 mm Hg, d_4^{20} 0.9325, n_D^{20} 1.4252. XI was also obtained by reaction of X and methyl borate. The English-language reference is: K. Saegebarth, J. Am. Chem. Soc., 82, 2082 (1960).

PRESENTED: July 17, 1962, by B. A. Kazanskiy, Academician

SUBMITTED: July 12, 1962

MIKHAYLOV, B.M.; VASIL'YEV, L.S.

Organoboron compounds. Report No.110: Catalytic conversion of trialkylboronic acid esters under the effect of tetraalkyldiboranes. Izv. AN SSSR.Otd.khim.nauk no.10:1756-1762 O '62. (MIRA 15:10)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.
(Boron organic compounds)

MIKHAYLOV, B.M.; BEZMENOV, A.Ya.; VASIL'YEV, L.S.; KISELEV, V.G.

Cyclic compounds of boron formed during hydroborination of 1,3-butadiene. Dokl. AN SSSR 155 no.1:141-144 Mr '64. (MIR 17:4)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR. Predstavleno akademikom B.A.Kazanskim.

MIKHAYLOV, B.M.; VASIL'YEV, L.S.; SAFONOVA, E.N.

Transformations of boron cyclic compounds under the action of methyl borate. Dokl. AN SSSR 147 no.3:630-633 N '62. (MIRA 15:12)

1. Predstavleno akademikom B.A. Kazanskim.
(Boron organic compounds) (Methyl borate)

BELYAKOV, F.Ye.; BABIN, B.N.; BAL', V.; BOROVKOV, P.N.; VOYEVODIN, I.N.; GUREVICH, G.M.; GORBUNOVA, P.I.; KONNOV, A.S.; KALANTAROVA, M.V.; KASHIRSKIY, A.Ya.; KAZANCHEYEV, Ye.N.; LEKSUTKIN, A.F.; LETICHEVSKIY, M.A.; LOPATIN, S.Z.; MIRSKIY, V.N.; PODSEVALOV, V.N.; SUBBOTINA, V.P.; TANASIYCHUK, N.P.; FEDOTOV, S.D.; FISENKO, K.N.; EL'KIND, I.G.; BOVIN, S.S.; VASIL'YEV, L.T.; DRINKOV, V.D.; DALECHIN, N.I.; DADAGOV, I.A.; YERMOSHINA, V.I.; ZHUKOV, I.V.; ZIMIN, D.A.; IVANNIKOV, A.Ya.; KOVALEV, M.K.; LUGAKOVSKIY, N.L.; NALEVSKIY, A.F.; SEREZHNIKOV, V.K.; SEMIGLASOV, M.D.; SOKOLOV, A.V.; STEPANOV, V.I.; SAKHARIN, G.S.; SAVENKO, P.A.; SOLODOV, V.P.; UMEROV, Sh.Kh.; CHIKINDAS, G.S.; SHCHERBUKHINA, S.N.; DYNKIN, G.Z.; LYSOV, V.S.; OSHEROVICH, A.N.; ROKITSINSKIY, E.V.; BRASLAVSKIY, M.S.; RUDENKO, I.A.; ZHUKOBORSKIY, M.S.; ZHDANOV, I.Ye.; SUSLIN, V.A.; BRUS, A.Ye.; VOLYNSKIY, S.A.; KLYUYEV, V.A.; ISTRATOV, A.G.; TIKHOMIROV, I.F.; BUTYRIN, Ya.N.; VOLYNSKIY, S.A.; MINEYEV, M.F.; MAL'TSEV, V.I.; VIDETSKIY, A.F., kand.tekhn.nauk, glavnyy red.; DEMIDOV, A.N., red.; KRAVETS, A.L., red.; KLIMOVA, Z.I., tekhn.red.

[Industrial Astrakhan] Promyshlennaia Astrakhan'. Astrakhan', Izd-vo gazety "Volga," 1959. 318 p. (MIRA 12:11)

1. Astrakhan (Province) Ekonomicheskiy administrativnyy rayon. (Astrakhan Province--Economic conditions)

MIKHAYLOV, B.M.; VASIL'YEV, L.S.

Organoboron compounds. Part 141: Mutual transformations of trialkylborons, borates, and boronic acid esters catalyzed by alkyldiboranes. Zhur. ob. khim. 35 no.5:925-929 My '65. (MIRA 18:6)

MIKHAYLOV, B.M.; VASIL'YEV, L.S.

Organoboron compounds. Part 152: Mutual exchange of alkoxy- and alkylmercapto groups in organoboron compounds. Zhur. ob. khim. 35 no.6:1073-1078 Je '65. (MIRA 18:6)

USSR/Engineering - Hydraulics, Dams Jun 51

"New Design of Multiple-Arch-Type Dam," L. V. Vasil'yev, EngT

"Gidrotekh Strol" No 6, pp 38,39

Attempts to improve construction of multiple-arch dams in respect to their sensitivity to unequal settlement and temp influence. Suggests a new design which differs from existing structures as follows: Each arch barrel consists of a series of arches, placed upon each other and connected among themselves and to buttresses by watertight

199T54

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joints; each section has a tie-piece which accepts thrust; sep arch sections are prefabricated and installed after erection of buttresses and service bridge.

199T54

VASIL'YEV, I. V.