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B117/B212

3,5140

AUTHOR:

Vorob'yev, V. I.

TITLE:

High-altitude frontal zones, climatological fronts, and  
cyclonic activities in extratropical zones

PERIODICAL:

Meteorologiya i gidrologiya, no. 4, 1961, 7-11

TEXT: The author has investigated the high-altitude frontal zones and their agreement with climatological fronts and cyclonic activities. The term high-altitude frontal zone (HFZ) has been applied to the whole northern hemisphere in 1946. Later the HFZ of the troposphere, which surround the hemispheres, have been called planetary high-altitude frontal zones (PHFZ). In order to determine characteristics of the geographic distribution of HFZ, it is useful to utilize maps showing the frequency of HFZ. Such maps have been compiled by the author for the extratropical zones of the northern hemisphere. The HFZ of the troposphere are marked by strong contrasts of the average temperatures for the whole troposphere. Their positions could be determined most easily with the aid of maps of the relative topography of <sup>300</sup>1000. As there are

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High-altitude ...

no such maps available, AT<sub>300</sub> maps (maps of the absolute topography) are used instead. On these maps, the position of the central part of the HFZ of the troposphere practically coincides with the zone of a more dense bunching of contour lines of terrain, since the baric high-altitude field is mainly a function of the distribution of the average tropospheric temperature on this level. To compile maps for the frequency of HFZ, AT<sub>300</sub> maps of the northern hemisphere for the summer and winter months of 1955-57 have been used. With these maps, the position of HFZ-axes in cold and temperate latitudes of the northern hemisphere (north of 35-45° of the northern latitude) has been determined. The frequency has been calculated for the same areas. An area of 320 000 km<sup>2</sup> has been assumed as unit. During winter the area of an increased frequency (40%) of HFZ nearly stretches over the whole hemisphere (Fig. 1). The distribution of HFZ found agrees fairly well with climatological fronts which have been established by S. P. Khromov (Ref. 4: Geograficheskoye razmeshcheniye klimatologicheskikh frontov. Izv. Vsesoyuzn. geografich. obshchestva, t. 82, vyp. 2, 1950). A very good agreement is characteristic of polar fronts. Fig. 1 shows a good agreement of the positions of the central PHFZ with the areas of the greatest frequency of HFZ.

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High-altitude ...

In general, the direction of the zone of increased frequency of HFZ (40%) does not change during summer, even though the area occupied by it increases essentially (Fig. 2). The distribution of HFZ shown in Fig. 2 agrees well with the positions of polar climatological fronts in winter and also in summer. Summing up it is pointed out that the frequency of HFZ in cold and temperate latitudes of the northern hemisphere decreases over the continents of the southern part of the areas investigated (south of about 50° northern latitude) and over the northern parts of the ocean during the transition from summer to winter. Over the central and northern parts of the continents and over the northern parts of the ocean it will increase during this time interval. This rule is observed during summertime in an increased cyclonic activity over continents located in cold and temperate zones, and its decrease over the northern parts of the ocean. Observations of the area over 40° northern latitude show that the frequency of HFZ will increase to about 70% of the area during the transitions from winter to summer. But this does not mean that atmospheric processes in this area will be more active in summer. It has been established that the frequency of HFZ in the investigated area of the northern hemisphere during summertime with high temperature contrasts (over 20°/1000 km) will decrease by nearly one-half. At temperature

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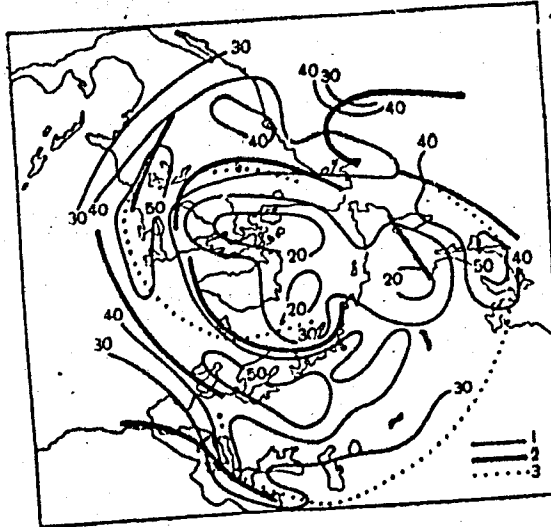
contrasts (below  $10^{\circ}/1000$  km) whose values are not high enough for the active development of cyclone-forming processes, the frequency of HFZ in this area and during this time interval will increase. A comparison of Figs. 1 and 2 with maps of mobile cyclones shows that the areas of greatest frequency of HFZ do not agree in all parts with the frequency of mobile cyclones. Kh. P. Pogosyan is mentioned. There are 2 figures, 1 table, and 5 references: 4 Soviet-bloc and 1 non-Soviet-bloc. The reference to the English-language publication reads as follows: J. Wederman. The life of jet streams and extratropical cyclones, BAMS, vol. 35, No. 6, 1954.

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High-altitude ...

Legend to Figs.: 1) Isolines of the frequency of HFZ; 2) arctic and polar climatologic fronts; 3) central PHFZ.

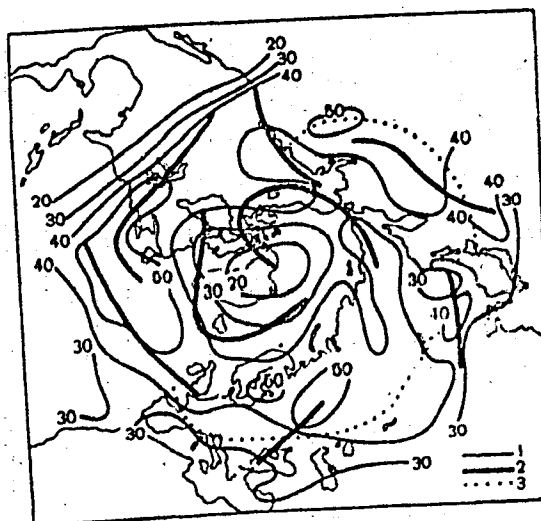


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High-altitude ...



Card 6/6

VOROB'YEV, V.I., kapitan meditsinskoy sluzhby

Method of evaluating pain intensity in stomach diseases.  
Voen.-med. zhur. no. 6:87-88 Je '60. (MIRA 13:7)  
(STOMACH--DISEASES) (PAIN)

PETRUSHIN, V.K.; VOROB'YEV, V.I.

Automatic control of a low-production cupola furnace. Mashinostroitel'  
no.9:21 S '61. (MIRA 14:10)  
(Cherepovets--Cupola furnaces)



BERG, S.L., polkovnik; VOROB'YEV, V.I., kapitan pervogo ranga; GIL'BO, G.M., kapitan pervogo ranga; ANANCHENKO, A.A.; BALAKSHINA, M.M.; BANNIKOV, B.S., kapitan vtorogo ranga; BAKHTINA, G.F.; BERENSHTAM, N.V.; BUTYRINA, N.Ya.; VOROB'YEV, V.I., kapitan pervogo ranga; GASS, I.P.; GINBYSH, N.S.; GLADIN, D.F., polkovnik; GOLOVANOVA, L.G., kand. ist. nauk; GOLUBEVA, Z.D., kand. filol. nauk; GONCHAROVA, A.I.; ZANADVOROVA, R.N.; IVANOVA, N.G.; KARAMZIN, G.B.; KOVAL'CHUK, A.S.; KRONIDOVA, V.A.; LITOVA, Ye.I.; MOLCHANOVA, T.I.; OKUN', L.S.; POCHEBUT, A.N.; RAYTSES, V.I.; SAVINOVA, G.N.; SENICHKINA, T.I.; SKRYNNIKOV, R.G., kand. ist. nauk; FURAYEVA, I.I.; CHIZHOVA, N.N.; YASINSKAYA, L.F.; GLADIN, D.F., polkovnik; LABETSKIY, Ye.F., podkapitan pervogo ranga; NADVODSKIY, V.Ye., podpolkovnik; DEMIN, L.A., inzh.-kontr-admiral, glav. red.; FRUMKIN, N.S., polkovnik, zam. otv. red.; LEVCHENKO, G.I., admiral, red.; BAKHTINA, G.F., tekhn. red.

[Naval atlas] Morskoi atlas. n.p. Izd. Glavnogo Shtaba Voenno-Morskogo Flota. Vol.3. [Naval history] Voenno-istoricheskii. Pt.1. [Text for the maps] Opisaniia k kartam. 1959. xxi, 1942 p. (MIRA 15:5)

1. Russia (1923- U.S.S.R.) Ministerstvo oborony.  
(Naval history)

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[Naval atlas] Morskoi atlas. n.p. Izd. Glavnogo Shtaba Voenno-Morskogo Flota. Vol.3. [Naval history] Voenno-istoricheskii. Pt.1. [Text for the maps] Opisaniia k kartam. 1959. xxi, 1942 p. (MIRA 15:5)

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Materialy po lotsii Tazovskoi guby, po rabotam Zapadnosibirskogo upravleniia gidrograficheskoi sluzhby. [Materials on polot guides of Tazovskaya Guva]. Leningrad, Izdanie Vsesoiuznogo arkticheskogo instituta, 1934. 58 p.fold. diags.  
DLC: VK807.V6

SO: Soviet Transportation and Communications, A Bibliography, Library of Congress, Reference Department, Washington, 1952, Unclassified.

VOROB'YEV, V.I., inzhener.

Pocket height indicator. Elek.sta. 25 no.12:49-50 D '54.(MLBA 7:12)  
(Electric lines--Overhead)

VOROB'YEV, V.I.

AID P - 5570

Subject : USSR/Aeronautics - jet streams  
Card 1/1 Pub. 135 - 9/27  
Author : Vorob'yev, V. I., Eng.-Lt.Col.  
Title : Flying conditions in jet streams  
Periodical : Vest. vozd. flota, 6, 52-56, Je 1956  
Abstract : The description of jet streams is given in this article as well as what the pilots should know about the flying conditions in jet streams and how to take advantage of such streams during the flight. One map, two diagrams. The article is of informative value.  
Institution : None  
Submitted : No date

PHASE I BOOK EXPLOITATION SOV/4365

Vorob'yev, Valeriy Igorevich

Struynnye techeniya v vysokikh i umerennykh shirotakh (Jet Streams in High and Temperate Latitudes) Leningrad, Gidrometeoizdat, 1960. 233 p. 3,000 copies printed.

Resp. Ed.: L. T. Matveyev; Ed.: T.V. Ushakova; Tech. Ed.: M.I. Braynina.

**PURPOSE:** This book is intended for members of civilian and military meteorological services. It may be used by advanced students at universities and hydro-meteorological institutes.

**COVERAGE:** The book analyzes the geographic distribution of jet streams in the high and middle latitudes of the Northern Hemisphere. The macrosynoptic conditions leading to the formation of jet streams over the North Atlantic, Europe, and Western Siberia are examined. Special features of the temperature, wind, and energetic regimes in jet stream regions are indicated. The book also includes modern methods for the determination and forecasting of jet streams. The major part of this work is based upon meteorological research conducted by the author

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## Jet Streams in High and Temperate Latitudes

SOV/4365

during the period 1954 - 1958. Paragraphs 7 and 8 in Ch. III were written by Ye.P. Borisenkov and L.T. Matveyev. The author thanks Professors G.Ya. Vangengeym, Kh. P. Pogosyan, S.P. Khromov, and Docents S.I. Titov and L.T. Matveyev. There are 162 references: 87 English, 71 Soviet, and 4 German.

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FRISMAN, E.V.; VOROB'YEV, V.I.; SHCHAGINA, L.V.

Flow birefringence in solutions of deoxyribonucleic acid.  
Part 3: Dependence of the optical anisotropy of deoxyribonucleic  
acid molecules on the molecular weight. Vysokom.soad. 6 no. 5:  
884-890 My '64. (MIRA 17:6)

1. Leningradskiy gosudarstvennyy universitet imeni Zhdanova  
i Institut tsitologii AN SSSR.



AKSENOVA, N.N.; BRESLER, V.M.; VOROB'YEV, V.I.; OLENOV, Yu.M.

Effect of ribonucleic acids isolated from the liver on the trans-  
plantability and growth of transplanted tumors. *Tsitologiya* 5  
no.5:490-498 S-0 '62. (MIRA 18:5)

1. Laboratoriya tsitologii zlokachestvennogo rosta Instituta  
tsitologii AN SSSR, Leningrad.

VCROB'YEV, V.I.; PTITSYN, O.F.

Physical methods of studying the structure of proteins and nucleic acids; School in Dniepr. Vest. AN SSSR 35 no.6:122-123 1965.  
(MIRA 18:8)

FRISMAN, E.V.; SHCHAGINA, L.V.; VOROB'YEV, V.I.

Glass rotatory viscosimeter. Koll. zhur. 27 no.1:130-134 Ja-F  
'65. (MIRA 18:3)

1. Nauchno-issledovatel'skiy fizicheskiy institut Leningradskogo  
universiteta.

VOBOBYEV, V.I.

"Konformative Änderungen biogener Makromoleküle und Mechanochemie."

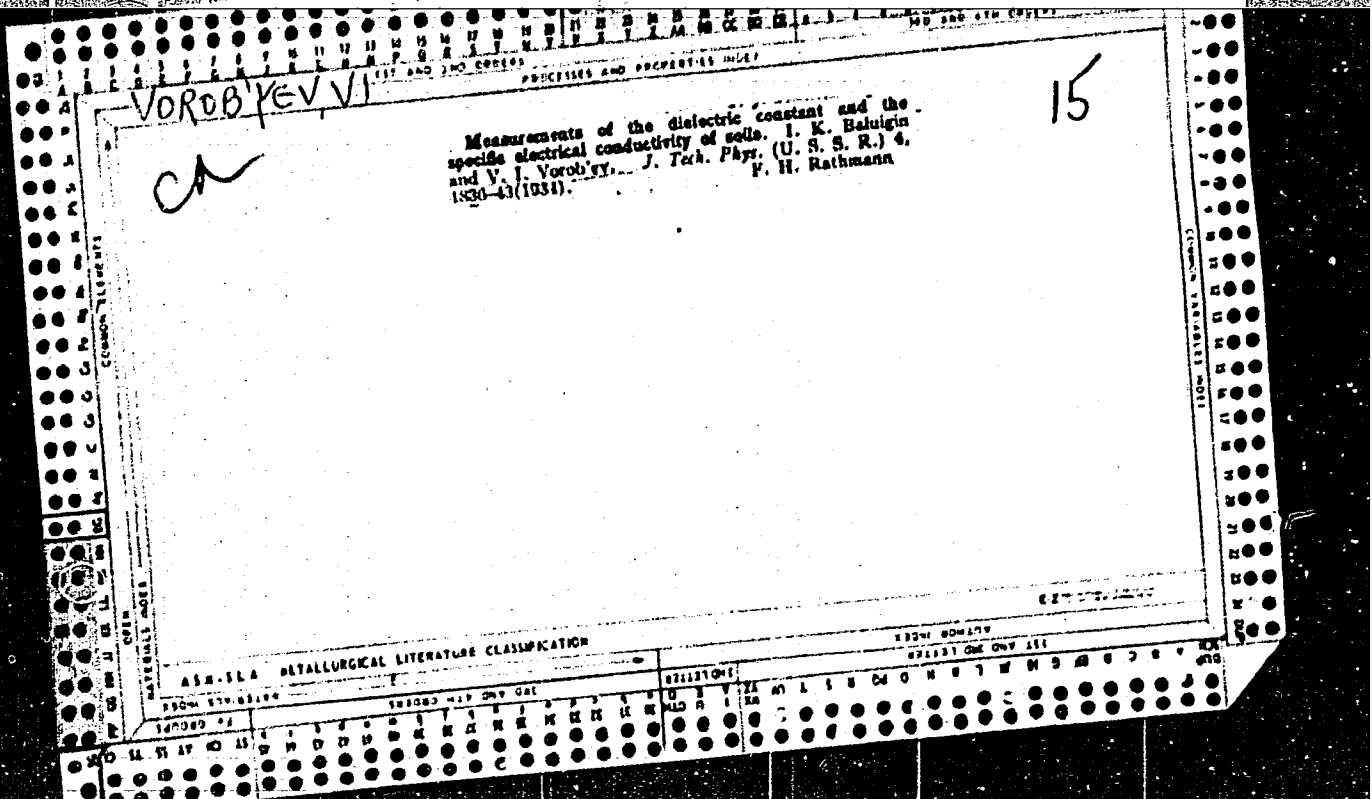
Report presented at the Symposium for Physical Chemistry of Biogenic  
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1. Laboratoriya tsitologii zlokachestvennogo rosta i Laboratoriya fiziologii kletki Instituta tsitologii AN SSSR, Leningrad.

(TUMORS) (HISTONES)



VOROB'EV, V. I.

A review of the astronomical and geodetic work of the Hydrographic Administration of the Chief Administration of the Northern Sea Route. Leningrad, Izd-vo Glavsevmorputi, 1937. 188 p. maps. Materialy po gidrografii morei i rek sovetskoi Arktiki, vyp. (48-36989)

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QB296.R96

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Catalogue of the astronomical points of the USSR sektor of the Arctic; basin of Kara Sea  
Leningrad, Izd-vo Glavsevmorputi, 1937. 356 p. map. (43-34791)

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VOROB'EV, V. I.

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VOROB'YEV, V. I.

ISAKOV, I.S., prof., admiral flota, otv.red.; PETROVSKIY, V.A., dotsent, kand.voyenno-morskikh nauk, kontr-admiral, red. [deceased]; DEMIN, L.A., dotsent, kand.geograf.nauk, inzh.-kapitan 1 ranga, glavnyy red.; BARANOV, A.N., red.; BERG, L.S., akademik, inzh.-mayor, red.; BOLOGOV, N.A., dotsent, kontr-admiral v otstavke, red.; VITVER, I.A., professor, doktor geograf.nauk, red.; GRIGOR'YEV, A.A., akademik; YEGOR'YEV, V.Ye., zaslushennyy deyatel' nauki, prof., doktor voyenno-morskikh nauk, kontr-admiral v otstavke, red.; ZIMAN, L.Ya., prof., red.; ZUBOV, N.N., prof., doktor geograf. nauk, inzh.-kontr-admiral v otstavke, red.; KAVRATSKIY, V.V., prof., doktor fiziko-mat.nauk, inzh.-kontr-admiral v otstavke, red.; KALESNIK, S.V., prof., doktor geograf.nauk, red.; KUDRYAVTSEV, M.K., general-leytenant tekhn.voysk, red.; LAMYKIN, S.M., kapitan 1 ranga, red.; MATUSEVICH, N.N., zaslushennyy deyatel' nauki i tekhniki, prof., doktor fiziko-mat.nauk, inzh.-vitse-admiral v otstavke, red.; [deceased]; MESHCHANINOV, I.I., akademik, red.; MILENKI, S.G., red.; ORLOV, B.P., prof., doktor geograf.nauk, red.; PANTELEYEV, Yu.A., vitse-admiral, red.; SNEZHINSKIY, V.A., dotsent, kand.voyenno-morskikh nauk, inzh.-kapitan 1 ranga, red.; SALISHCHEV, K.A., prof., doktor tekhn.nauk, red.; TRIBUTS, V.F., admiral, red.; FOKIN, V.A., vitse-admiral, red.; SHVEDE, Ye.Ye., prof., doktor voyenno-morskikh nauk, kontr-admiral, red.; SHULEYKIN, V.V., akademik, inzh.-kapitan 1 ranga, red.; PAVLOV, V.V., inzh.-polkovnik, red.; VOLKOV, F.G.,

(Continued on next card)

ISAKOV, I.S.---(continued) Card 2.

podpolkovnik, pomoshchnik glavnogo red. po isd-vu; SEDOV, N.Ye., kapitan 2 ranga, uchenyy sekretar'; VOROB'YEV, Y.I., kapitan 1 ranga, red.kart; MIGALKIN, G.A., inzh.-kapitan 1 ranga, red.kart; GAPONOVA, A.A., red.kart; GONCHAROVA, A.I., red.kart; GORBACHEVA, N.Ye., red.kart; GRYUNBERG, G.Yu., red.kart; DUROV, A.G., red.kart; YERSHOV, I.B., red.kart; ZIL'BERSHER, A.B., red.kart; KASTAL'SKAYA, N.I., red.kart; KUBLIKOVA, M.M., red.kart; MAKAROVA, V.N., red.kart; MORZOVA, A.F., red.kart; PAVLOVA, Ye.A., red.kart; POCHUBUT, A.N., red.kart; ROMANOVA, G.N., red.kart; SMIRNOVA, L.V., red.kart; SMIRNOVA, L.N., red.kart; TANANKOVA, A.I., red.kart; YANEVICH, M.A., red.kart; YASINSKAYA, L.F., red.kart; YASIL'YEVA, Z.P., tekhn.red.; VIZIROVA, G.N., tekhn.red.; GOLOVANOVA, A.T., tekhn.red.; GOROKHOV, V.I., tekhn.red.; MALINKO, V.I., tekhn.red.; SVIDERSKAYA, G.V., tekhn.red.; CHERNOGOROVA, L.P., tekhn.red.; FURAYEVA, Ye.M., tekhn.red.

[Marine atlas] Morskoi atlas. Otv.red. I.S. Isakov. Glav.red. L.A. Demin. Izd. Morskogo general'nogo shtaba. Vol.1 [Navigation geography] Navigatsionno-geograficheskii. Zamestitel' otv. red. po I tomu V.A. Petrovskii. 1950. 83 maps. (MIRA 12:1)  
(Continued on next card)

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1. Russia (1923- U.S.S.R.) Voenno-morskoye ministerstvo.
2. Nachal'nik Morskogo kartograficheskogo instituta voyenno-morskikh sil (for Lamykin).
3. Deystvitel'nyy chlen Akademii pedagogicheskikh nauk RSFSR (for Orlov).
4. Nachal'nik Gidrograficheskogo upravleniya voyenno-morskikh sil (for Tributs).
5. General'nyy gosudarstv. direktor topograficheskoy sluzhby (for Baranov).
6. Direktor topograficheskoy sluzhby (for Milenki).  
(Ocean--Maps) (Harbors--Maps)

VOROB'YEV, V. I.

The Committee on Stalin Prizes (of the Council of Ministers USSR) in the fields of science and inventions announces that the following scientific works, popular scientific books, and textbooks have been submitted for competition for Stalin Prizes for the years 1952 and 1953. (Sovetskaya Kultura, Moscow, No. 22-40, 20 Feb - 3 Apr 1954)

<u>Name</u>	<u>Title of Work</u>	<u>Nominated by</u>
Isakov, I. S.	"Marine Atlas" (Vol 11)	Geographical Society of the USSR, Academy of Sciences USSR
Shuleykin, V. V.		
Demin, L. A.		
Vorob'yev, V. I.		
Seregin, M. P.		
Yegor'yeva, A. V.		
Smirnova, V. G.		
Kudryatsev, M. K.		
Babakhanov, A. O.		
Rudovits, L. F.		
Volkov, F. G.		
Salishchev, K. A.		
Orlov, B. P.		
Kalesnik, S. V.		
Shvede, Ye. Ye.		
Snezhinskiy, V. A.		
Pogosyan, Kh. P.		
Drozdov, O. A.		

SO: W-30604, 4 July 1954

VOROB'YEV, V. I.

"Measuring the Shore Lines of Soviet Seas by the Volkov Method and an Appraisal ~~Method~~ of the Accuracy of the Results," a paper presented in 1953 at meetings of the Dept. of Mathematics, Geography, and Cartography im. Yu. M. Shokal'skiy, AU Geog. Society.

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VOROB'YEV, V.I.

Accuracy in coordinating oceanographic work. Trudy Inst. okean. 25:  
98-114 '57. (MIRA 11:2)

(Oceanography)

VOROB'YEV, V. I.

25732. Kuznetskiy Basseyz Na pod'eme Ugol' , 1949, No. 8, s. 7-9.

SO: Letopis' Zhurnal'nykh Statey, Vol. 34, Moskva, 1949





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"Effectiveness of Tests with Soviet Kuzbass Combine," Mekhanizatsiya  
Trudoyemkikh i Tyazhelykh Rabot, No 4, 1950.

Translation W-13871, 25 Sep 50

VCROB'YEV, V. I.

Coal Mines and Mining--Kuznetsk Basin

First results of the cyclical organization of work at the mines of the Kuznetsk Coal Combine. Ugol', No. 1, 1952.

9. Monthly List of Russian Accessions, Library of Congress, \_\_\_\_\_ 1953. Unclassified.

AUTHOR: Vorob'yev, V.I. and Grachev, L.N., Engineers 118-58-6-4/21

TITLE: The Construction of Hydraulic Mines and Hydraulic Mining Complexes in the Kuznetsk Coal Field (Stroitel'stvo gidroshakht i gidrokompleksov v Kuznetskom basseyne)

PERIODICAL: Mekhanizatsiya trudoyemkikh i tyazhlykh rabot, 1958, Nr 6, pp 10-12 (USSR)

ABSTRACT: In 1940, the Kuznetsk coal field (Kuzbass) produced 21.1 million tons of coal and in 1957 - 68.3 million tons. To increase labor efficiency and to lower production costs, "VNIIGidrougol'" has proposed a wide introduction of hydraulic mining. In accordance with this plan, 25% of the assumed output in 1965 (102 million tons) should be mined by hydraulic methods. At present in the Kuzbass, 1 hydraulic mine and 5 hydraulic sections, producing 1,000 tons every 24 hours, have been put into operation. It is planned to reconstruct mine Nr 5 of the Kiselevskugol' trust and the mines "Maganak" and "Krasnyy Uglekop" in Prokop'yevsk for hydraulic mining. The reconstruction of the "Tsentral'naya" mine of the Kemerovugol' trust (capacity - 1,500 tons in 24 hours) has already been started. The latter will directly supply, by hydraulic transportation, the Belovskaya GRES (Belovo Electric Power Plant) (under construction). If the

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118-58-6-4/21

The Construction of Hydraulic Mines and Hydraulic Mining Complexes in the Kuznetsk Coal Field

proposal of the VNIIGidrougol' Institute is accepted, construction activities in the Kuzbass coal field will consist of: 1) introduction of hydraulic mining in mines under construction, 2) reconstruction of working mines for hydraulic mining, and 3) construction of new hydraulic mines. In spite of hydraulic mining advantages, the construction of such mines in the Kuzbass proceeds unsatisfactorily because of the lack of cranes, bulldozers, excavators, reinforced concrete, and the poor quality of the hydraulic equipment. There are 2 diagrams, 1 photo and 1 table.

1. Coal mining--USSR    2. Hydraulics--Applications

Card 2/2

ACC NR: AT6021083 SOURCE CODE: UR/2531/66/000/198/0043/0052

AUTHOR: Vorob'yeva, Ya. V. (Candidate of geographical sciences);  
Vorob'yev, V. I.

ORG: none

TITLE: Manifestation of the combining of atmospheric processes in the characteristics of jet streams and polar-high frontal zones in extra-tropical latitudes

SOURCE: Leningrad. Glavnaya geofizicheskaya observatoriya. Trudy, no. 198, 1966, Voprosy obshchey i sinopticheskoy klimatologii (Problems of general and synoptic climatology), 43-52

TOPIC TAGS: synoptic meteorology, polar high front, jet stream, atmospheric circulation, *atmospheric front*

ABSTRACT:

This paper is a continuation of the 1962 work of Vorob'yeva (Sopryazhennost' atmosferykh protsessov v severnom polusharii (Combining of atmospheric processes in the Northern Hemisphere) Gidrometoizdat, 1962). Space and time correlation functions are analyzed to investigate the synchronous and

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ACC NR: AT6021083

asynchronous relationship of the intensity of zonal circulation over the American-Atlantic Ocean sector to the position and intensity of the polar-high frontal zone (PVFZ) and the jet streams in the Northern Hemisphere. The A. L. Kats index of zonal circulation ( $I_3$ ) was taken as the characteristic of zonal transfer in the zone from 40—70N and 20—160W taken from AT<sub>500</sub> maps (daily indices for the winter months December through February 1959—1962). The position of the PVFZ in the lower troposphere and of the jet streams over the entire Northern Hemisphere at meridians (multiples of 20 deg) were determined daily for the same months from AT<sub>500</sub> and AT<sub>300</sub> maps. The speed of the geostrophic wind on the axial line of the PVFZ was computed for the meridians. Quantitative evaluation of the relationships between atmospheric processes in different parts of the Northern Hemisphere indicates that they can be used in developing statistical methods of forecasting the position and intensity of polar-high frontal zones and jet streams. Orig. art. has: 5 figures and 2 tables.

[W.A. 50; CBE No. 10]

SUB CODE: 04/ SUBM DATE: none/ ORIG REF: 007/ AND PRESS:

Card 2/2

CA

VOROB'YEV, V.I.

11"

Biochemical factors which determine the mechanical properties of intracellular and tissue structures. V. I. Vorob'ev and V. S. Shapot. *Doklady Akad. Nauk S.S.S.R.* 77: 309-12 (1961). — The mech. properties of fibers of desoxyribonucleic acid, thymonucleohistone, "synthetic" nucleoproteins (from desoxyribonucleic acid and histone or de- polymerase of nucleic acid), and high-mol.-wt. hyaluronic acid were detd. The results are given graphically. Threads of desoxyribonucleic acid pptd. by ejection from a syringe into a pptg. bath are largely oriented along the axis of the fiber. When the polymeric acid is repptd. several times with EtOH it acquires unexpected soly. in EtOH, but if an aq. soln. of such an acid is rapidly ejected from a capillary

into 85% EtOH the products form insol. threads. Free desoxyribonucleic acid shows a characteristic increase of deformation (stretch) with time under load (up to 100% in 60-80 sec.), all nucleoproteins did not show this phenomenon. Nucleohistone filaments show tensile strength of 4 kg./sq. cm., while the free desoxyribonucleic acid gives but 3 kg./sq. cm. Apparently in the former substances the threads of the latter are bound together by their side chains and resist laminar flow of deformation by tension. The nucleoprotein and the synthetic nucleohistone are elastic threads while desoxyribonucleic acid threads are inelastic, again explained by side-chain interaction. Threads of hyaluronic acid formed by ejection of its biol. ext. into aq. EtOH are definitely elastic indicating that hyaluronic acid is bound with the protein matter, since the free acid is rather elastic. However, the deformation with time is rather high (up to 800%) indicating that the biol. ext. contains the free acid along with its protein complex. The elasticity of natural structures is thus explainable on the basis of existence of desoxyribonucleoproteins and protein complexes of hyaluronic acid. (I. M. Kosolapov)

Instit. Egypt. Med., AMS USSR

1951



VOROB'YEV, V.I.

VOROB'YEV, V.I. -- "The Properties of Nucleoproteids Making Possible the Development of Biological Structures." Cand Med Sci, Inst of Experimental Medicine, Acad Med Sci USSR, Leningrad 1953. (REFERATIVNIY ZHURNAL--KHEMIYA, No 1, Jan 54)

Source: SJM 168, 22 July 1954

VOROB'YEV, V. I.

Chemical Abst.  
Vol. 48 No. 8  
Apr. 25, 1954  
Biological Chemistry

④  
High-polymer protein derivatives as the basis of protoplasmic structures. V. I. Vorob'ev and V. S. Shapovalov. *Inst. Exptl. Med., Acad. Med. Sci. U.S.S.R., Leningrad*. *Biokhimiya* 18, 603-17(1953).—To a soln. of histones was added drop by drop a soln. of high polymer deoxyribonucleic acid. A thin layer was formed around each drop turning the latter into firm spheres. The same has been accomplished with cryst. trypsin, globin, cryst. ribonuclease, highly purified deoxyribonuclease, and cryst. egg albumin. The properties of the spheres were studied, and on the basis of the data theoretical considerations on protoplasmic structures are presented.  
D. S. Lewis

VOROB'YEV, V. I.

EXCERPTA MEDICA Sec.2 Vol.11/5 Physiology, etc. May 58

1907. MECHANO-CHEMICAL PROPERTIES OF MYOSIN THREADS OBTAINED ON ADDITION OF DNA (Russian text) - Vorobiev V. I. Inst. of High Molecular Compounds, Acad. of Scis of the USSR, Leningrad - BIOKHMIIA 1957, 22/3 (597-608) Graphs 6 Tables 1

The myosin-DNA complex contracts under the influence of ATP like actomyosin in the presence of Ca and Mg. In the absence of Ca, addition of ATP causes lengthening of the threads instead of contraction. A correlation was established between thread deformation and enzymatic activity of myosin. The transformation of the chemical energy of ATP into mechanical energy of contraction is suggested to be a biphasic process with 2 stages of enzymic interaction of ATP with myosin.

VOROB'YEV, V.I.

VOROB'YEV, V.I.

New crystalline form of chymotrypsin [with summary in English].  
Biokhimiia 22 no.4:651-656 J1-Ag '57. (MIRA 10:11)

1. Institut Vysokomolekulyarnykh soyedineniy AN SSSR, Leningrad.  
(CHYMOTRYPSINS,  
crystalline form (Rus))

VOROB'YEV, V.I.; HENSBERG, Ye.D.

Viscous flow of highly polymerized desoxyribonucleic acid [with  
summary in English]. Biokhimiia 22 no.5:894-903 S-0 '57.  
(MIRA 11:1)

1. Institut vysokomolekulyarnykh soyedineniy i Institut  
poluprovodnikov Akademii nauk SSSR, Leningrad.  
(DESOXYRIBONUCLEIC ACID,  
viscous flow of highly polymerized prep. (Rus))

VOROB'YEV, V.I.; ZHIRMUNSKIY, A.V.

First scientific session of the Institute of Cytology of the  
Academy of Sciences of the U.S.S.R. Izv. AN SSSR, Ser. biol.  
no.5:618-622 S-O '58. (MIRA 11:10)  
(CYTOLOGY)

SOV/25-58-12-27/40

AUTHOR: ~~Vorob'yev, V.I.,~~ Candidate of Medical Sciences  
TITLE: Anoptric Microscopy (Anoptral'naya mikroskopiya)  
PERIODICAL: Nauka i zhizn', 1958, <sup>Vol 25.</sup> Nr 12, pp 67-68 (USSR)  
ABSTRACT: During the past 10-15 years, microscopy, with the aid of phase contrasts for the study of the structure of living cells, has been widely used. This task can now be solved more efficiently by applying anoptric microscopy, as developed in 1953 by the Finnish physiologist Vil'sk. This method was subsequently improved in 1954-1956 by the Soviet cytologist, Professor M.A. Peshkov. The improved Soviet version of an anoptric microscope was displayed at the Brussels' Exhibition. There is 1 photo and 1 diagram.

Card 1/1

17(3).

AUTHOR:

Vorob'yev, V. I.

SOV/20-128-1-36/56

TITLE:

On the Kinetics of the Fermentative Hydrolysis of Proteins and Peptides Under Pressure (O kinetike fermentativnogo gidroliza belkov i peptidov pod davleniyem)

PERIODICAL:

Doklady Akademii nauk SSSR, 1958, Vol 123, Nr 1, pp 133 - 136 (USSR)

ABSTRACT:

The fermentative hydrolysis of proteins and peptides is accompanied in some buffer solutions by a reduction of the molecular volume. It may, therefore, be expected, that an increase in pressure will support in such cases the shifting of equilibrium in the direction of a hydrolysis of respective substrates. The pressure, however, is also capable of considerably affecting the rate of the process. The kinetic part of the pressure effect has so far not been considered although it is quite obvious that even a thermodynamically favorable direction of reaction might be masked owing to kinetic causes. Here, the influence exerted by the pressure upon the rate of the reaction under review, is investigated.

Card 1/4



On the Kinetics of the Fermentative Hydrolysis of  
Proteins and Peptides Under Pressure

SOV/20-121-1-36/54

Proteolytic ferments such as crystalline trypsin and chymotrypsin have been studied by the following proteolysis substrates: crystalline serum albumin (from horses), the same from man and serum- $\gamma$ -globuline (from horses). 1% solutions of these protein substances were previously denaturated by heat. The dipeptide preparations were isolated from yeast and from the mucous membrane of the intestine of cats (Ref 5). They were glycyl-glycine and glycyl-l-leucine, respectively. The results of the experiments carried out in a high-pressure autoclave are presented in tables 1 and 2 as curves of the dependence of substrate quantities, split within a certain time, upon the pressure. In the ammonium and phosphate buffer the hydrolysis of the proteins proceeds with a decrease in volume, whereas in the borate buffer the volume increases. The hydrolysis of the dipeptides both in the phosphate and in the borate buffer was accompanied by a reduction of volume. The rate of cleavage of the dipeptides dropped with increasing pressure and stopped at 4500-5000 atmospheres

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On the Kinetics of the Fermentative Hydrolysis of  
Proteins and Peptides Under Pressure

SOV/20-123-1-36/56

excess pressure (Fig 1, curves 1,2). In the tryptic decomposition of the mentioned albumin and globulin in any of the three buffers the fermentative process is also inhibited from a certain pressure upwards (Fig 2a). The increase in the rate of the hydrolysis of albumin and globulin in the pressure range of up to 2000 atmospheric excess pressure is, on further increasing pressure, replaced by a retardation of the proteolysis. Proteolysis stops at 4500-5000 atmospheres excess pressure. Under the influence of chymotrypsin, hydrolysis is accelerated up to 4000 atmospheres excess pressure, while the standstill occurs only at 6000-6500 atmospheres excess pressure (Fig 2b). The inhibition of the protein- and peptide- decomposition under pressure is reversible (Fig 3). After a discussion of the processes involved the author concludes that an increase in pressure changes the rate of reaction of the mentioned proteins and dipeptides. Even in cases where their hydrolysis under pressure would be advantageous, an inhibition of the fermentative de-

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On the Kinetics of the Fermentative Hydrolysis of  
Proteins and Peptides Under Pressure

SOV/20-123-1-36/56

composition by the influence of kinetic factors occurs.  
S.Ye.Bresler, M.V.Glikin, G.V.Samsonov and S.Ya.Frenkel  
participated in this study. There are 3 figures and 8  
references, 5 of which are Soviet.

ASSOCIATION: Institut tsitologii Akademii nauk SSSR (Institute of  
Cytology of the Academy of Sciences, USSR)

PRESENTED: June 30, 1958, by V.A.Engel'gardt, Academician

SUBMITTED: April 15, 1958

Card 4/4

VOROB'YEV, V.I.

International symposium in Brussels on the relationships of the  
nucleus and cytoplasm. *Sitologia* 1 no.3:345-347 My-Je '59.  
(MIRA 12:10)

(CELL NUCLEI) (PROTOPLASM)

VOROB'YEV, V.I.

The "Living Cell" section at the Science Hall of the 1958  
Brussels World Fair. TSitologia 1 no.4:459-467 J1-Ag '59.  
(MIRA 12:10)

(BRUSSELS--BIOLOGY, EXPERIMENTAL--EXHIBITIONS)

POLYANSKIY, Yu.I., otv.red.; LOZINA-LOZINSKIY, L.K., zamostitel' otv.  
red.; VOROB'YEV, V.I., red.; ZHIRMUNSKIY, A.V., red.; KUSA-  
KINA, A.A., red.; RUMYANTSEV, P.P., red.; SHAPIRO, Ye.A., red.;  
SERGEYEVA, G.I., red.izd-va; BLEYKH, E.Yu., tekhn.red.

[Problems of cytology and protistology; collection of articles]  
Voprosy tsitologii i protistologii; sbornik rabot. Moskva, 1960.  
316 p. (MIRA 13:2)

1. Akademiya nauk SSSR. Institut tsitologii. 2. Laboratoriya kle-  
tochnykh adaptatsii Instituta tsitologii AN SSSR (for Lozina-Lo-  
zinskiy, Rumyantsev). 3. Laboratoriya fiziologii kletki Instituta  
tsitologii AN SSSR (for Vorob'yev, Shapiro). 4. Laboratoriya sravni-  
tel'noy tsitologii Instituta tsitologii AN SSSR (for Zhirmunskiy,  
Kusakina).

(CELLS)

VOROBYEV, V.I.

"New Aspects of Mechano-Chemical Phenomena."

Paper submitted for International Biophysics Congress Stockholm  
31 Jul -- 4 Aug '61.

Inst. of Cytology, Leningrad.

VOROBYEV, V. I., KHODOSOVA, I. A., KOPYLOVA-SVIRIDOVA, T. N. (USSR).

Interaction of some Enzymes with Nucleic Acids.

report presented at the 5th Int'l.  
Biochemistry Congress, Moscow, 10-16 Aug. 1961



BIRSHTEYN, T.M.; VOROB'YEV, V.I.; PTITSYN, O.B.

Theory of mechanochemical manifestations. Part 1: Close  
action in polyelectrolytes and mechanochemistry. Biofizika  
6 no.5:524-533 '61. (MIRA 15:3)

1. Institut vysokomolekulyarnykh soyedineniy AN SSSR, Moskva  
i Institut tsitologii AN SSSR, Leningrad.  
(MACROMOLECULAR COMPOUNDS)  
(ELECTROLYTES)

5.3600 2209, 1372, 1234  
27.0000 4112

21505

S/020/61/137/004/030/031  
B103/B208

AUTHOR: Vorob'yev, V.I.

TITLE: Some new aspects of mechanochemical phenomena

PERIODICAL: Doklady Akademii nauk SSSR, v. 137, no. 4, 1961, 972 - 975

TEXT: The author starts with a survey of the development of a new branch of science - mechanochemistry - in the course of the last 20 years. Mechanochemical systems have to fulfill at least two conditions: 1) being capable of reversible deformation; 2) a chemical reaction which takes place on the surface of the macromolecules forming the system must be able to change the form of these macromolecules or the swelling property of the entire system. The author has previously confirmed (Ref. 6, DAN, 77, 309, 1951; Ref. 7, Biokhimiya, 18, 603, 1953; Ref. 8, ibid., 22, 597, 1957) that also globular proteins form complexes by interaction with linear biopolymers of the types DNA and RNA, which possess all properties of long, flexible macromolecules, and are reactive in a mechanochemical way. The change of the ionic strength of the medium (recognizable from the changed pH) induced the contraction or elongation of

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Some new aspects of ...

the nucleoproteid filament. Another type of mechanochemical cycle is brought about by alternating addition of  $Ca^{2+}$  or  $Mg^{2+}$  ions, and of EDTA (ethylene-diamine tetraacetate). The nucleoproteid filaments thus form typical mechanochemical systems which perform a direct conversion of chemical into mechanical energy in the isothermal cycle. Experiments on nucleoproteid filaments have shown that their deformation is accompanied by certain chemical displacements in the medium, which can be recorded. When alkali was added to specially prepared, sufficiently strong filaments which were first contracted by acid addition, and then considerably elongated, the alkali quantity required for reestablishment of the initial pH was always found to be higher than was expected. To check this phenomenon, the pH was directly measured in the medium during deformation of the filament. The filaments were in containers with a very small amount of liquid which was commensurable with the volume of the filament. As a rule, the pH was reduced by 0.06 - 0.1 on elongation of the filament. This reversible pH shift depended on the degree of deformation. Relaxation of the filament gradually re-established the initial pH. It was found in preliminary experiments that in the case of contraction of the filament due to addition of  $Ca^{2+}$  or  $Mg^{2+}$  ions, the elongation of the fila-

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B103/B208

Some new aspects of ...

ment increases the concentration of these ions in the medium. Summing up: The deformation of a mechanochemical system is accompanied by a regular change of the concentration of ions which act as an effective agent in the mechanochemical cycle. In the author's opinion, there is a deep biological meaning in this aspect of mechanochemical phenomena. If a deformation of the system, (e.g., of a muscle) is accompanied by changes of the chemical composition of the medium, these changes, having attained a certain degree, may affect the state of the deformed system, or of the mechanism that causes this deformation. The author concludes therefrom that the mechanochemical systems, owing to their nature, perform the self-regulation of processes coupled with the deformation according to the principle of reaction. It is possible that investigations of this kind with the aid of models and biological systems will indicate new ways of understanding the self-regulation of some physiological processes in the molecular range. There are 4 figures and 9 references: 4 Soviet-bloc and 5 non-Soviet-bloc. The reference to the English language publication reads as follows: Ref. 5, A. Katchalskiy, Progr. Biophys. and Biophys. Chem., 4, 1 (1954).

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21505

8/020/61/137/004/030/031  
B103/B208

Some new aspects of ...

ASSOCIATION: Institut tsitologii Akademii nauk SSSR (Institute of  
Cytology of the Academy of Sciences USSR)

PRESENTED: December 26, 1960 by V.A. Engal'garit, Academician

SUBMITTED: December 22, 1960

Card 4/4

VOROB'YEV, V. I. and GANELINA L. Sh.

"Study of the Enzymatic Splitting of Adenosine Triphosphate (ATP) by 'Muscle Models' during Extension." pp. 16

Institute of Cytology AS USSR Laboratory of Cell Physiology.  
Laboratory of Cell Biochemistry

II Nauchnaya Konferentsiya Instituta Tsitologii AN SSSR. Tezisy Dokladov  
(Second Scientific Conference of the Institute of Cytology of the Academy  
of Sciences USSR, Abstracts of Reports), Leningrad, 1962 88 pp.

JPRS 20,634

H

FRISMAN, E. V., VOROBYEV, V. I., SHCHAGINA, L. V., YANOVSKAYA, M. K. and  
AKSENOVA, N. N.

"Dynamic Double Refraction of Nucleic Acid Solutions." pp. 79

Physics Institute of the Leningrad State University, Laboratory of  
Cytology of Malignant Growth, and Institute of Cytology of the Academy  
of Sciences USSR

II Nauchnaya Konferentsiya Institutologii AN SSSR. Tesisy Dokladov (Second  
Scientific Conference of the Institute of Cytology of the Academy of Sciences  
USSR, Abstracts of Reports), Leningrad, 1962, 88 pp.

JPRS 20,634

VOROB'YEV, V.I.

International symposium on the structure and biological functions  
of protein. *TSitologia* 4 no.4:471-473 J1-Ag '62. (MIRA 15:9)  
(PROTEINS)



37425

S/190/62/004/005/022/026  
B110/B108

27/100  
AUTHORS:

Frisman, E. V., Vorob'yev, V. I., Shohagina, L. V., Yanovskaya, N. K.

TITLE:

Flow birefringence in solutions of desoxyribonucleic acid.  
I. Optical anisotropy in molecules of native and aggregated denaturated desoxyribonucleic acid

PERIODICAL:

Vysokomolekulyarnyye soyedineniya, v. 4, no. 5, 1962,  
762 - 768

TEXT: The denaturation of desoxyribonucleic acid (DNA) was studied with the aid of flow birefringence. The sodium salt of DNA from the thyroid gland of calf (12.63% N, 7.37% P; N/P = 1.71; E(p) = 6500) was investigated in an optical device with a penumbral compensator (0.0232 λ). Δn and α were determined as functions of the velocity gradient g of the DNA solutions. The relation  $(\Delta n / \epsilon c \eta_0)_{q \rightarrow 0} = f(c)$  shows that in solutions of native and aggregated denaturated (100°C) DNA, [n] changes by a factor of 115, and by a factor of 16. The optical anisotropy of the DNA macromolecule is

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Flow birefringence in solutions of ...

given by  $(\Delta n \cdot 27n_s kT) / [5\eta_0(\eta_r - 1)4\pi(n_s^2 + 2)^2] = \theta_j + \theta_f^*$ , where  $n_s$  is the refractive index of the solvent,  $\theta_f^*$  is the shape anisotropy at a given concentration of the solution,  $\eta_r$  is the relative viscosity of the solution, and  $\eta_0$  is the viscosity of the solvent. The anisotropies of the monomer links with adenine thymine and guanine cytosine were calculated according to J. D. Watson and F. H. C. Crick, and found to be  $a_{||} - a_{\perp} = -15 \cdot 10^{-24} \text{ cm}^3$ . This value points to a considerable rigidity of the DNA molecule. For initial DNA solutions, kept at room temperature and 80, 90, and 100°C, the following values, respectively, were obtained from the equation  $\theta_i = \gamma_1 - \gamma_2$   
 $= (3/5)(\alpha_1 - \alpha_2) \cdot 10^{20} \text{ cm}^3 = -0.90, -0.87, -0.60, -0.12$ ;  $(\alpha_1 - \alpha_2) \cdot 10^{20} \text{ cm}^3$   
 $= -1.5, -1.3, -1.0, -0.2$ ;  $S = 1000, 900, 700, 130$ ;  $A_m = 3400, 3060, 2400, 440 \text{ \AA}$ ;  $S = (\alpha_1 - \alpha_2) / (a_{||} - a_{\perp})$ ,  $A_m = Sb$ ;  $b = 3.4 \text{ \AA}$  (length of monomer). A molecular weight of  $5 \cdot 10^6$  and a mean radius of inertia of  $\sqrt{R^2} = 2 \cdot 10^3 \text{ \AA}$  were obtained from the angular distribution of the intensity of light

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Flow birefringence in solutions of ...

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scattered by native DNA solutions. On the basis of the mean square distance  $h^2$  between the chain ends, the convolution in the native DNA molecule was found to be  $Q = L/\sqrt{h^2} \approx 5$ . As the lengths of the segments, determined optically and geometrically, differ considerably, further investigations are necessary. There are 3 figures and 1 table. The most important English-language reference is: J. D. Watson, F. H. C. Crick, Nature, 171, 964, 1953.

ASSOCIATION: Fizicheskiy institut Leningradskogo gosudarstvennogo universiteta (Physics Institute of the Leningrad State University); Institut tsitologii AN SSSR (Institute of Cytology AS USSR)

SUBMITTED: July 6, 1961

Card 3/3

VOROB'YEV, V.I.; GANELINA, L.Sh.

Nature of the change in muscle resistance to denaturing (thermal)  
action during stretching. Biokhimiia 27 no.3:565-568 My-Je '62.  
(MIRA 15:8)

1. Laboratory of Cell Biochemistry, Institute of Cytology,  
Academy of Sciences of the U.S.S.R., Leningrad.  
(MUSCLES) (PROTEINS) (HEAT--PHYSIOLOGICAL EFFECT)

KOPYLOVA-SVIRIDOVA, T.N.; KHODOSOVA, I.A.; FRENKEL', S.Ya.; VOROB'YEV, V.I.

Conditions for the formation of artificial nucleoproteids.  
Dokl.AN SSSR 145 no.6:1400-1403 Ag '62. (MIRA 15:8)

1. Institut tsitologii AN SSSR i Institut vysokomolekulyarnykh  
soyedineniy AN SSSR. Predstavleno akademikom V.A.Engel'gardtom.  
(NUCLEOPROTEINS)

FRISMAN, E.V.; VOROB'YEV, V.I.; SHCHAGINA, L.V.; YANOVSKAYA, N.K.

Dynamic birefringence in deoxyribonucleic acid (DNA) solutions.  
Part 2: Effect of thermal denaturation and ionic strength of the  
solution on the structure of DNA macromolecules. Vysokom.sped.  
5 no.4:622-627 Ap '63. (MIRA 16:5)

1. Fizicheskiy institut Leningradskogo gosudarstvennogo universiteta  
i Institut tsitologii AN SSSR.  
(Nucleic acids--Optical properties)

VOROB'YEV, V.I.

Mechanical and chemical processes, ion sorption and permeability phenomena. Trudy MOIP. Otd. biol. 9:35-39 '64.

(MIRA 18:1)

1. Institut tsitologii AN SSSR, Leningrad.

ACC NR: AP6033075

SOURCE CODE: UR/0218/66/031/005/1027/1032

AUTHOR: Frisman, E. V.; Shapiro, T. V.; Shchagina, L. V.; Vorob'yev, V. I.

ORG: State University im. A. A. Zhdanova (Gosudarstvennyy universitet); Institute of Cytology, Academy of Sciences, SSSR, Leningrad (Institut tsitologii AN SSSR)

TITLE: Hydrodynamic behavior of nucleic acid molecules in solutions of varying ionic strength

SOURCE: Biokhimiya, v. 31, no. 5, 1966, 1027-1032

TOPIC TAGS: nucleic acid, biochemistry, molecule behavior, physical chemistry, DNA

ABSTRACT: Characteristics viscosity and the dynamic optical constant have been measured for calf thymus DNA as functions of the ionic strength of the solution. Viscosity of native DNA markedly increases with decreasing ionic strength. The data suggest that the size and rigidity of native DNA molecules both increase with decreasing ionic strength of the solution.

SUB CODE: 06/ SUBM DATE: 25Feb66/ ORIG REF: 013/ OTH REF: 023

Card 1/1

UDC: 547.963.3



KARMINSKIY, D.E., prof.; VOROB'YEV, V.I., inzh.

Studying the movement of TG-105 diesel locomotives on the curved sections of the track, Trudy RIIZHT no.44:46-88 '64.  
(MIRA 19:1)

SHLEYMOVICH, S.S.; VOROB'YEV, V.V.; RUBANOVICH, B.B.

Experience in welding with an open arc and with an uncoated alloyed wire. Avtom. svar. 18 no.10:52-54 O '65. (MIRA 18:12)

1. Ministerstvo rechnogo flota RSFSR (for Shleymovich).
2. Vsesoyuznyy institut po proyektirovaniyu organizatsiy energeticheskogo stroitel'stva (for Vorob'yev).
3. Treest "Stal'konstruktsiya" (for Rubanovich).

AKSENOVA, N.N.; VOROB'YEV, V.I.; KUSHNER, V.P.

Heat denaturation of the DNA from the liver and from liver  
cancer in rats. Biokhimiia 29 no. 1:161-168 Ja-F '64.  
(MIRA 18:12)

1. Institut tsitologii AN SSSR, Leningrad. Submitted July 8,  
1963.

BRESLER, V.M.; VOROB'YEV, V.I.; PIL'SHCHIK, Ye.M.; KONSTANTINOVA, I.M.

Tryptophan pyrrolase activity in regenerating liver cells.  
TSitologiya 7 no.3:427-431 My-Je '65. (MIRA 18:10)

1. Laboratoriya mikroskopii Instituta tsitologii AN SSSR,  
Leningrad.

BRESLER, V.M.; VOROB'YEV, V.I.; PIL'SHCHIK, Ye.M.; KONSTANTINOVA, I.M.

Tryptophan pyrrolase activity in the liver and in some trans-  
plantable hepatomas of mice C<sub>3</sub>HA. TSitologiya 7 no.5:664-666  
S-0 '65. (MIRA 18:12)

1. Laboratoriya mikroskopii i laboratoriya biokhimicheskikh osnov  
reproduksii kletki Instituta tsitologii AN SSSR, Leningrad.  
Submitted January 5, 1965.

YOROB'YEV, V.V.; SMIRNOV, Yu.N.; FINKEL', V.A.

Crystalline structure of gadolinium at 120° - 370°K. Zhur. eksp.  
i teor. fiz. 49 no.6:1774-1778 D '65. (MIRA 19:1)

1. Fiziko-tekhnicheskii Institut AN UkrSSR. Submitted July 27,  
1965.

FRENKEL', S.Ya.; KUKHAREVA, L.V.; GINZBURG, B.M.; GASPARYAN, K.A.; VOROB'YEV, V.I.

Effect of the load on the transition order-disorder in native collagen fibers. *Biofizika* 10 no.5:735-742 '65.

(MIRA 18:10)

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FRISMAN, E.V.; VOROB'YEV, V.I.; YANOVSKAYA, N.K.; SHCHAGINA, L.V.

Studying the molecular structure of ribonucleic acid by the method of dynamic birefringence. *Biokhimiia* 28 no.1:137-144, Ja-F '63. (MIRA 16:4)

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KARMINSKIY, D.E., doktor tekhn.nauk, prof.; VOROB'YEV, V.I., inzh.

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TSYGANKOV, Aleksey Zakharovich, inzh.; VOROB'YEV, V.K., inzh., red.;  
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[Firing locomotives with fuel oils] Otoplenie parovozov topochnymi  
mazutami. Moskva, Gos.transp. zhel-dor.izd-vo, 1959. 37 p.

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(Petroleum as fuel)

(MIRA 12:3)

SOV/111-59-6-8/32

6(4)

AUTHOR: Vorob'yev, V.K., Engineer

TITLE: Modernization of the Modulating Device for Power Transmitters with Anode Modulation

PERIODICAL: Vestnik svyazi, 1959, Nr 6, pp 7-9 (USSR)

ABSTRACT: The author suggests a simple circuit to modernize the modulating devices for power transmitters having anode modulation (which are in use in many radio centers) to obtain high acousto-electric indices. Furthermore, he gives detailed practical instructions to replace the outdated circuit with the modernized one under operational conditions. The tuning of the old-type modulating device is conducted by a multistage circuit, as shown on the block diagram (Fig 1), with the use of water-cooled tubes in the last two stages and a submodulation transformer. The modernized circuit of the modulating device, shown on the block diagram (Fig 2) includes a low-frequency amplifier, such as is used for a 50-kilowatt shortwave transmitter (Panel

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Modernization of the Modulating Device for Power Transmitters with  
Anode Modulation

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UNCh). The modernization idea consists basically in installing four relays for interswitching the low-frequency supply circuit, the tube grids of modulator end-stage, and the relay commutating the input and the output of the feedback circuit. There is also a commutator for switching over the power sources, as shown on the block diagram (Figure 3). In conclusion, the author states that this circuit can be introduced in many radio centers. There are 3 block diagrams, 2 tables, 1 graph, and 1 diagram.

Card 2/2

KHODOSOVA, I. A., KOPYLOVA, SVIRIDOVA, T. N., and VOROB'YEV, V. L.

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report submitted for the 5th Intl. Congress of Biochemistry,  
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Combined heating of automobile engines in winter. Energ. stroi.  
no.2:80-81 '59 (MIRA 13:3)

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LEBED', D.P.; VOROB'YEV, V.M.; SIDORUK, V.S.; OKARA, V.G.

Automatic square-butt welding of metal having a thickness of 4.0mm using a flux padding and a DTS-24 welding tractor. Avtom. svar. 15 no.9:79-81 S '62. (MIRA 15:9)

1. Dnepropetrovskiy ordena Trudovogo Krasnogo Znameni zavod metallokonstruktsiy im. Babushkina.  
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\*\*Tools with Inserted Blades for Producing Munitions", Stanki I Instrument, 14, No. 4-5, 1943.

BR-52059019.

\*Excerpt from his report:

VOROB'YEV, V. M.

ID 940639

Skorostnoye frezerovaniye stali.

Moscow. 1950

258 p.

Includes alloy research, geometry of cutting tools, and bibliography; published by  
The central Bureau of Technical Information of the All-Union Scientific-Research  
Instrument Institute (VNII)

1. Russia--Steel Industry and Trade
2. Russia--Metallurgy
3. Russia--Machine Tool Industry
4. Russia--Bibliographies
5. Russia--Precision Instruments

i. Speed Milling of Steel

ii. Title

iii. Volkov, S. I.

iv. Vorob'yev, V. M.

VOROB'YEV, V. M., Docent

"Profiling Mill Cutters for Pieces With Spiral Grooves," Thesis for degree of Cand. Technical Sci. Sub 21 Jun 50, Moscow Machine Tool and Tool Inst imeni I. V. Stalin

Summary 71, 4 Sep 52, Dissertations Presented for Degrees in Science and Engineering in Moscow in 1950. From Vechernyaya Moskva. Jan-Dec 1950.



25(7)

VOROB'YEV, V.M.  
p. 2

PHASE I BOOK EXPLOITATION

SOV/1257

Moscow. Stankoinstrumental'nyy institut. Kafedra "Instrumental'noye proizvodstvo."

Novoye v konstruirovani<sup>i</sup> metallovezhushchikh instrumentov (Recent Developments in the Design of Metal-cutting Tools) Moscow, Mashgiz, 1958. 229 p. 5,000 copies printed.

Ed.: Semenchenko, I.I., Professor; Ed. of Publishing House: Balandin, A.F.; Tech. Ed.: Gerasimova, Ye.S. and Uvarova, A.F.; Managing Ed. for Literature on Metal Working and Tool Making (Mashgiz): Beyzel'man, R.D., Engineer.

**PURPOSE:** The book is intended for engineers and technicians of the machine-building industry.

**COVERAGE:** In this collection of articles results are presented of investigations carried out at the chair of "Tool Making" of the Moscow Machine Tool and Tool Making Institute imeni I.V. Stalin. The articles discuss new features in designing highly productive metal-cutting tools: generating cutters, cutter gear generating heads, hobs and gear shaper cutters for cutting gears for subse-

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Recent Developments (Cont.)

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quent shaving, of flat broaches for broaching bodies of rotation, and circular broach cutters for cutting straight level gears with circular tooth profile. Problems of definition and the classification of metal-cutting tools are also investigated. The role of Russian toolmakers claimed to be the first in the world to manufacture rifles with interchangeable parts is related. No personalities are mentioned. There are 24 references, all Soviet.

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12300

S/125/61/000/001/014/016  
A161/A133

AUTHORS: Vorob'yev, V.M., Sidoruk, V.S.

TITLE: Two-arc welding improves the quality of butt welds in joints without shaped edges

PERIODICAL: Avtomaticheskaya svarka, no. 1, 1961, 76-77

TEXT: Bilateral automatic submerged-arc welding of butt joints without shaping the edges is used for work of up to 50 mm thickness. The method requires an obligatory gap between the edges, and the two seams are welded in succession. Peculiar slag inclusions (Fig.1) forming sometimes in the first seam cannot be filled with metal from the second seam on the other side, and the result are round slag inclusions. The cause of this defect is not yet found. Two-arc welding can be recommended to eliminate them. The second arc will remelt the partly crystallized metal of the seam produced by the first arc, fuse the top of the slag inclusion and considerably decrease its height (Fig. 2). Or, the slag inclusions may be eliminated completely by using a higher arc voltage for the second seam. It is emphasized that an inclined second

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