

BAYDEK, M.; BORISOV, V.; SMIRNOV, I. G.

Install lightning protection systems properly. Pozh. delo 4 no.6:  
3-5 Je '58. (MIRA 11:5)

(Lightning protection)

PANASENKO, P.D.; SMIRNOV, I.G.

Seminar on improving the operation of rural hydroelectric power  
stations. Mekh. i elek. sots. sel'khoz. 15 no.1:60-61 '58.  
(Hydroelectric power stations) (MIRA 1113)

SMIRNOV, I.G., inzh.

Using tower cranes in building rural hydroelectric power stations.  
Mekh.i elek.sots.sel'khoz. 16 no.5:44 '58. (MIRA 11:11)

1. Ministerstvo sel'skogo khozyaystva SSSR.  
(Hydroelectric power stations) (Cranes, derricks, etc)

8(6), 30(1)

SOV/91-59-9-1/33

AUTHOR: Smirnov, I.G. and Gurevich, A.M., Engineers

TITLE: The Prospects for the Development of Agricultural  
Electrification in the USSR

PERIODICAL: Energetik, 1959, Nr 9, pp 1-3 (USSR)

ABSTRACT: According to the Seven-Year-Plan, the electrification of kolkhozes will be basically completed by the end of 1965, while the electrification of sovkhoses and RTS will be completed considerably earlier. During the Seven-Year-Plan, more than 40,000 kolkhozes will be additionally electrified and the power supply of sovkhoses and RTS will be improved. State power distribution systems, industrial and municipal power plants will supply about 70% of the kolkhozes, sovkhoses and RTS, while 10% of them will be supplied by rural power plants, operating on a kolkhoz, inter-kolkhoz, rayon or inter-rayon level. As far as possible, kolkhozes must contribute funds for the construction of such power plants. The capacities of

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rural power plants will be higher than 5000 kw and steam extraction turbines will be used if there is an adequate demand of steam for heating or technological purposes in the immediate vicinity. In those areas, where kolkhozes cannot be supplied from state power distribution systems, industrial, municipal or rural power plants, mobile 30-50 kw diesel power plants will be installed temporarily. Kolkhozes, sovkhoses and other consumers located near electrified RR lines may be supplied from the RR line substations. The Ministerstvo putey soobshcheniya (Ministry of Rail-Roads) will build these substations with adequate transformer capacities and with the necessary number of 6, 10 and 35 kv distribution cells. The electrification of sovkhoses, RTS and kolkhozes will be based on existing power plants and 110/35 kv substations, including those whose construction is scheduled during the Seven-Year-Plan. For providing

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power to all kolkhozes by the end of 1965 and for improving the existing power supply of sovkhoses and RTS, approximately 30 billion rubles must be spent on rural power projects. It is planned to build and to set in operation power substations with a total capacity of 7,000,000 kva, rural hydroelectric power plants with a total capacity of 270,000 kw and thermal power plants having a total capacity of more than 1,100,000 kw. Further, 1,500,000 km of high and low voltage power lines must be built. In 1965, agricultural enterprises will require 23-25 billion kw/h, which is about 4.5% of the total planned power output of the USSR. During the period from 1959 to 1965, an additional amount of 3.5 million electric motors will be installed at kolkhozes and sovkhoses, thus each electrified kolkhoz will be equipped with 40-45 electric motors on the average. Rural power plants and

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substations must be automated for increasing the reliability of the power supply. The construction costs of power distribution systems will be reduced by using transformer sets of 35/10 kv and 560-1800 kva, and 10/0.4 kv and 20-100 kva. In some areas of the USSR, the more economical 35/0.4 kv power distribution system will be used instead of the 35/10 kv and 10/0.4 kv systems. The Soviet electrical industry will be confronted with the task of producing the required equipment and materials for these projects; circuit breakers, open air and underground cables, insulators, protector relays, transformers, motors and electrical agricultural machinery. The production of 35/0.4 kv transformers must be increased, as well as the production of stationary diesel power plants of more than 100 kw and mobile diesel power plants of 30 and 50 kw. The construction and assembly organizations of "Sel'elektro" must perform

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The Prospects for the Development of Agricultural Electrification  
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a great amount of work during the Seven-Year Plan.

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SMIRNOV, I. S., inzh.

Great progress of the Chinese People's Republic in agriculture. Makh.  
i dok.sots.sel'khoz. 17 no. 4:52-56 '59. (MIRA 12:11)

1. Giprosal'elektro.  
(China--Agriculture)

SMIRNOV, I. I.

Mbr., Inst. for Organization Public Health & History Medicine im. N. A. Semashko,  
Dept. Hygiene. Microbiology & Epidemiology, Acad. Med. Sci., -1949-.

"For Bolshevik Ideology in Studying Medical History." Sov. Zdrav., No. 3, 1949;

"Qualitative Index of the Performance of Hospitals United with Polyclinics," *ibid.*,  
No. 4, 1949;

"The Problem of the Bolshevik Study of the History of Soviet Public Health and  
Soviet Medicine," *ibid.*, No. 6, 1949.

SMIRNOV, I. I.

USSR/Medicina - Veterinary - Infectious Diseases.

Jun 52

"Aluminum Hydroxide Formol Vaccine Against Infectious Pleuropneumonia of Goats,"  
P. S. Polkovnikova, S. P. Ivanov, I. I. Smirnov, Laureates of Stalin Prize

"Veterinariya" No 6, pp 20-23

Authors quote statistics showing that infectious pleuropneumonia is a leading disease of goats, causing a greater loss of these animals than other epizootics. In an effort to remedy this situation, authors obtained laboratory strains of the virus from goats, developed a method of preserving the potency of the virus by passing it through receptive animals after a planned contamination, and claim to have obtained a 100% efficient vaccine. They describe the prepn of the aluminum hydroxide formol vaccine by an adsorption of the specific virus on an inorganic colloid followed by inactivation of the virus with the min amt of formalin needed. The components of this vaccine are: aluminum Hydroxide, phosphate buffer soln (ph = 8.34) virulent matter, and formalin. Authors consider this vaccine a harmless bio-prepn rapidly producing a persistent immunity, effective in animals for a period of no less than a yr. Vaccination with this prepn is expected to create a wide belt of animals immunized to infectious pleuropneumonia, and eliminate epizootics of this disease. Work on this vaccine was based on experience acquired in the prepn of similar vaccines against smallpox of sheep, foot-and-mouth disease, and the 'pseudo-pest of fowl.

PA 228T40

USSR/Diseases of Farm Animals. Diseases Caused by Bacteria and Fungi. R.

ABs Jour : Ref Zhur + Biol., No 6, 1958, 26276

Author : Smirnov, I.I.  
Inst : Kirgistan Scientific Research Institute of Animal Husbandry and Veterinary Sciences.

Title : On the Problem of Postvaccinal Reaction in Brucellosis of Farm Animals.

Orig Pub : Byull. nauchno-tekhni. inform. Kirg. n.-i. in-t zhivotnovodstva i vet., 1956, No 1-2, 57-58

Abstract : Following vaccination of cattle and sheep with semiliquid formol vaccine (by Muromtseva-Tronin) against brucellosis, the vaccinated animals showed reactions of agglutination and RSK [reaction of complement fixation], as well as an allergic reaction to subcutaneous administration of the brucellosis vaccine and to the

Card 1/2

PANKRATOV, A.Yu., prof.; TRET'YAKOVA, A.A., nauchnyy sotrudnik;  
SMIRNOV, I.I., nauchnyy sotrudnik

Verification of immunity in sheep inoculated at the same time  
with vaccines for anthrax, brucellosis and smallpox. Veterinariia  
37 no.9:38-40 S '60. (MIRA 14:11)

1. Kirgizskiy nauchno-issledovatel'skiy institut betona i  
zhelezobetona.

(Sheep--Diseases and pests)  
(Anthrax--Preventive inoculation)  
(Brucellosis in sheep--Preventive inoculation)  
(Smallpox in animals--Preventive inoculation)

SMIRNOV, Ivan Il'ich; KOPYLOVA, L.P., red.; GOLICHENKOVA, A.A., tekhn.red.

[At the sources of a great achievement] U istokov velikogo pochina.  
Moskva, Izd-vo VTsSPS, Profizdat, 1959. 80 p. (MIRA 12:12)  
(Labor and laboring classes)

SMIRNOV, I.I., (Moscow).

Trigonometrical equations in a school course. Mat.v shkole no.3:42-61  
My-Je '53.  
(MLRA 6:6)  
(Equations)

SMIRNOV, I.I. (Moscow).

Solving and studying equations in a school course. Mat.v shkole  
no.1:22-37 Ja-F '54. (MLRA 7:1)  
(Equations)



SMIRNOV, I.I. (Moscow)

Requirements for the completion of graduation tests in geometry  
and evaluation of the papers. Mar. v shkole no.2:26-36 Mr-Apr '55.  
(Geometry --Problems, exercises, etc.) (MLRA 8:6)

BOGUSHEVSKIY, K.S.; GLAGOLEV, N.S.; SMIRNOV, I.I.; FILICHEV, S.V.

Written work for the proficiency certificate in geometry including  
the use of trigonometry and the evaluation of such work. Mat.v  
shkole no.3:12-23 My-Je '56. (MLRA 9:8)  
(Geometry--Problems, exercises, etc.)

SMIRNOV, I.I. (Moskva)

Representation of round bodies by rectangular projections. Mat. v  
shkole no.5:26-29 S-O '56. (MIRA 9:10)  
(Geometry, Projective)

SMIRNOV, I.I. (Moskva)

Solution of competitive problems published in no. 3 for 1960.  
Mat. v shkole no. 6:85-87 N-D '60. (MIRA 14:2)  
(Mathematics--Problems, exercises, etc.)

← SHIRHOV, I.I. (Moskva)

Problems for students. Mat. v shkole no.4:92-95 JI-Ag '61.

(MIRA 14:8)

(Mathematics--Problems, exercises, etc.)

SMIRNOV, I.I., kandidat tekhnicheskikh nauk, redaktor; GAVRILOV, F.P.,  
inzhener, redaktor; POPOVA, S.M., tekhnicheskiiy redaktor.

[Design and construction of agricultural machinery; collection of articles based on materials of the scientific and technical conference held in Rostov-on-Don, Feb. 2-6, 1953.] Konstruirovaniye i proizvodstvo sel'skokhoziaistvennykh mashin; sbornik statei po materialam nauchno-tekhnicheskoi konferentsii sostoiavsheisya 2-6 fevralia 1953. g. v Rostove-na-Donu. Pod red. I.I.Smirnova. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1954. 446 p.  
(Agricultural machinery industry) (MLBA 8:1)

VOYDA, A.N. [reviewer]; KRUTIKOV, N.P.; SHCHERBAKOV, K.F.; SMIRNOV, I.I.;  
POPOV, I.F. [authors].

Review of "Theory, design and calculations of farm machinery," volume 1,  
by N.P.Krutikov, K.F.Shcherbakov, I.I.Smirnov and I.F.Popov. Sel'khoz-  
mashina no.10:31-32 0 '53. (MIRA 6:11)

(Agricultural machinery) (Krutikov, N.P.)

SMIRNOV, I.I., kandidat tekhnicheskikh nauk.

New threshers with a straw cutting mechanism. Sel'khoz mashina no.10:  
15-19 0 '56. (MLRA 9:12)  
(Threshing machines)



POSPELOV, D.R. , kand. tekhn. nauk; SMIRNOV, I.I. , inzh.

Calculation method for axial fans of air-cooled engines. Trakt.  
i sel'khoz mash. 30 no.8:8-12 Ag '60. (MIRA 13:8)

1. Nauchno-issledovatel'skiy avtotraktornyy institut.  
(Gas and oil engines--Cooling)

IGNATOK, A.I., red.; SHAYKEVICH, A.S., red.; VOLKOV, Yu.N., red.;  
EL'TERMAN, Ye.M., red.; PERLOVA, S.A., red.; NIKOLAYEV, N.A.,  
red.; ERENBURG, G.S., red.; BUTKOVSKAYA, Z.M., red.;  
CHERNILOVSKAYA, F.M., red.; YANKOVSKIY, V.F., red.; MALYGIN,  
O.P., red.; BOGOMOLOV, I.G., red.; KOZLOV, A.A., red.; SMIRNOV, I.I.,  
inzh., red.; ROGOV, B.A., red.; PETRUKHOVA, G.N., red. izd-vi;  
DEMKINA, N.F., tekhn. red.

[Safety and industrial sanitation regulations for making boilers  
and metal constructions] Pravila tekhniki bezopasnosti i proiz-  
vodstvennoi sanitarii pri proizvodstve kotel'nykh rabot i metallo-  
konstruksii. Utverzhdeny 29 avgusta 1961 goda. Moskva, Mashgiz,  
1962. 28 p. (MIRA 15:12)

1. Profsoyuz rabochikh mashinostroyeniya SSSR. 2. Glavnyy tekhnicheskii inspektor Tsentral'nogo komiteta profsoyuza rabochikh mashinostroyeniya (for Ignatok). 3. Starshiy nauchnyy sotrudnik Leningradskogo instituta okhrany truda Vsesoyuznogo tsentral'nogo soveta profsoyuzov (for Shaykevich, Volkov, El'terman, Perlova). 4. Nachal'nik otdela Vsesoyuznogo proyektno-tekhnologicheskogo instituta tyazhelogo mashinostroyeniya (for Nikolayev). 5. Starshiy nauchnyy sotrudnik Leningradskogo instituta gigiyeny truda i profzabolevaniy (for Erenburg, Butkovskaya, Chernilovskaya).

(Continued on next card)

SMIRNOV, I.I.; D'YACHENKO, G.N.

Studying the geometry and operating conditions of active cultivator sweeps working at increased speeds. Trakt. i sel'khoz mash. no.6:24-27 Je'64 (MIRA 17:7)

1. Rostovskiy-na-Donu institut sel'skokhozyaystvennogo mashino-, stroyeniya.

SMIRNOV, I.I.

34035 SMIRNOV, I.I. I PILIKOVSKIY, M.E.  
Pererabotka Khlopka Mashinnogo Sbora  
Tekstil. Prom-st; 1949, No. 10, S. 11-13

SO: Letopis' Zhurnal'nykh Statey, Vol. 42, Moskva, 1949

SMIRNOV, I.I., kandidat tekhnicheskikh nauk; KOTLYAKOVA, Ye.A.

Effect of the productivity of saw gins on the quality of fiber.  
Tekst.prom. 16 no.4:17-20 Ap '56. (MIRA 9:7)  
(Cotton gins and ginning)

VAYNSHTEYN, Grigoriy Abramovich, inzh.; BRAVYY, Zelik Abelovich, inzh.;  
SOKOLOVA, V.Ye., red.; <SMIRNOV, I.I., -retsensent; KOGAN, V.V.,  
tekhn.red.

[Manual on cotton manufacture] Spravochnik po vatnomu proiz-  
vodstvu. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po legkoi  
promyshl., 1958. 263 p. (MIRA 11:12)  
(Cotton manufacture)

SMIRNOV, I.I., starshiy nauchnyy sotrudnik; SHENAYEVA, K.I., inzh.;  
PIOTROVSKIY, S.L., konstruktor.

Improvements in finishing picking machines. Tekst.prom. 18  
no.5:25-27 My '58. (MIRA 11:5)  
(Cotton machinery)

SMIRNOV, I.I., kand.tekhn.nauk; SHENAYEVA, K.I., inzh.

New Russian waste cleaner. Tekst.prom. 18 no.10:25 0 '58.

(MIRA 11:11)

(Cotton waste) (Cleaning machinery and appliances)



RODICHEV, S.D.; MERKIN, I.B.; MILOKHOV, N.I.; POPELLO, A.P.; SOLOV'YEV,  
N.D.; SHEMSHURIN, N.A.; SORKIN, N.B., retsenzent; SMIRNOV, I.I.,  
retsenzent; ANDREYEV, Yu.I., retsenzent; BRAVYY, Z.A., retsenzent;  
SOKOLOVA, V.Ye., red.; MEDVEDEV, L.Ya., tekhn.red.

[Handbook on the primary processing of cotton] Spravochnik po  
pervichnoi obrabotke khlopka. Moskva, Gos.nauchno-tekhn.izd-vo  
lit-ry po legkoi promyshl., 1959. 687 p. (MIRA 13:4)  
(Cotton gins and ginning)

SMIRNOV, I.I., kand. tekhn. nauk

Additional raw materials for cotton manufacture. Tekst.prom.  
19 no.1:25-27 Ja '59. (MIRA 12:1)  
(Cotton manufacture)

SMIRNOV, I.I., kand.tekhn.nauk

Efficient utilization of cotton waste and low-class cottons.  
Tekst. prom. 20 no. 11:20-22 N 160. (MIRA 13:12)  
(Cotton manufacture)

SMIRNOV, I.I., kand. tekhn. nauk

Some characteristics of low-grade cotton and of its processing. Tekst.  
prom. 24 no.7:1-4 J1 '64. (IRA 17:10)

1. Rukovoditel' syr'yevoy laboratorii Tsentral'nogo nauchno-issledovatel'skogo instituta khlopchatobumazhnoy promyshlennosti (TsNIKhBI).

BRAVYY, Z.A., ispolnyayushchiy obyazannosti starshego nauchnogo sotrudnika.  
SMIRNOV, I.I., starshiy nauchnyy sotrudnik

Revision of the price list for cotton fibers. Tekst.prom. 20  
no.2:83-86 F '60. (MIRA 13:6)  
(Cotton--Prices)

1. SMIRNOV, I. K.
2. USSR (600)
7. "Book review: G. M. Bosh'yan, 'Concerning the Nature of Viruses and Microbes', Second Edition, Moscow, 1950", Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No. 2, 1951, pp 69-71.

9. Mikrobiologiya, Vol XXI, Issue 1, Moscow, Jan-Feb 1952 pp 121-132, Unclassified

SMIRNOV, I.K.  
CA

4

Electrolytic decontamination of drinking water aboard motorships. I. K. Smirnov. *General Nimitz* 1952, No. 3, 12-14. The installation makes use of Ag electrodes whose polarity is periodically reversed by an automatic switching device. For best results it is to be used with 30-50 mill contact. (C) Recommended G. M. Knodysoff

SMIRNOV, I.K.

Absorptive and concentrative functions of the gallbladder in healthy dogs. Fiziol. zhur. 51 no.9:1111-1115 5 '65. (MIRA 18:9)

1. Laboratoriya patologicheskey fiziologii Nauchno-issledovatel'skogo instituta skoroy pomoshchi imeni I.I.Pzhanelidze, Leningrad.



SMIRNOV, I.K.

Method for temporary isolation of a fistulous gallbladder in a chronic experiment. Biul. eksp. biol. i med. 54 no.8:122-124 Ag '62. (MIRA 17:11)

1. Iz laboratorii patologicheskoy fiziologii (rukovoditel' - kand. med. nauk S.A. Seleznev) Nauchno-issledovatel'skogo instituta skoroy pomoshchi imeni prof. I.I. Dzhanelidze (dir. - dotsent S.N. Polikarpov, nauchnyy rukovoditel' - zasluzhennyy deyatel' nauki prof. M.S. Lisitsin [deceased]), Leningrad. Predstavlena deystvitel'nym chlenom AMN SSSR P.S. Kupalovym.

ADIEPNIK, S.A.; SMIRNOV, I.K.; IL'INSKIY, I.A.; KHEABROV, O.P.

Polyethylene vascular cannulas and their preparation. Fiziol.  
zhur. 50 no.5:643-644 My '64. (MIRA 18:2)

1. Laboratoriya patologicheskoy fiziologii Instituta skoroy  
pomoshchi imeni Dzhanelidze, Leningrad.

Smirnov, I. K.

Biological treatment of waste water from hydrolytic plants.  
E. E. Drublyanets, I. K. Smirnov, N. I. Tkachenko, A. V.  
Tsalikova, and Z. T. Ivanova. *Gidrolis. i Lesokhim. Prom.* 14  
8, No. 7, 13-16(1955).—The results from the plant runs

carried out in 2 types of waste-treatment installations are reported. "Biofilters" (I) are shallow filter beds filled with coke, cinder, or gravel. These particles are surrounded by a membrane of microorganisms. In "aerotanks" (II) the microorganisms are sorbed to the "active slurry" (III). Waste water is partially neutralized, thoroughly aerated, and transferred to a tank where it is diluted with fresh river water and furnished with nutrient salts ((NH<sub>4</sub>)<sub>2</sub>SO<sub>4</sub> and a superphosphate). Thus pretreated waste water (pH 6-6.5, B.O.D. 300-400 mg. O/l., 7-9 mg. N/l., and 3-5 mg. P/l.) is carried to II over trays or is pumped to the middle of II, where it is intimately mixed with III. From II it flows into a settler, from which the settled slurry is returned to II. Artificial aeration is used in II but not in I. The capacity of II is greater than that of I, but the latter are more economical. (H)

T. Jureck

SMIRNOV, I.K.

Method for simultaneous application of fistular tubes to several organs of the abdominal cavity using a combined cannula. Biul. eksp. biol. i med. 59 no.4:118-120 Ap '65.

(MIRA 18:5)

1. Laboratoriya patofiziologii (zav. S.A. Seleznev) Nauchno-issledovatel'skogo instituta skoroy pomoshchi imeni Dzhanelidze (dir. - prof. G.D. Shushkov), Leningrad.

SMIRNOV, I. M., inzhener-kapitan-leytenant

rocket launching directly from the water surface. Mor. sbor.  
47 no.8:79-82 Ag '64. (MIRA 18:7)

SMIRNOV, I.K.

AUTHOR: Smirnov, I.K., Engineer 98-58-6-16/21

TITLE: The Accounting and Assessment of the Expenses and Losses of the National Economy in Connection With the Creation of Water Reservoirs for Hydroelectric Power Plants (Uchet i raspredeleniye narodnokhozyaystvennykh zatrat i poter' pri sozdanii vodokhranilishch gidroelektrostantsiy) For Discussion (V poryadke obsuzhdeniya)

PERIODICAL: Gidrotekhnicheskoye Stroitel'stvo, 1958, Nr 6, pp 48-50 (USSR)

ABSTRACT: The author deploras the lack of a single system by which all expenses and losses of the national economy in connection with the creation of water reservoirs for hydroelectric power plants can be calculated in advance without litigation between interested organizations, and by which the net cost of any given hydroelectric system can be assessed with precision. There are 4 Soviet references.

AVAILABLE: Library of Congress

Card 1/1 1. Dams-Economic aspects 2. Electric power production-Economic aspects

SMIRNOV, I.K.; OSIPOV, S.N.

Polyethylene catheters for prolonged transfusions in hospitals.  
Klin. khir. no.2:76-77 '65. (MIRA 18:10)

1. Laboratoriya patofiziologii (rukovoditel' - starshiy nauchnyy sotrudnik S.A. Seleznev) i anesteziologicheskoye otdeleniye (rukovoditel' - starshiy nauchnyy sotrudnik I.N. Yershova) Nauchno-issledovatel'skogo instituta skoroy pomoshchi imeni Yu.Yu. Dzhanelidze.

SMIRNOV, I.M., inzhener.

E.I. Chizhov's coating machinery. Izobr. v SSSR 1 no.4:18-19  
0 '56. (MLRA 10:3)  
(Belts and belting) (Rubber coatings)



SMIRNOV, I.M.

Automatic rubber cutters used in cord calenders. Izobr. v SSSR  
1 no.5:21-22 N '56. (MIRA 10:3)  
(Rubber coatings)

SMIRNOV, I.M., inzh.; NIKUL'SHIN, K.Ye.

MKP-20 pneumatic-tire assembly crane. Mont. i spets. rab. v  
stroi. 24 no.7:13-15 J1 '62. (MIRA 15:6)

1. Tsentral'noye konstruktorskoye byuro upravleniya  
mekhanizatsii spetsial'nykh i montazhnykh rabot Ministerstva  
stroitel'stva RSFSR.

(Cranes, derricks, etc.)

SMIRNOV, I. M.

SMIRNOV, I. M. (Professor)

The role of skin hygiene on the production of cows.

Source: Veterinariya; 22; 6; June 1945 uncl

TABCON

SMIRNOV, I. M.

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ca

Significance of high-value protein for the raising of swine  
I. M. Smirnov. *Doklady Vsesoyuz. Ordona Lenina Akad. Nauk SSSR*.  
*Sel'skokhoz. Nauk im V. I. Lenina* 15, 34-41(1950).—A wide  
variety of rations, none of which is specified exactly, are  
evaluated in terms of their effect on blood (erythrocytes,  
leucocytes, hemoglobin) and on wt. increase. It is postu-  
lated that the ideal protein ration has a definite balance be-  
tween aliphatic and aromatic amino acids. J. P. Danahy

1951

COUNTRY : USSR  
CATEGORY : Farm Animals. 2  
          : General Problems.  
ABS. JOUR. : RZhBiol., No. 3, 1959, No. 11973  
  
AUTHOR : Smirnov, I. M.  
INST. : Crimea Oblast' State Experimental Station of\*  
TITLE : Feeds of the Crimean Peninsula.  
  
ORIG. PUB. : Tr. Krymsk. obl. gos. s.-kh. opyt. st., 1956,  
          2, 43-54.  
ABSTRACT : No abstract.

Card: 1/1\* Agriculture.

SMIRNOV, I.M., (Kuybyshev)

Carcinomatosis of the lungs with a clinical picture of "subacute pulmonary heart disease." Sov.med. 22 no.4:137 Ap '58 (MIRA 11:7)

(LUNG NEOPLASMS, differ.diag.

carcinomatosis from subacute pulm. heart (Rus))

(PULMONARY HEART DISEASES, differ. diag.

carcinomatosis of lungs (Rus))

SMIRNOV, I.M. (Kuybyshev)

Case of hypertension with a rapidly progressing course appearing during therapy with brucellosis vaccine. Sov.med. 23 no.8:117-118 Ag '59.

(MIRA 12:12)

(HYPERTENSION etiol.)  
(BRUCELLOSIS immunol.)  
(VACCINES, eff., inj.)

SMIRNOV, I.M. (Kuybyshev - obl.); SALAMATINA, V.V. (Kazan'); IVANOV, A.A.  
(Chistopol'); DORMIDONTOV, Ye.N.; VORONINA, A.V., studentka 6  
kursa; POLISADOV, P.V. (Kazan')

Takayasu's disease. Kaz.med.zhur. 40 no.5:111-115 S-0 '59.  
(MIRA 13:7)

(PULSE)



SMIRNOV, I.M. (Kuybyshev-oblastnoy)

Case of rupture of the interventricular septum of the heart in  
myocardial infarct. Kaz.med.zhur. no.5:58 S-0 '60. (MIRA 13:11)  
(HEART--RUPTURE)

GRINBERG, Ya.M., dotsent; SMIRNOV, I.M.; CHERNOVA, N.P.

Treatment of gastric and duodenal ulcer in night sanatoria. Sov.med.  
25 no.1:123-125 Ja '62. (MIRA 15:4)  
(PEPTIC ULCER)

SMIRNOV, I.M., kand.med.nauk

Thrombosis of the common carotid artery and internal carotid artery with a fatal outcome after Grile's operation. Vest. otorin. no.4:97-99 '62. (MIRA 16:3)

1. Iz otorinolaringologicheskogo otdeleniya Onkologicheskoy bol'nitsy, Leningrad.  
(THROMBOSIS) (CAROTID ARTERY)

LYADUKHIN, I.A.; NIKOLAYEV, A.F.; TARASOV, S.M.; DEVIATKOV, A.N.; VARKHOTOV,  
K.P.; ZLOTNIK, M.I.; YEVDOKIMOV, V.I.; LYSYAKOV, A.G.; GERSHTEYN,  
A.K.; KISS, N.L.; MEL'NIK, V.I.; BEYZERMAN, R.M.; SMIRNOV, I.M.;  
NIKUL'SHIN, K.Ye.

From the pages of Soviet magazines. Mekh. stroi. 19 no.9:31  
S '62. (MIRA 15:9)

(Bibliography⇒Construction equipment)

SMIRNOV, I. N.

SMIRNOV, I. N. -- "Morphological and Biological Aspects of the Sunflower and Methods of Its Selection under the Conditions of Omsk Oblast." Omsk, 1955. (Dissertation for the Degree of Candidate in Agriculture Sciences).

So.: Knizhnaya Litopis', No. 7, 1956.

Country : USSR  
Category : CULTIVATED PLANTS COMMERCIAL, Oleiferous. Sugar-  
bearing.  
Abs. Jour. : REF ZHUR-BIOL., 21, 1958, NO-960 60  
Author : Smirnov, I.N.  
Instituo. :  
Title : The Problem of Developing Rapid Maturing and High  
Yielding Sunflower Varieties for Western Siberia  
Orig. Pub. : V sb.: Maslichn. kul'tury v vost. r-nakh SSSR,  
Krasnodar, "Sov. Kuban'", 1956, 61-70  
Abstract : The seeds of sunflowers which were raised at low  
temperatures during germination had a lengthened  
vegetation period when they were planted the fol-  
lowing year. The cultivation of the plants under  
optimum conditions during the seed germination  
period changes the length of the vegetative period  
of the variety toward rapid maturity. The control-  
led action of optimum temperatures during the seed  
sprouting time with seeds of the best varieties  
selected by the All-Union Scientific Research  
Card: 1/2

SMIRNOV, I.N., kand.med.nauk

Clinical data on local causes of cryptorchidism. Urologiia, 23  
no.1:17-21 Ja-F '58. (MIRA 11:3)

1. Iz kliniki boshchey khirurgii (zav.-prof. N.I.Yeremeyev)  
Omskogo meditsinskogo instituta.  
(CRYPTORCHIDISM, etiol. and pathogen.)

SMIRNOV, I.N.

SMIRNOV, I.N.; IVANOV, G.G., redaktor; KOLESNIKOVA, A.P., tekhnicheskii  
redaktor.

[Work practice on a skidding tractor] Opyt raboty na trelevochnom  
traktore. Moskva, Goslesbumizdat, 1953. 16 p. (MIRA 7:8)  
(Tractors) (Lumbering)



SMIRNOV, I. N.

USSR/Chemistry - Suspensions

Apr 51

"Suspended Layers of Spherical Particles,"  
I. N. Smirnov, Lt De Ep, Chair of Synthetic Rubber Tech, Leningrad Tech Inst iment Lensevet

"Zhur Prtk Khim" Vol XXIV, No 4, pp 383-391

On basis of exptl data, detd unknown coeff and exponent in theoretically derived eq of hydrodynamics of suspended layer of solid spherical particles. Proved applicability of criterial eq found, in the range of Reynolds numbers from 7 to 630, on example of formation of suspended layers of glass and lead spheres of 0.8-1.97 mm

182743

USSR/Chemistry - Suspensions (Contd)

Apr 51

diam in H<sub>2</sub>O, kerosene, air and CO<sub>2</sub>. Designed methods for studying hydrodynamics of suspended layers in laminar flow flds.

182743

Humeral epicondylitis and its treatment. Ortop. travm. i protez.  
24 no.6:54-56 Ja'63 (MIRA 16:12)

1. Iz poklinicheskogo otdeleniya (zav. - A.A. Ivochkina) Bol'nitsy imeni Konyashina, Leningrad.

EL'KIN, M.A., kand. med. nauk; SMIRNOV, I.N.

Radiohumeral epicondylitis. Khirurgiia 39 no.5:57-62 My '63.  
(MIRA 17:1)

1. Iz Leningradskogo nauchno-issledovatel'skogo instituta  
gigiyeny truda i professional'nykh zabolevaniy (dir. -  
prof. Z.E. Grigor'yev) i poliklinicheskogo otdeleniya  
bol'nitsy imeni Konyashina (glavnyy vrach V.T. Timoshkova).

SMIRNOV, I. N.

PA 14130

USSR/Turbines  
Model construction

Mar 1947

"Similarity Law of and Scale Model Research on Hydraulic Turbines," I. N. Smirnov, 7 pp

"Kotloturbo" No 3

Mathematical discussion of efficiency of two geometrically similar turbines, losses in turbines and efficiency, determining efficiency, permeability and revolutions of geometrically similar turbines for dynamically similar conditions.

14158

Ussr/Engineering  
Turbines, Hydraulic

Intakes

Apr 1946

"Size of the Intake Pipe of a Hydraulic Turbine,"  
I. N. Smirnov, Cand Tech Sci, 5 pp

"Gidrotekh Stroi" No 4

In order to fully solve problem of proper selection, it is necessary to have exact data on effectiveness of pipe. Such data can be obtained by using various types of pipes on turbine or by experimenting with prototypes. Discusses energy losses in intake pipe and efficiency of turbine. Recommends sizes for intake pipes, speed with which water should pass through them, and methods for improving efficiency and effect of small size intake pipes.

68759

SMIRNOV, I. N.

BARKOV, N.K.; SMIRNOV, I.N., redaktor; VORONETSKAYA, L.V., tekhnicheskii  
redaktor.

[Automatic equipment of water turbines] Avtomaticheskije ustroistva  
gidroturbin. Moskva, Gos. energ. izd-vo, 1954. 254 p. (MLRA 7:12)  
(Hydraulic turbines)

SMIRNOV, Ivan Nikolayevich; GUR'YEV, V.P., redaktor; VORONETSKAYA, L.V.,  
tekhnicheskii redaktor

[Hydraulic turbines] Gidravlicheskie turbiny. Moskva, Gos. energ.  
izd-vo, 1956. 387 p. (MLRA 9:9)  
(Hydraulic turbines)

SMIRNOV, I. N.

ANOSOV, F.V., inzh.; GAMUS, I.M., inzh.; GARKAVI, Yu.Ye., inzh.; GOL'SHMAN, G.S., inzh.; YEVDOKIMOV, A.A., inzh.; YEREMEYEV, A.S., inzh.; ZHMUD', A.Ye., inzh.; KELAREVA, N.N., inzh.; KLOCHKOV, A.P., inzh.; LANG, A.G., inzh.; MENDEL', E.Ya., inzh.; MOROZOV, A.A., prof.; doktor tekhn.nauk [deceased]; SEREBRYAKOV, G.M., inzh.; ~~SMIRNOV, I.N., dotsent, kand.tekhn.nauk; SMIRNOV, M.I., dotsent; SHCHAVELEV, D.S., prof., doktor tekhn.nauk; SHCHERBINSKAYA, N.N., inzh.; KOVALEV, N.N., red.; MOZHEVITINOV, A.L., red.; ZABRODINA, A.A., tekhn.red.~~

[Turbine equipment of hydroelectric power stations: handbook on designing] Turbinnoe oborudovanie gidroelektrostantsii; rukovodstvo dlia proektirovaniia. Izd. 2., perer. i dop. Pod obshehei red. A.A. Morozova. Moskva, Gos. energ. izd-vo, 1958. 519 p. (MIRA 12:1)

1. Vsesoyuznyy institut "Gidroenergoprojekt," Leningradskoye otdeleniye. (Hydraulic turbines)

ALEKSANDROVA, T.A., kand.tekhn.nauk, dotsent, SMIRNOV, I.N., kand.tekhn.  
nauk, dotsent

Development of the design of the runner of a vertical blade  
hydraulic turbine with an axial guiding apparatus.  
Energomashinostroenie 7 no.6:11-15 Je '61. (MIRA 14:7)  
(Hydraulic turbines)



AMONG, J.N.

Effect of dimensions and the shape of radial cross sections  
of the spiral casing on power characteristics of a Kaplan  
turbine. Trudy IPI no. 215:101-110 '61. (MIRA 14:11)  
(Hydraulic turbines)

SMIRNOV, I.N., kand.tekhn.nauk

Concerning I.I. Edel's book "Pelton-type hydraulic turbines."  
Energomashinostroenie 10 no.3:43-44 M<sup>r</sup> '64. (MIRA 17:4)

ACC NR: APT002616 (A, n) SOURCE CODE: UR/0413/66/000/023/0130/0130

INVENTOR: Ivanov, V. V.; Shcheglov, G. M.; Spasskiy, K. N.; Karakhan'yan, V. K.; Prudovskiy, B. M.; Semenov, M. I.; Sergeev, V. A.; Smirnov, I. N.; Britvin, L. N.; Shfel'makh, A. A.

ORG: None

TITLE: An impeller. Class 59, No. 189315 [announced by the All-Union Scientific Research Institute of Hydraulic Machine Building (Vsesoyuznyy nauchno-issledovatel'skiy institut gidromashinostroyeniya)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 23, 1966, 130

TOPIC TAGS: centrifugal pump, blade profile, *metal blade, pump component*

ABSTRACT: This Author's Certificate introduces: 1. An impeller for an open centrifugal pump. Pump efficiency is improved and the rigidity of the impeller blades is increased by making the blades in the cylindrical section with a channel shape. The walls of the blade channel are recurved toward the front at a sharp angle to the walls of the pump housing. 2. A modification of this impeller in which the blade channel formed in the cylindrical section has a flat bottom. 3. A modification of this impeller with U-shaped grooves in the flat bottom of the channel on the working side of the blade. These grooves are adjacent to the end surfaces of the blades.

Card 1/2

UDC: 621.671.1-253.5

ACC NR: AP7002616

4. A modification of this impeller equipped with a flat annular rim connected to each blade at the middle of its end sections. 5. A modification of this impeller equipped with flat ribs which connect the middle of the end section on the back side of each blade to the central section of the working side of the following blade.

SUB CODE: 13/ SUBM DATE: 13Jul65

Card 2/2

SMIRNOV, I. P.

Pa 21T115

USSR/Physics

Sep 1946

Atmosphere - Measurements

Searchlights

"Searchlight Investigation as a Method for Studying Atmospheric Stratification," I.P.Smirnov, Institute of Theoretical Geophysics, Academy of Sciences of the USSR, 3 pp

"Comptes Rendus (Doklady)" Vol LIII, No 8

Use is made of the fact that suspensions in the atmosphere increase the intensity of scattered light and diminish the degree of polarization, especially in the study of the thermodynamic structure of the atmosphere. Two charts are given showing the dependence, upon height, of the mean vertical gradient of temperature. 21T115

SMIRNOV, I. P.

Fog

Study of the structure of natural fogs, Trudy Geofiz. inst. AN SSSR No. 12 (139), 1950.

9. Monthly List of Russian Accessions, Library of Congress, July 1952, UNCL.

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USSR/Geophysics - Dynamic Meteorology May/June 53

"Review of K. T. Loginov's Book, 'Dynamic Meteorology'" (I. P. Smirnov, reviewer)

Iz Ak Nauk SSSR, Ser Geofiz, No 3, pp 275-276

Presents favorable review of the book "Dinamicheskaya Meteorologiya," published by the Hydromet Press, Moscow-Leningrad, 1952, 147 pp, 3,000 copies, price 4.50 rubles.

258T91

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SMIRNOV, I.P.

Long-range forecasting of mean monthly and ten-day temperature anomalies for the Northern Hemisphere. Izv. AN SSSR. Ser. geofiz. no.12:1828-1846 D '60. (MIRA 13:12)

1. Institut prikladnoy geofiziki AN SSSR.  
(Atmospheric temperature)



SMIRNOV, I.P.

Prognosis of a circulation index using moments of covariance for  
a barotropic model of the atmosphere. Izv. AN SSSR. Ser. geofiz.  
no.9:1423-1426 S '63. (MIRA 16:10)

1. Vychislitel'nyy meteorologicheskij tsentr Glavnogo upravleniya  
gidrometeorologicheskoy sluzhby pri Sovete Ministrov SSSR.

ACCESSION NR: AT4034674

S/0000/64/000/000/0051/0061

AUTHOR: Smirnov, I. P.

TITLE: Distribution of pressure field covariances at the mean level of the atmosphere

SOURCE: AN SSSR. Ob'yedinenny\*y meteorologicheskiy vy\*chislitel'ny\*y tsentr. Gidrodinamicheskiy dolgosrochny\*y prognoz pogody\* (Hydrodynamic long-range weather forecasting). Moscow, Izd-vo "Nauka," 1964, 51-61

TOPIC TAGS: meteorology, covariance, weather forecasting, long-range weather forecasting, atmospheric mean level, atmospheric pressure

ABSTRACT: Ye. K. Blinova (Dokl. AN SSSR, 123, No. 3, 1958) has used the covariance method in predicting atmospheric movements on a planetary scale. Applying the same general approach as Blinova, the author cites a number of examples of determination of covariances for a number of specific cases of real fields of meteorological elements. Emphasis is on the covariance of the field  $H(\varphi, \lambda, t)$  - the height of the 500-mb surface. Examples of the distribution of this covariance ( $D_H^H$ ) for the northern hemisphere were obtained using data for January and September 1959. The  $H_{500}(\varphi, \lambda)$  field for each time of observation was based on 648 values at the

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ACCESSION NR: AT4034674

AT<sub>500</sub> level. Samples of the compiled charts are shown in Figures 1 and 2 of the Enclosure; Fig. 3 of the Enclosure is a corresponding AT<sub>500</sub> pressure pattern chart. It is shown that the covariances reflect the movements of the principal ridges and troughs. Prediction of the averaged characteristics of zonal circulation requires analysis of the distribution of covariances with averaging along circles of latitude; this problem is considered fully and appropriate charts supplied. A method is presented for reducing or normalizing the covariances to facilitate their plotting and interpretation on charts. Orig. art. has: 6 figures and 13 formulas.

ASSOCIATION: Ob'yedinenny\*y meteorologicheskii vy\*chislitel'ny\*y tsentr AN SSSR  
(Joint Meteorological Computation Center AN SSSR)

SUBMITTED: 22Nov63

DATE ACQ: 16Apr64

ENCL: 03

SUB CODE: ES

NO REF SOV: 003

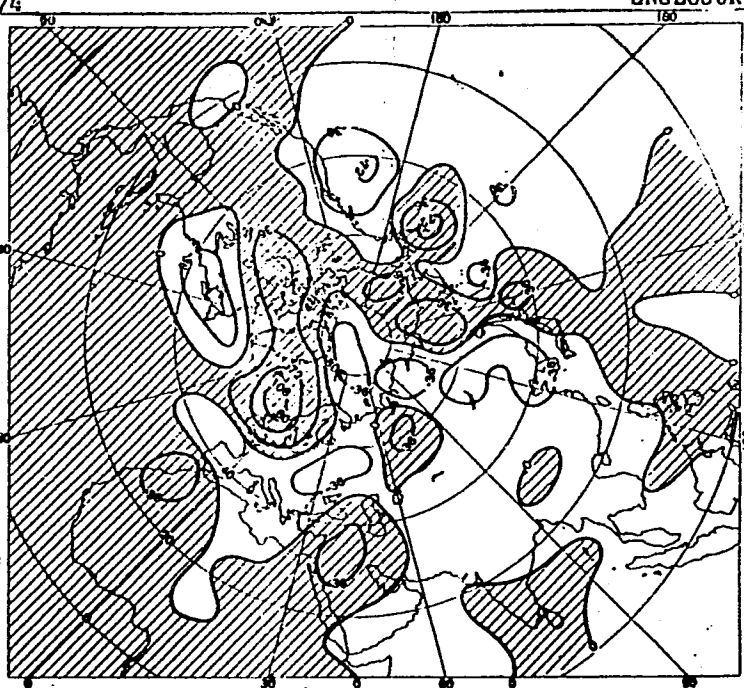
OTHER: 002

Card 2/5

ACCESSION NR: AT4034674

ENCLOSURE: 01

Fig. 1. Covariances  $B_H^H$  relative to point  $S_1 = 359$ ,  $\lambda_1 = 0^\circ$  with averaging in time for 18-22 September 1959.

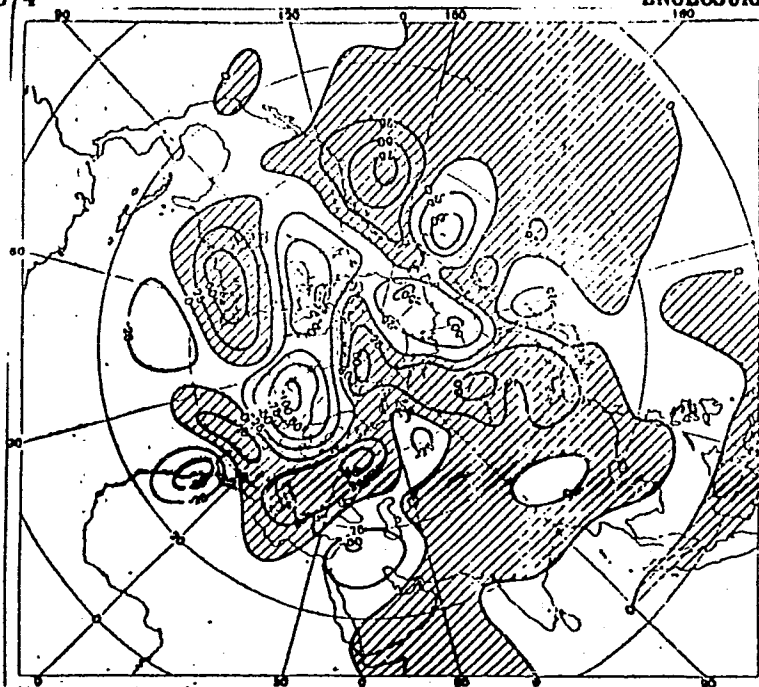


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ACCESSION NR: AT4034674

ENCLOSURE: 02

Fig. 2. Covariances  $H_{ij}$  relative to point  $\Theta = 35^\circ$ ,  $\lambda = 40^\circ$  with averaging in time for 18-22 September 1959.

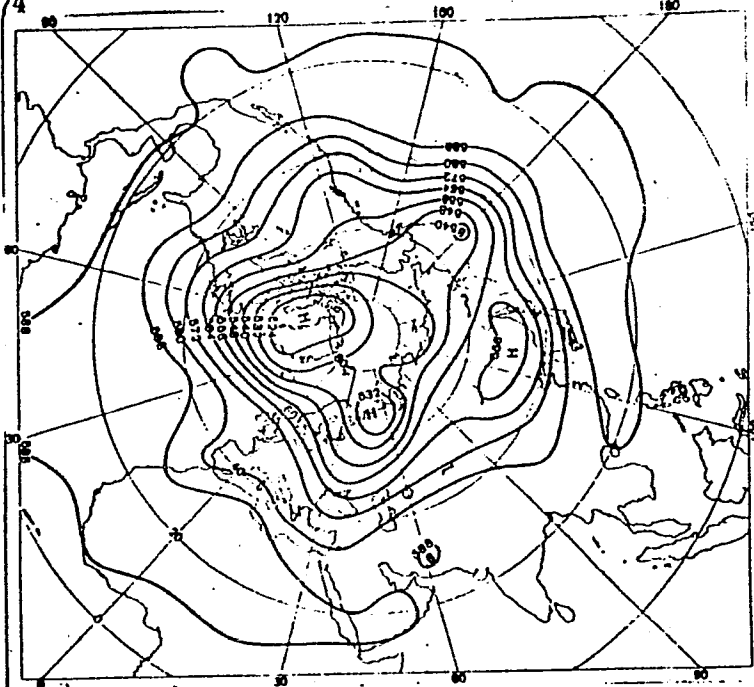


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ACCESSION NR: AT4034674

ENCLOSURE: 03

Fig. 3. Mean 5-day AT500 pressure pattern chart for 18-25 September 1959.



Card 5/5

ACCESSION NR: AT4034677

S/0000/64/000/000/0099/0106

AUTHOR: Smirnov, I. P.

TITLE: Long-range forecasting of zonal circulation

SOURCE: AN SSSR. Ob'yedinennyy meteorologicheskiy vychislitel'nyy tsentr. Gidrodinamicheskiy dolgosrochnyy prognoz pogody\* (Hydrodynamic long-range weather forecasting) Moscow, Izd-vo "Nauko," 1964, 99-106

TOPIC TAGS: meteorology, weather forecasting, long-range weather forecasting, atmospheric circulation, atmospheric zonal circulation

ABSTRACT: Long-range weather forecasting is associated closely with the prediction of the atmospheric circulation index. This is particularly true of a forecast based on linear theory. The circulation index itself cannot be predicted within the framework of linear theory. The method for forecasting the circulation index was developed in 1949 by Ye. N. Blinova on the basis of solution of the nonlinear problem (Trudy IFA AN SSSR, No. 2, 54-65, 1958). In 1954 the author of this paper attempted to make forecasting of the circulation index more precise by taking into account changes in the velocity of latitudinal zonal flow and now has presented a method for introducing an additional condition - allowance for change of the circulation index with height - into the problem of forecasting zonal circulation.

Card 1/2

L 14002-65 EWT(1)/FCC GW  
ACCESSION NR: AT4048453

S/3118/64/000/002/0045/0049

B

AUTHOR: Smirnov, I. P.

TITLE: Practice of day-to-day preparation of long-range hydrodynamic forecasts of deviation of mean monthly air temperatures from the norm in the northern hemisphere

SOURCE: Mirovoy meteorologicheskly tsentr. Trudy\*, no. 2, 1964. Voprosy\* gidrodinamicheskogo dolgosrochnogo prognoza pogody\* (Problems of hydrodynamic long-range weather forecasting), 45-49.

TOPIC TAGS: long-range weather forecasting, hydrodynamic forecasting, atmospheric air temperature

ABSTRACT: In 1958, personnel at the Instituta prikladnoy geofiziki (Institute of Applied Geophysics) began the day-to-day preparation of long-range forecasts of mean monthly surface air temperature anomalies for the entire northern hemisphere by the Ye. N. Blinova method ("Voprosy dinamicheskoy meteorologii", Moscow, 1960). This paper briefly presents experience in the preparation of these forecasts during the last three years. The principles of the method, described here briefly, have been published earlier (Blinova, Ye. N., DAN SSSR, Vol. 131, No. 2, 1960; Smirnov, I. P., Izv. AN SSSR, ser. geofiz., No. 12, 1960). The temperature anomaly forecasts were calculated on an electronic computer at the  
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L 14002-65

ACCESSION NR: AT4048453

Mirovoy Meteorologicheskij Tsentr (World Meteorological Center). The article describes the method used in evaluating these forecasts. As an example, the author cites a forecast for sign for June 1962 for the entire hemisphere. Study of the actual charts of temperature anomalies for the hemisphere reveals the existence of considerably elongated regions with anomalies of the same sign, a sort of chain made up of individual centers. These regions of planetary scale can be traced on the prognostic charts as well. For example, on the chart of anomalies for June 1962 it is possible to note three zones of anomalies of a planetary character: a zone of negative anomalies, extending from the Urals through Greenland to the eastern part of North America, a zone of positive anomalies from Western Siberia through the pole to the western part of North America and a zone of negative anomalies from southeast Asia through Yakutia and the Bering Sea to the Pacific Ocean coast of North America. In Fig. 1b of the Enclosure the regions of positive anomalies are cross hatched; the similar distribution of anomalies obtained is a forecast in shown in Fig. 1a of the Enclosure. Orig. art. has: 1 figure, 7 formulas and 1 table.

ASSOCIATION: Mirovoy meteorologicheskij tsentr (World Meteorological Center)

SUBMITTED: 00

ENCL: 02

SUB CODE: ES

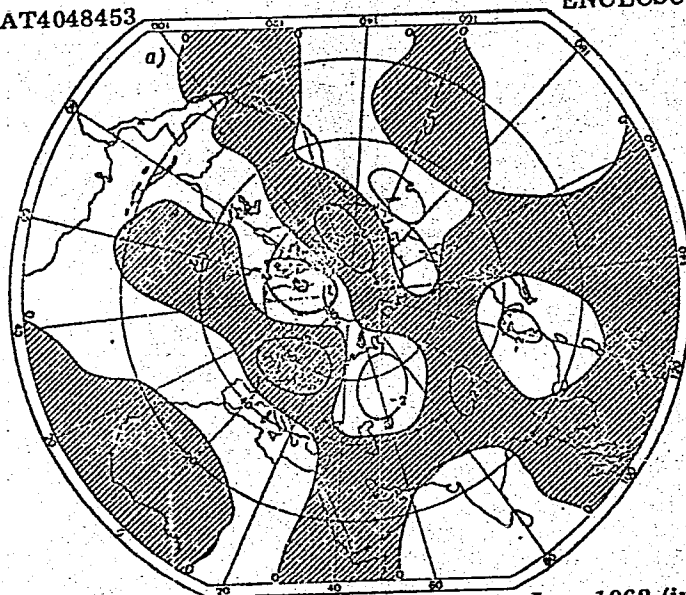
NO REF SOV: 003

OTHER: 000

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L 14002-65  
ACCESSION NR: AT4048453

ENCLOSURE: 01



a = prognostic

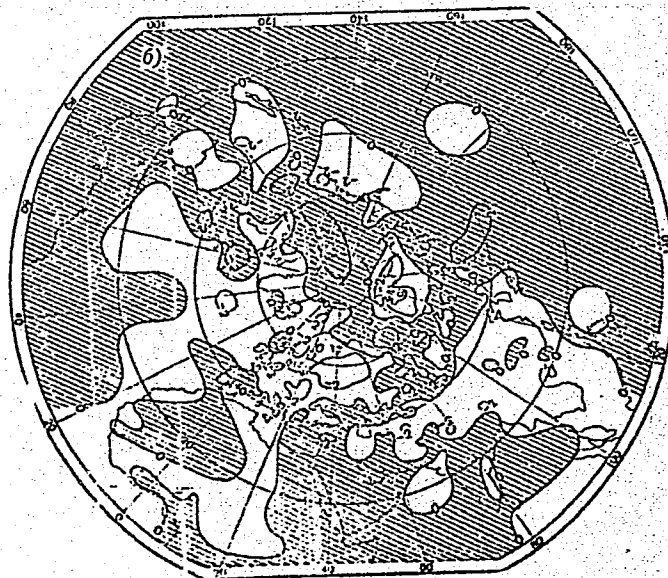
Fig. 1. Deviations of mean monthly air temperatures in June 1962 (in degrees).

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L 11002-65

ACCESSION NR: AT4048453

ENCLOSURE: 02



b = actual

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L 21749-65 EWT(1)/FFC SSD(c) GW

ACCESSION NR: AP5001051

S/0049/64/000/011/1720/1728

AUTHOR: Smirnov, I.P., Kazakova, L.L.

TITLE: The meridional profile of zonal circulation of the atmosphere

SOURCE: AN SSSR. Izvestiya. Seriya geofizicheskaya, no. 11, 1964, 1720-1728

TOPIC TAGS: atmospheric circulation, atmospheric zonal velocity, atmospheric angular velocity

ABSTRACT: The authors present a method for computing the latitudinal distribution of angular velocities of air relative to the earth and the mean zonal velocities of the atmosphere in the northern hemisphere; they also present numerical values of the angular and mean zonal velocities. The paper presents examples of the meridional distribution of air velocities, primarily for December 1963. The computations for the northern hemisphere were made using data on the isobaric surfaces 700, 500 and 300 mb. As a comparison, the angular velocities and zonal velocities for the 500-mb surface for the southern hemisphere for the period 19-23 December are also presented. The character of the distribution of zonal velocities for a single observation period is generally the same at all three surfaces, but in details these distributions are different. For example, at different surfaces, the configurations of the regions of negative values in the high latitudes during

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ACCESSION NR: AP5001051

the period April 9-20 were somewhat different. The zone of easterly winds in the equatorial regions also differs at different levels. The values of zonal velocities at different levels are different. There is a detailed discussion of two specific types of zonal velocity profiles observed. All data on mean zonal velocities in the northern hemisphere can be broken down into three groups corresponding to the polar, temperate and tropical latitudes. In form, the most stable profile is that for the mean zonal velocities of the temperate zone, although it changes with time with respect to both position and magnitude. With rare exceptions, the tropical zone is characterized by easterly winds of the southern periphery of subtropical anticyclones. The position of the zone of tropical easterly winds varies with the season, but from day to day the changes in the width of this zone are relatively small. The changes in the mean zonal velocities in the polar zone are sharper and disorderly; not only are there sharp variations of absolute values, but also frequent changes in sign of the mean zonal velocities. Comparisons of data for the northern and southern hemispheres were difficult due to the restricted amount of information available for the latter. The characteristics cited for the southern hemisphere can be representative of zonal circulation there due to the great homogeneity of the underlying surface. This was checked by dividing the charts of the two hemispheres

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ACCESSION NR: AP5001051

in half along the central meridian and computing angular and zonal velocities for each half separately. It was found that in the northern hemisphere the indices of circulation differ for the two halves by large values whereas in the southern hemisphere these differences are appreciably less. Orig. art. has: 15 formulas, 2 figures and 4 tables.

ASSOCIATION: Mirovoy meteorologicheskoy tsentr (World Meteorological Center);  
Glavnoye upravleniye gidrometeorologicheskoy sluzhby\* (Main Administration of the Hydrometeorological Service)

SUBMITTED: 01Jul64

ENCL: 00

SUB CODE: ES

NO REF SOV: 004

OTHER: 001

Card 3/3

SMIRNOV, I.S.

Praktika of the operative preparation of ice-charge hydrodynamic forecasts of the deviation from the norm of the mean monthly air temperatures for the northern hemisphere. Trudy MIA no.2: 45-49 1961 (MIRA 1881)

SMIRNOV, I.P.; KAZAKOVA, L.L.

Meridional cross section of the zonal atmospheric circulation.  
Izv. AN SSSR. Ser. geofiz. no.11:1720-1728 N '64.

(MIRA 17:12)

1. Mirovoy meteorologicheskoy tsentr i Glavnoye upravleniye  
gidrometeorologicheskoy sluzhby pri Soveta Ministrov SSSR.



L 4139-66 EWT(1)/FCC: GW  
 ACCESSION NR: AT5024856

UR/3118/65/000/005/0055/0063

AUTHORS: Smirnov, I. P.; Kazakova, L. L.  
 44,55 44,55

TITLE: Characteristics of atmospheric zonal circulation from 1960 to 1963

SOURCE: Mirovoy meteorologicheskiiy tsentr. Trudy, no. 5, 1965. Dinamika  
 atmosferykh dvizheniy planetarnogo masshtaba i gidrodinamicheskiiy dolgosrochnyy  
 prognoz pogody (Dynamics of atmospheric movements on a planetary scale and hydro-  
 dynamic ion-range weather forecasting), 55-63

TOPIC TAGS: atmospheric movement, atmospheric convection, zonal circulation,  
 Legendre polynomial, numerical method

ABSTRACT: The Legendre spherical functions are used to describe absolute topography  
 zonal circulation over several isobaric surfaces. The data used for such a series  
 correlation are obtained from daily AT<sub>700</sub> and AT<sub>500</sub> charts recorded on November and  
 December of 1958, 1960, and 1962. The Legendre series expansion is given by

$$\bar{H}(\theta) = \sum_{k=0}^{\infty} \bar{A}_{2k} \bar{P}_{2k}(\cos \theta),$$

$$\bar{A}_{2k} = \frac{2k-1}{2} \int_0^{\pi} \bar{H}(\theta) \bar{P}_k(\cos \theta) \sin \theta d\theta,$$

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ACCESSION NR: AT5024856

$$k=0, 1, 2, 3 \dots,$$

where  $\theta$  is the co-latitude and  $\varphi$  is the local latitude. The series was solved numerically up to 11 terms, using Simpson's integration rule. Comparison of the actual data with the calculated  $H(\theta)$  shows that 11 terms in the series are sufficient to describe accurately the zonal circulation over isobaric surfaces. Similar calculations were made for mean monthly values of  $H(\theta)$ . The same circulation charts were used to estimate the mean zonal speed  $\bar{v}_\lambda(\theta)$  and its meridional distribution  $A(\theta)$  according to the formula

$$1000 \frac{A_i}{\omega} = \frac{2,6078}{\sin 2\theta_i} (\bar{H}_{i+1} - \bar{H}_{i-1});$$

$$\bar{v}_\lambda(\theta_i) = A(\theta_i) a_0 \sin \theta_i,$$

where  $\omega$  is the earth's angular speed and  $a_0$  is the earth's mean radius. It is shown that the magnitudes  $1000A_i/\omega$  and  $v_\lambda$  characterize the meridional profile of the atmospheric zonal circulation reasonably well. Plots of  $\varphi$  versus  $v_\lambda$  from the three charts AT<sub>700</sub>, AT<sub>500</sub>, and AT<sub>300</sub> show wide deviations among themselves. These are attributed to the presence or absence of negative velocities in the higher latitudes, polar maxima in the western circulation velocity, and the presence of

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L 4139-66

ACCESSION NR: AT5024856

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subtropical maxima in the western circulation speeds. "The authors express their gratitude to their colleagues of the Central Institute of Forecasts: R. F. Usmanov, N. I. Novozhilova and Severova for analyzing the map of the southern hemisphere."  
Orig. art. has: <sup>4</sup>4 figures and <sup>3</sup>3 formulas.

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