LAPAURI, A.A. [author]; MINCHENKOV, Ye.Ya. [reviewer].

"Illuminated photo-objectives." A.A.Lapauri. Reviewed by E.IA.Minchenkov. Fiz. v shkole 13 no.5:81 S-O '53. (MLRA 6:8)
(Lenses, Photographic)

LAPAURI, Aleksandr Aleksandrovich; TELESHEV, A.N., redaktor; CHICHERIN, A.N., tekhnicheskiy redaktor

[Photographic optics] Fotograficheskaia optika. Moskva, Gos.izd-vo "Iskusstvo," 1955. 263 p. (MLRA 9:2)
(Photographic optics)

IAPAURI, A.A., redaktor; SHEBERSTOV, V.I., redaktor; TEIESHEV, A.N., redaktor; MATISSEN, Z.M., tekhnicheskiy redaktor

[Concise photographic dictionary] Kratkii fotograficheskii slovar'. Pod obshchei red. A.A.Iapauri i V.I.Sheberstova. [Moskva] Gos. izd-vo "Iskusstvo," 1956. 385 p. (MLRA 10:2)
(Photography--Dictionaries)

LAPAURI, A.A.

Anamorphote optics. Zhur.nauch.i prikl.fot.i kin. 1 no.5:376-383 S-O '56. (MLRA 9:11)

(Cinematography)

LAPAURI, A.A. (Moskva)

Lenses with variable focal length. Fiz. v shkole 19 no.1:43-46 Ja-F '59. (MIRA 12:3)

1. Nauchno-issledovatel'skiy kino-foto institut.
(Lenses)

LAPAURI, A.

Resolving power of an objective. Sov. foto 19 no.2:33-38 F '59. (MIRA 12:3)

(Photographic optics)

LAPAURI, A.

Attachment lenses. Sov.foto 20 no.4:32-33 Ap '60.
(MIRA 13:8)

(Lenses, Photographic)

BARINOV, L.V.; GEODAKOV, A.I.; GRINEVICH, G.Ya.; IOFIS, Ye.A., kand. tekhn. nauk; KRIMERMAN, P.M.; LAPAURI, A.A.; MINENKOV, I.B.; PANFILOV, N.D.; PELL', V.G., kand. tekhn. nauk; PERTSIK, A.G.; POLYANSKIY, N.N.; POPOV, A.N.; SINOKOV, A.G.; SUROV, S.G.; ZHASHLOV, B.A.; TELESHEV, A.N., red.; MALEK, Z.N., tekhn. red.

[Manual for the amateur-photographer] Spravochnik fotoliubitelia. Pod obshchei red. E.A.Iofisa i V.G.Pellia. Moskva, Iskusstvo, 1961. 530 p. (MIRA 15:7)
(Photography--Handbooks, manuals, etc.)

BARINOV, L.V.; GEODAKOV, A.I.; GRINEVICH, G.Ya.; IOFIS, Ye.A., kand. tekhn. nauk; KRIMERMAN, P.M.; LAPAURI, A.A.; MINENKOV, I.B.; PANFILOV, N.D.; PELL', V.G., kand. tekhn. nauk; PERTTSIK, A.G.; POLYANSKIY, N.N.; POPOV, N.A.; SIMONOV, A.G.; SUROV, S.G.; SHASHLOV, B.A.; TEMSHEV, A.N., red.

[Handbook for the amateur photographer] Spravochnik fotoliubitelia. Izd.2., ispr. i dop. Moskva, Iskusstvo, 1964. 472 p. (MIRA 18:1)

ROZEN, A.M., doktor khim. nauk; LAPAVOK, L.I., inzh.; YELA[illegible], B.V., inzh.

Hydraulic modeling of reflux apparatus of large diameter. Khim. i neft. mashinostr. no.4:14-18 O '64. (MIRA 17:12)

ACC NR: AP6035941 SOURCE CODE: UR/0413/66/000/020/0199/0199

INVENTOR: Adler, M. V.; Gorbachev, L. M.; Lapavok, V. S.; Lovchev, S. V.; Sokolov, G. I.; Frenk, M. Ts.; Churikov, Ye. P.

ORG: none

TITLE: Ventilating unit for aircraft. Class 62, No. 187540

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 20, 1966, 199

TOPIC TAGS: aircraft cabin environment, aircraft cabin equipment, centrifugal blower, air conditioning equipment

ABSTRACT: An Author Certificate has been issued for a ventilating unit for aircraft which contains a fan with a drive. To assure the unit's efficient operation in ground-based and airborne applications, the fan is mounted on a separate shaft and is operated by an electric drive through an axial over-riding clutch; a centrifugal clutch is used for operation on turbine drive. [WA-98]

SUB CODE: 01, 13/ SUBM DATE: 10Feb64

Card 1/1 UDC: 629.13.01/06

LAPAY, A.

Eliminate shortcomings in the work of the commission on labor disputes. Sov. profsoiuzy 7 no. 7:56-57 Jl '58. (MIRA 11:8)

1. Zaveduyushchiy yuridicheskoy konsul'tatsiyey Stalinskogo oblsovprofa.
(Stalino Province--Grievance procedures)

LAPAY, Aleksandr Petrovich; KLYUYEV, Anatoliy Alekseyevich

[How to solve labor disputes]Kak reshaiutsia trudovye spory; konstul'tatsii. Izd.2. dop. Moskva, Profizdat, 1960. 119 p. (MIRA 16:3)

(Arbitration, Industrial)

BORSHCHEVSKIY, I.Ya., kand. med. nauk; LAPAYEV, E.V.

Effect of aviation noises of various intensity and duration.
Voen.-med. zhur. no.2:64-68 '65. (MIRA 18:11)

L 58967-65 EEO-2/EWG(a)-2/EWG(c)/EWG(j)/EWG(r)/EEC(k)-2/EWG(v)/EWT(1)/FS(v)-3/
EWA(d)/ESS-2 Pe-5/Pi-4/Pe-4/Pq-4/Pac-4/Pas-2 TT/DD/GW UR/0209/65/000/007/0075/0077
ACCESSION NR: AP5017038

AUTHOR: Borshchevskiy, I. (Candidate of medical sciences); Lapayev, E. (Major of medical service)

TITLE: The noise problem

SOURCE: Aviatsiya i kosmonavtika, no. 7, 1965, 75-77

TOPIC TAGS: noise, high frequency noise, biological effect, life support system, earplug, earphone, noise control, manned space flight

ABSTRACT: Depending on the duration and level, noise has more or less severe deleterious effect on man. In some people, auditory disruptions occur as a result of minor but repeated chronic irritations of the auditory system. Depending on conditions and the individual stability of the organism, noise can sometimes decrease the ability to hear. The long-term effects of noise can disrupt the vestibular apparatus: there have been cases where noise has affected visual acuity, respiratory rhythm, cardiac activity, blood pressure, the volume of the kidneys and spleen, and the amplitude of stomach contractions. Some workers complain of headache, fatigue, and poor appetite following prolonged exposure to noise. According to publications dealing with the problem of noise in rockets and spacecraft, rocket-en-

Card 1/2

L 58967-65

ACCESSION NR: AP5017036

gine noise can exceed 170 db at a frequency of 300—600 cps. The general noise level on the surface of the nose of a rocket at take-off is a steady 145—150 db. The main sources of noise in a spacecraft are aerodynamics, when passing through atmospheric turbulence, and various life-support systems during orbital flight. The latter is not regarded as a serious danger to cosmonauts. Moreover, it is proposed that the noise factor during space flight need not be dangerous if the resonant characteristics of the cabin are compensated for by the use of modern acoustic materials. In addition, various types of earphones and earplugs are available which minimize the biological effects of noise in and around spacecraft, aircraft, and ground installations serving them. Orig. art. has: 3 figures. [CD]

ASSOCIATION: none

SUBMITTED: 00 ENCL: 00 SUB CODE: LS

NO REF SOV: 000 OTHER: 000 ATD PRESS: 4048

Card 2/2

L 04805-67 EWT(1) SCTB DD
ACC NR: AP6027253 (A,N) SOURCE CODE: UR/0177/66/000/007/0061/0064

AUTHOR: Udalov, Yu. F. (Lieutenant colonel, Medical corps, Doctor of medical sciences); Lapayev, E. V. (Major, Medical corps, Candicate of medical sciences; Syzrantsev, Yu. K. (Lieutenant colonel, Medical corps)

ORG: none

33
B

TITLE: Effect of aviation noise on some indices of protein and vitamin metabolism

SOURCE: Voyenno-meditsinskiy zhurnal, no. 7, 1966, 61-64

TOPIC TAGS: aerodynamic noise, man, vitamin, protein, metabolic disease, biologic vibration effect

ABSTRACT: A total of 44 tests were conducted on 10 healthy individuals 20-36 years of age, following 3 hours noise of 110 db intensity in a chamber. Indices were: urinary excretion of total nitrogen, urea and ammonium nitrogen and urinary oxygen; chromatographic determination in the blood of free amino acids and glutamine; excretion of the vitamins B_1, B_2, C, N_1-methylnicotinamide and 4-pyridoxic acid. They were determined prior, during and after the effect of noise. Results showed that the nitrogen metabolism underwent no significant changes except for

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UDC: 612.014.45:629.13

L 04805-67

ACC NR: AP6027253 O

findings of free amino acids in the blood, specifically tryptophan (it may be assumed that the brain tissue uses more amino acids during noise) and changes in the level of substituted amino acids: reduced glutamic acid and increased glutamine and alamine. Addition of glutamic acid to the diet results in an increased level of both glutamic acid and glutamine. A decrease in metabolic indices for the vitamins B_1, PP and B_6 which participate in transfer of neural alertness was noted, paralleling tryptophan changes. Excretion of ascorbic acid which binds ammonia in the brain was reduced. After administration to test subjects of a vitamin complex and measuring of their operative efficiency according to rate of sensomotor and response (to signals) reaction upon repeated testing with the standard complex of 4 irritants, it was found that while initial performance was satisfactory, later reactions were slower for both tests in the controls who had received no vitamins. Thus intensive and long-lasting noise causes considerable changes in protein and vitamin metabolism, which can be compensated for by appropriate vitamins and glutamic acid. Orig. art. has: 3 figures.

SUB CODE: 06, 07, 01/ SUBM DATE: none

Card 2/2 gd

LAPAYEV, I.I., mayor meditsinskoy sluzhby.

Evacuation of the wounded from military zones by means of pontoons.
Voen.-med. zhur. no.3:62-63 Mr '56. (MLRA 9:9)
(RUSSIA--ARMY--TRANSPORTATION OF SICK AND WOUNDED)
(PONTOON BRIDGES)

LAPAYEV, I.I. (Primorskiy kray)

Result of treating chronic gastritis with Schizandra chinensis. Klin.med. 36 no.2:109-112 F '58. (MIRA 11:4)

(GASTRITIS, ther.
Schizandra chinensis (Rus))
(ANALEPTICS, therapeutic use,
Schizandra chinensis in chronic gastritis (Rus))

LAPAYEV, I.I., mayor meditsinskoy sluzhby

Treatment of chronic gastritis with Schisandra chinensis. Voen.-med. zhur. no.6:76-77 Je '61. (MIRA 14:8)
(SCHISANDRA) (STOMACH--INFLAMMATION)

LAPAYEV, I.I., podpolkovnik meditsinskoy sluzhby

Effectiveness of the juice of schizandra chinensis in thrombocytopenia. Voen.-med.zhur. no.1:79-80 '65.

(MIRA 18:10)

LAPAYEV, P. S.

Agriculture

Machine-Tractor Station and the consolidation of collective farms. Moskva, Sel'khozgiz, 1951.

Monthly List of Russian Accessions, Library of Congress, October 1952. UNCLASSIFIED.

LAPAYEV, P. S.

Agricultural Research

Scientific-research work in the field of economics and organization of agriculture. Sots. sel'khoz. no. 2, 1952.

Monthly List of Russian Accessions, Library of Congress, July 1952. Unclassified.

1. LAPAYEV, P.S.

2. USSR (600)

4. Machine-Tractor Stations

7. Untapped potentialities for highly productive exploitation of agricultural technology, Sots. sel'khoz, 24, no. 3, 1953.

9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

LAPAYEV, V.S., inzh.

Theoretical head of centrifugal coal suction pumps. Trudy VNIIGidrouglia no.1:90-100 '62. (MIRA 16:12)

1. Vsesoyuznyy nauchno-issledovatel'skiy i proyektno-konstruktorskiy institut dobychi uglya gidravlicheskim sposobom.

LAPAYEV, V.S.

Effect of the size and shape of the discharge connection on the characteristics of a hydraulic coal dredge. Trudy VNIIGidrouglia no.4:93-103 '64. (MIRA 18:3)

1. Vsesoyuznyy nauchno-issledovatel'skiy i proyektno-konstruktorskiy institut dobychi uglya gidravlicheskim sposobom.

ZAKHAROVA, M.S., LAPAYEVA, I. STEPANOVA, E.A.

The preparation and study of bordella pertussis protection antigen.

Report submitted to the Intl. Congress for Microbiology
Montreal, Canada 19-25 Aug 1962

LAPAYEVA, I.A.

Serological analysis of a defense antigen obtained from B. pertussis by the method of ether-water extraction. Zhur. mikrobiol., epid. i immun. 33 no.1:103-109 Ja '62. (MIRA 15:3)

1. Iz Instituta epidemiologii i mikrobiologii imeni Gamalei AMN SSSR.

(HEMOPHILUS PERTUSSIS)
(ANTIGENS AND ANTIBODIES)

FAN'KOVSKAYA, E.K.; LAPAYEVA, I.A.

Study of the serological activity of strains of Bordetella pertussis in prolonged cultivation on casein-charcoal agar and Bordet-Gengoux media. Zhur. mikrobiol. epid. i immun. 33 no.10:58-65 0'62 (MIRA 17:4)

1. Iz Instituta epidemiologii i mikrobiologii imeni Gamaleĭ AMN SSSR.

LAPAYEVA, I.A.

Serological analysis of the antigen structure of Bordetella pertussis (first phase). Zhur. mikrobiol., epid. i immun. 33 no.11:115-120 N '62. (MIRA 17:1)

1. Iz Instituta epidemiologii i mikrobiologii imeni Gamalei AMN SSSR.

ZAKHAROVA, M.S.; LAPAYEVA, I.A.

Serological study of protective ultrasound-treated sorbed whooping cough antigen. Zhur. mikrobiol., epid. i immun. 33 no.11:110-115 N '62. (MIRA 17:1)

1. Iz Instituta epidemiologii i mikrobiologii imeni Gamalei AMN SSSR.

LAPAYEVA, L.A.

High voltage multichamber electrodialyzer for simultaneous dialysis of two different solutions of a substance to be purified. Lab. delo no.1: 58-61 '64. (MIRA 17:4)

1. Kafedra biokhimii (zaveduyushchiy - prof.G.V.Troitskiy) Krymskogo meditsinskogo instituta.

LAVAYEVA, L.A.

Study of the formation of protein complexes with other nonprotein components. Biofizika 9 no. 1,56-63 '64.
(MIRA 17:7)

1. Krymskiy gosudarstvennyy meditsinskiy institut, Simferopol'.

LAPAYEVA, I.A.

Use of zymosan for the sorption of pertussis antigen. Zhur. mikrobiol., epid. i immun. 42 no.9:145 S '65.

(MIRA 18:12)

1. Institut epidemiologii i mikrobiologii imeni Gamalei AMN SSSR. Submitted August 1, 1964.

LAPAYEVA, L.A.

Use of the high-frequency conductivity dispersion method for studying physicochemical properties of protein. Biokhimiia 30 no.2:358-367 Mr-Ap '65. (MIRA 18:7)

1. Kafedra biokhimii Krymskogo meditsinskogo instituta, Simferopol'.

STRELYAYEVA, V.M.; LAPAYEVA, N.I.; MEL'KUMOVA, L.P.

Natural tularemia foci in the Turkmen S.S.R. Zdrav. Turk. 8 no.2:31-34 F'64 (MIRA 17:4)

1. Iz Turkmenskoy respublikanskoy sanitarno-epidemiologicheskoy stantsii (glavnyy vrach V.Mamayev).

KALUGIN, M.P., inzhener-issledovatel'; KASHTAN'YER, L.N., inzhener-issledovatel'; LAPAYEVA, Ye.V., inzhener-issledovatel'

Practice in unifying the technical, industrial and financial plan. Trudy Ural. politekh. inst. no.120:50-57 '61. (MIRA 16:6)
(Sverdlovsk Province--Industrial management)

YUGOSLAVIA

LAPCEVIC, E., et al. of the First Internal Medicine Clinic (I Interna Klinika) and the Institute of Pathology (Institut za patologiju).

"An Enzootic Occurrence of Liver Dystrophy in Horses."

Belgrade, Acta Veterinaria, Vol 12, No 3-4, 1962, pp 15-19.

Abstract: /Authors' German summary/ The authors describe an enzootic occurrence of acute liver dystrophy in some castrated horses in eight villages 40 to 50 days subsequent to the castration. The hepatocerebral syndrome was present in all the horses affected. Oral intoxication was excluded, inasmuch as older castrated horses were not infected. The parenchyma of the liver was apparently destroyed on the basis of allergic liver damage arising out of the area of the castration wound via the blood vessels.

Illustrations, 20 references to recent Yugoslav, German, Hungarian, and Czechoslovakian work.

1/1

NIKOLIC, B.; NIKOLIC, V.; PAVLOVIC-KENTERA, V.; LAPCEVIC, E.; PAVLOVIC, O.; PAUNOVIC, S.; CIRIC, O.; KNEZEVIC, N.; MIHAILOVIC, M.

Experimental intoxication of dogs with venoms from Vipera berus and Vipera ammodites. II. Biochemical blood changes. Vojnosanit. pregl. 20 no.1/2:7-13 Ja-F '63.

1. Veterinarski fakultet u Beogradu, Fizioloski institut i Interna klinika, Institut za medicinska istrazivanja u Beogradu.
(VENOMS) (ERYTHROCYTE COUNT) (BLOOD VOLUME)
(BLOOD COAGULATION) (BLOOD PLATELETS)
(CAPILLARIES) (PROTHROMBIN TIME)
(BLOOD CHEMICAL ANALYSIS)

LAPCEVIC, Emanuel M.

"Aristolochia clematitis poisoning in horses." Ass. prof. Vet. Fac., Beograd Botulin Intoxication in Horses.

Vet: Glasnik 5, 418-429, 1951
Vet: 1 : 69-80, 1954

YUGOSLAVIA / Diseases of Farm Animals. Diseases Caused by Viruses and Rickettsiae. R-2

Abs Jour : Ref Zhur - Biol., No 17, 1958, No 78953

Author : Lapcevic, E.; Nikolic, B.; Ciric, V.; Stosic, N.; Pavlovic, O.

Inst : Not given

Title : New Febrile, Hemorrhagic and Infectious Illness in Dogs.

Orig Pub : Veterin. glasnik, 1957, 11, No 8, 752-760

Abstract : A feverish condition, bleeding from all mucous membranes and skin hemorrhaging were basic symptoms. There were noted: thrombo-cytopenia, increase of the coagulation time of the blood, depression of the formation of thromboplastin, increase of the quantity of alpha and beta globulins and decrease of the quantity of the gamma globulin. The illness proceeded into an acute (death in 1 - 2 days) or subacute form. In the latter case, hemor-

Card 1/2

LAPCEVIC, S.

The new wharf on the Danube River. Medjun transp 8 no.11:806-809 N '62.

LAPCHENKO, G.D., kand. sel'khoz. nauk; ZAGORSKIY, G., red.; SHLYK, M., tekhn. red.

[Winter wheat] Ozimaia pshenitsa. Moskva, Mosk. rabochii, 1961. 19 p. (MIRA 14:7)

(Wheat)

WA-50 L 05116-67 EWT(1) RO

ACC NR: AP6030240 (AN) SOURCE CODE: UR/0394/66/004/007/0030/0031

AUTHOR: Bobyshev, V. G.; Lapchenko, G. Ya. 17B

ORG: Don Agricultural Institute (Donskiy sel'skokhozyaystvennyy institut)

TITLE: Influence of herbicides on the microflora of the soil

SOURCE: Khimiya v sel'skom khozyaystve, v. 4, no. 7, 1966, 30-31

TOPIC TAGS: herbicide, soil, microflora, corn, millet

ABSTRACT: In 1963—1964, experiments were made in Rostov Oblast to determine the effect of herbicides on the microflora of soils sown with millet and corn. It was found that simazine, atrazine and 2,4-D amino salts are favorable for the development of microorganisms, particularly those of nitrogen fixing bacteria. Table 1 presents data on the number of bacteria and of nitrogen fixing bacteria, considered separately, in soils sown with millet. Table 2 shows the influence exerted by herbicides on the microorganisms existing in a 0—10 cm layer of soil sown with corn. No adverse effect of herbicides on microflora was found. Orig. art. has: 2 tables. [W.A.50]

SUB CODE: 02, 06, 07/ SUBM DATE: 29Jun65/ ORIG REF: 006/
OTH REF: 002

Card 1/3 UDC: 632.954.576.8

ACC NR: AP6030240

Table 1. Influence of herbicides on number of bacteria growing on beef extract agar on millet crops (in thousand per ha of absolutely dry soil)

Variants of experiment	No. of bacteria in the layer of soil in the heading phase of the millet		No. of bacteria in the layer of soil prior to reaping		No. of azotobacter in the layer of soil in the heading phase of the millet		No. of azotobacter in the layer of soil before reaping	
	0—10 cm	10—20 cm	0—10 cm	10—20 cm	0—10 cm	10—20 cm	0—10 cm	10—20 cm
Control (without weeding)	2180/1730	1630/1680	4300/4180	3300/5300	0.43/0.83	0.73/0.96	0.57/0.123	0.108/0.01
Simazine inserted in soil, in kg/ha (a. w.)								
3	1520/1820	1720/1800	4500/4170	2100/5400	0.46/0.101	0.96/0.112	0.51/0.115	0.116/0.119
4	1620/1430	1980/1740	4400/3930	2700/5250	0.42/0.107	0.102/0.96	0.63/0.171	0.123/0.203
Atrazine inserted in soil, in kg/ha (a. w.)								
3	1980/1900	2200/1670	4100/4600	3400/4900	0.51/0.97	0.94/0.116	0.71/0.198	0.126/0.132
4	1840/1760	1610/1650	4800/4700	4300/5600	0.49/0.106	0.97/0.109	0.67/0.109	0.119/0.121
2,4-DA used on the sprouts, in 0.7 kg/ha (a. w.)	2060/1530	1830/1730	4200/3650	3600/5800	0.54/0.98	0.106/0.107	0.64/0.137	0.131/0.149

Remarks: In the numerator: 1963 data;
In the denominator: 1964 data.

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ACC NR: AP6030240

Table 2. Influence of herbicides on the number of microorganisms on corn crops in a 0—10 cm layer of soil (in thousand per ha of absolutely dry soil)

Variants of experiment	No. of soil microorganisms in heading phase			No. of soil microorganisms in milk-wax stage of ripeness		
	Total	Oligonitrophyls	Clostridium	Actinomycetes	Oligonitrophyls	Clostridium
Control (without weeding)	1610	101	10^4	5960	183	10^4
Insertion of soil after corn sowing:						
simazine, 3 kg/ha	1820	78	10^4	3480	95	10^4
chlorazine, 3 kg/ha	1483	92	10^4	3240	70	10^4
Used on sprouts:						
2,4-DA, 0.9 kg/ha	1408	85	10^4	3720	72	10^4
crotilin, 0.7 kg/ha	1407	103	10^4	3680	59	10^4
celatox, 0.7 kg/ha	930	109	10^4	3220	87	10^4
rankotox, 3 kg/ha	1486	73	10^4	3520	52	10^4

Remark: The total number of microorganisms and the number of oligonitrophyls were calculated on Ashby agar. The number of clostridium bacteria was calculated on the Vinogradskiy medium.

Card 3/3 vmb

LAPCHENKO, M.L.; KIRICHENKO, N.Ye. [Kirichenko, N.IE.]

Prolapse of the urethral mucosa in a 9-year-old girl. Ped. akush. i gin. 22 no. 1:3 of cover '60. (MIRA 13:8)
(URETHRA--DISEASES)

LAPCHENKO, N.S.

Public inspection of therapeutic and preventive institutions of Moscow. Zdrav.Ros.Feder. 1 no.6:3-7 Je '57. (MLRA 10:8)

1. Zaveduyushchiy Moskovskim gorodskim otdelom zdravookhraneniya
(MOSCOW--HOSPITALS--INSPECTION)

LAPCHENKO, N.S. (Moskva)

Plans for the development of the public health network in Moscow during 1959-65 [with summary in English]. Sov.zdrav. 18 no.4:6-11 '59. (MIRA 12:4)

(PUBLIC HEALTH,
in Russia, 7-year plan (Rus))

LAPCHENKO, N.S., zasluzhennyy vrach RSFSR

Concern for the health of the inhabitants of Moscow. Gor.khoz. Mosk. 33 no.6:21-23 Je '59. (MIRA 12:10)

1. Zaveduyushchiy Moskovskim gorodskim otdelom zdravookhraneniya.
(Moscow--Public health)

LAPCHENKO, N.S.

Organization of disability evaluation in Moscow medical institutions. Zdrav. Ros. Feder. 4 no.5:24-28 My '60. (MIRA 13:12)

1. Zaveduyushchiy Moskovskim gorodskim otdelom zdravookhraneniya.
(MOSCOW--DISABILITY EVALUATION)

LAPCHENKO, N.S.

Some public health problems in the greater Moscow region. Sov. zdrav. 20 no.8:3-8 '61. (MIRA 15:1)

1. Zaveduyushchiy Moskovskim gorodskim otdelom zdravookhraneniya. (MOSCOW--PUBLIC HEALTH)

LAPCHENKO, P. I.

8(5)

AUTHORS: Ivanov-Smolenskiy, Aleksey Vladimirovich, SOV/161-58-2-15/30
Candidate of Technical Sciences, Docent at the Chair for Electrical Machines of the Moscow Power Engineering Institute, Lapchenko, Petr Ivanovich, Assistant at the Chair for Theoretical and General Electrical Engineering at the Novocherkassk Polytechnic Institute

TITLE: Experimental Investigation of the Frequency-Characteristics of the Rotor Circuits of Salient Pole Synchronous Machines by Means of Physical Models (Eksperimental'noye issledovaniye chastotnykh kharakteristik rotornykh tsepey yavnopolyusnykh sinkhronnykh mashin pri pomoshchi fizicheskikh modeley)

PERIODICAL: Nauchnyye doklady vysshey shkoly. Elektromekhanika i avtomatika, 1958, Nr 2, pp 121 - 133 (USSR)

ABSTRACT: It is shown that the equivalent rotor parameters at different frequencies can be determined by the aid of physical models. As far as the internal processes of a synchronous machine are investigated here, the geometrical similarity of the model dimensions and the original within the limits of pole pitch and the uniformity of the similitude conditions must

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be ensured. The initial equations expressing the investigated process by the model and by the original are Maxwell's equations. It is assumed that the model and the original are made of the same materials. The translation points are neglected. The device was built as a universal model for a large group of salient pole synchronous machines. The investigation showed that physical model that ensure a three-dimensional similitude of fields can be used for investigating the parameters of electrical machines. The test values obtained may be used for the determination of rotor parameters of a large group of salient pole synchronous machines. There are 6 figures, 3 tables, and 7 references, 7 of which are Soviet.

ASSOCIATION: Kafedra elektricheskikh mashin Moskovskogo energeticheskogo instituta (Chair for Electrical Machines of the Moscow Power Engineering Institute)

SUBMITTED: February 17, 1958

LAPCHENKO, P. I., Cand Tech Sci -- (diss) "Experimental ~~investigation~~ study of ~~the~~ frequency characteristics ~~in the~~ rotor chains of phaneropolar synchronous machines with the aid of physical models." Mos, 1958. 19 pp. (Min Higher Ed USSR, Mos Order of Lenin Power (Engineering) Inst, Chair of Electric Machines), 100 copies. (KL, 9-58, 118)

LAPCHENKO, PETR IVANOVICH, kand.tekn.nauk, dotsent

Experimental determination of the effect of the design of the pole on the parameters of the rotor of a synchronous machine. Izv. vys. ucheb. zav.; elektromekh. 4 no.5:15-22 '61.
(MIRA 14:7)

1. Kafedra elektricheskikh mashin i apparatov Zaporozhskogo mashinostroitel'nogo instituta.
(Electric machinery, Synchronous)

LAPCHENKO, Petr Ivanovich, kand.tekhn.nauk, dotsent

Use of a similarity method for the determination of the rotor resistance of a salient-pole synchronous machine. Izv.vys.ucheb. zav.; elektromekh. 5 no.1:20-27 '62. (MIRA 15:2)

1. Kafedra elektricheskikh mashin i apparatov Zaporozhskogo mashinostroitel'nogo instituta.
(Electric machinery, Synchronous)

ANAN'YEV, K.Ya., inzh.; LAPCHENKO, P.I., kand.tekhn.nauk

The VAK-25000/450 semiconductor rectifier system. Vest. elektroprom. 33 no.9:78 S '62. (MIRA 15:10)
(Electric current rectifiers)

KLIMENKO, L.I., inzh.; ANAN'YEV, K.Ya., inzh.; LAPCHENKO, P.I., kand. tekhn. nauk

New source of power supply for electrolyzers. Vest. elektroprom 34 no.6:78-80 Je '63. (MIRA 16:7)

(Electric power supply to apparatus)
(Electrometallurgy)
(Electric current rectifiers)

IVANOV-SMOLENSKIY, A.V. (Moskva); LAPCHENKO, P.I. (Moskva)

Determination of frequency and load characteristics of saturated asynchronous machines usir a similitude method. Izv. AN SSSR. Energ. i transp no.2:169-181 Mr-Ap'64. (MIRA 17:5)

STUL'NIKOV, V.I., kand.tekhn.nauk; LAPCHENKO, P.I., kand.tekhn.nauk; KLIMENKO, L.I., inzh.; ANAN'YEV, K.Ya., inzh.

Analysis of the operation of the VAK-12500/300 automatic current stabilizing system. Prom. energ. 20 no.7:27-31 Jl '65. (MIRA 18:12)

LAPCHENKO, S.N.

Three cases of chondroma of the larynx. Zhur. ush., nos. i gorl. bol. 23 no.1:72-74 Ja-F '63. (MIRA 17:2)

1. Iz klinicheskogo otdeleniya Gosudarstvennogo nauchno-issledovatel'skogo instituta bolezney ukha, gorla i nosa Ministerstva zdravookhraneniya RSFSR (dir. - prof. N.A. Bobrovskiy).

LAPCHENKO, S.N.

Osteoblastoclastoma of the temporal bone. Vest.otorin. no.5: 78-80 '62. (MIRA 15:9)

1. Iz klinicheskogo otdeleniya Nauchno-issledovatel'skogo instituta bolezney ukha, nosa i gorla (dir. - prof. N.A. Bobrovskiy) Ministerstva zdravookhraneniya RSFSR, Moskva.
(TEMPORAL BONE--TUMORS)

LAPCHENKO, S.N.

Status of the muscular membrane of the larynx affected by cancer following radiation therapy; clinical, morphological and histochemical study. Med. rad. 9 no.2:22-29 F '64.

(MIRA 17:9)

1. Nauchno-issledovatel'skiy institut ukha, gorla i nosa (dir.-prof. N.A. Kobrovskiy) i 1-ya kafedra rentgenologii i radiologii TSentral'nogo instituta usovershenstvovaniya vrachey (zav.-prof. S.A. Reinberg).

LAPCHENKO, Yu.Ye., inzhener.

Use of mercury-arc rectifiers with greater grid control. Elektrichestvo no.10:70-74 O '56. (MLRA 9:11)
(Mercury-arc rectifiers)
(Electric driving)

LAPCHENKO, V.A.

PHASE I BOOK EXPLOITATION SOV/5975

International Institute of Welding

XII kongress Mezhdunarodnogo instituta svarki, 29 iyunya - 5 iyulya 1959 v g. Opatii (Twelfth Annual Assembly of the International Institute of Welding, Opatija, June 29 - July 5, 1959) Moscow, Mashgiz, 1961. 359 p. 3000 copies printed.

Sponsoring Agency: Natsional'nyy komitet SSSR po svarke.

Ed. (Title page): G. A. Maslov, Docent; Translated from English, French, and Serbo-Croatian by N. S. Aborenkova, K. N. Belyayev, E. P. Bogacheva, L. A. Borisova, K. V. Zvegintseva, V. S. Minavichev, and M. M. Shelechnik; Managing Ed. for Literature on the Hot-Working of Metals: S. Ya. Golovin, Engineer.

PURPOSE: This collection of articles is intended for welding specialists and the technical personnel of various production and repair shops.

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Twelfth Annual Assembly (Cont.)

COVERAGE: The collection contains abridged reports presented and discussed at the Twelfth Annual Assembly of the International Institute of Welding. Reports deal with problems of welding and related processes used in repair work, repair techniques, and the problems arising in connection with the nature of the base and filler materials. Examples of repairing various parts are given, and the organization of repair operations in workshops and under field conditions is discussed. Economic aspects of welding and related processes as used in repair work are analyzed. No personalities are mentioned. There are no references.

TABLE OF CONTENTS: [Only Soviet and Soviet-bloc reports are given here]

DZHALAGONIYA, K., kand. biolog. nauk; LAPCHENKOV, G., starshiy prepodavatel';
MANUCHARYAN, M., aspirant; MARKELOVA, Ye., dotsent

From practices in the use of poisonous chemicals. Zashch. rast. ot vred. i bol. 10 no.6:22-23 '65. (MIRA 18:7)

1. Vsesoyuznyy institut chaya i subtropicheskikh kul'tur (for Dzhalagoniya). 2. Kafedra zemledeliya i melioratsii Donskogo sel'skokhozyaystvennogo instituta (for Lapchenkov). 3. Armyanskaya opytnaya stantsiya po tabaku Vsesoyuznogo nauchno-issledovatel'skogo instituta tabaka i makhorki imeni A.I.Mikoyana (for Manucharyan). 4. Kafedra fiziologii i zashchity rasteniy Plodoovoshchnogo instituta imeni I.V.Michurina (for Markelova).

KHRAMTSOV, L.I., kand. sel'skokhoz. nauk; LAPCHENKOV, G. Ya., starshiy prepodavatel'.

Chemical weeding in corn and millet fields. Zashch. rast. ot vred. i bol. 9 no.6:17 '64 (MIRA 17:7)

1. Donskoy sel'skokhozyaystvennyy institut, st. Persianovka, Rostovskoy oblasti.

LAPCHENKOV, I.F., inzh.; PANASENKO, V.I., inzh.

Transportation by rail of reinforced concrete trusses with a span of 24 m.. Prom. stroi. 41 no.2:61-62 F '63. (MIRA 16:3)
(Trusses—Transportation)

KANTIN, A.V.; KACHUR, L.A.; LAPCHENKOV, V.I.; CHOCHIA, K.N.

Preoperative irradiation in cancer of the breast by intratissular administration of colloidal radioactive gold. Med.rad. no.1:24-32'63. (MIRA 16:10)

1. Iz radioonkologicheskogo i radiologicheskogo otdelov TSentral'nogo nauchno-issledovatel'skogo instituta meditsinskoy radiologii Ministerstva zdravookhraneniya SSSR.
(GOLD ISOTOPES—THERAPEUTIC USE)
(BREAST—CANCER)

LAPCHENKOV, V.F.

Study of the bremsstrahlung of P^{32} with the aid of a scintillation γ-spectrometer. Biofizika 8 no.1:117-122 '63.
(MIRA 17:8)

1. TSentral'nyy nauchno-issledovatel'skiy institut meditsinskoy radiologii Ministerstva zdravookhraneniya SSSR, Leningrad.

LAPCHENKOV, V.I.; BELUGINA, Z.T.

Methodology for the determination of P^{32} in the marrow of the long tubular bones of polycythemia patients according to the inhibiting irradiation in the extremities. Med. rad. 8 no.11:13-20 N '63. (MIRA 17:12)

1. Iz laboratorii izotopnykh metodov issledovaniya (rukovoditel' - I.S. Osipov) i radioterapevticheskogo otdeleniya kliniki (zav. - Ye.N. Mozharova) TSentral'nogo nauchno-issledovatel'skogo instituta meditsinskoy radiologii (direktor Ye.I. Vorob'yev) Ministerstva zdravookhraneniya SSSR.

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ACCESSION NR: AP5014067 UR/0241/65/000/005/0051/0055
616.155.191-085.849.7-015.35-031.1:
616.36

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34
B

AUTHOR: Lapchenkov, V. I.

TITLE: Determination of the radiation dose in the liver of polycythemia patients from bremsstrahlung during treatment with radiophosphorus

SOURCE: Meditsinskaya radiologiya, no. 5, 1965, 51-55

TOPIC TAGS: radiotherapy, bremsstrahlung, liver, isotope, radiation dosimetry, radiophosphorus

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ABSTRACT: The kinetics of change in intensity of bremsstrahlung over the liver area was studied in 20 polycythemia patients. P^{32} was administered orally in fractional doses of 1.5-3 mc at a time with 5-7 days invervals between doses; a total of 8-9 mc was required for the course of treatment. The author noted a definite relationship (P > 99.9%) between the radiation dose in the liver and amount of P^{32} administered. But he could not detect any relationship between pathological enlargement of the liver, increase in basal metabolism, or values of the indices of

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the peripheral blood. During P^{32} treatment of polycythemia the liver receives a fairly large dose of radiation--100-200 rads. Therefore, the nature of the accumulation and excretion of P^{32} must be carefully monitored for each patients. Orig. art. has: 1 table.

ASSOCIATION: Laboratoriya izotopnykh metodov issledovaniya, Tsentral'nogo nauchno-issledovatel'skogo rentgeno-radiologicheskogo instituta Ministerstva zdravookhraneniya SSSR, Leningrad (Laboratory of Isotopic Methods of Investigation, Central Research Institute of Radiology, Ministry of Health, SSSR)

SUBMITTED: 19Jan64 ENCL: 00 SUB CODE: LS

NO REF SOV: 001 OTHER: 002

Card 2/2 DP

BURMAN, E.A.; LAPCHEVA, V.F.

Meteorological characteristics of foehns in the Azau Valley. Trudy OGMI no.17:103-113 '58. (MIRA 12:7)

1. Odesskiy gidrometeorologicheskiy institut i El'brusskaya ekspeditsiya Instituta prikladnoy geofiziki AN SSSR.
(Azau Valley--Foehn)

3(7) SOV/20-128-3-24/58

AUTHORS: Bibilashvili, N. Sh., Zaytseva, A. M., Lapcheva, V. F., Ordzhonikidze, A.A., Sulakvelidze, G. K.

TITLE: On the Influence Exerted by a Variation of the Vertical Wind Component on the Formation of Shower Precipitations and Hail

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 128, Nr 3, pp 521-524 (USSR)

ABSTRACT: Observations made in Transcaucasia and the Caucasus in 1956-1958 on stratocumuli, cumuli, and massy cumuli showed the following: 1) The vertical component of the velocity of currents, determined by radar methods, amounts to 0.1 - 0.3 m/sec for stratocumuli, 5 m/sec for cumuli, and 10-15 m/sec for massy cumuli. Several wind gusts attain velocities of 25 m/sec. The velocity W of vertical currents within the cloud increases with rising altitude up to a maximum, W_m, in the upper part of the cloud, and then decreases rapidly. 2) The temperature of the cumulus during its formation is higher by 0.5-1.0° than the temperature of the surrounding medium at the same altitude. During stabilization and decomposition of the cumulus in the

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On the Influence Exerted by a Variation of the Vertical Wind Component on the Formation of Shower Precipitations and Hail

upper part, the cloud temperature is lower by 0.5-1.0° than it is in the surrounding medium. 3) In the part before the peak, the cumulus becomes rapidly aqueous. Yet in the lower and medium part, the water content and the spectrum of the water of the water drops vary but little. The size of the drops is given. On the basis of these data, the increasing size of the drops contained in cumuli and massy cumuli, which is due to gravitational coagulation was calculated by a method devised by E. Bowen (Ref 4) and B. V. Kiryukhin. At high velocities of the vertical currents, the drops almost do not increase on the ascending branch of the trajectory. Formulas for the dependence of radius R of the drop on altitude z are written down. The drops are retained in the upper part of the cloud, where velocities are low. The principal increase in the drop or the hailstone occurs in the cloud range near the peak. If the upper part of the cumulus has a temperature higher than that of natural crystallization, then the cloud remains droplike liquid. However, hail occurs, if the temperature of the cloud peak is below that of natural crystallization. The increasing size of the hailstones up to R ~ 2-4 cm

On the Influence Exerted by a Variation of the Vertical Wind Component on the Formation of Shower Precipitations and Hail

at W_m from 10 to 20 m/sec, primarily occurs in the cloud part near the peak, i.e. at the origin of the descending branch of the hailstone trajectory . The authors write down a corresponding formula for the size of the hailstone. The time required for an increase in the hailstone largely depends on W_m, and varies between 20 and 70 min. The definite size of the hailstones depends but little on the vertical thickness of the cloud. Completely new results are obtained if the variations in the vertical component of the velocity of air currents with the altitude are taken into account. This permits, among other things, the following conclusions: 1) A large amount of droplike water and hail is piled up in the cloud part near the peak. 2) The influence exerted by surface-active and hygroscopic substances on the upper part of the forming massy cumulus does not offer any positive effect at $W_m > V_k$. V_k denotes the critical velocity. 3) By complete crystallization of the droplike liquid, undercooled fraction which enters

On the Influence Exerted by a Variation of the Vertical Wind Component on the Formation of Shower Precipitations and Hail

the cloud, hail may be prevented or at least reduced (thus preventing a gravitation-dependent increase in the hailstones). If place and time of the center formation were known, hail could be prevented with 4 to 10 kg of silver iodide. Since these quantities are unknown, an amount of silver iodide larger by two or three orders is required for hail prevention. There are 3 figures, 1 table, and 4 references, 3 of which are Soviet.

ASSOCIATION: El'brusskaya ekspeditsiya Instituta prikladnoy geofiziki Akademii nauk SSSR
(Elbrus Expedition of the Institute of Applied Geophysics of the Academy of Sciences, USSR)

PRESENTED: May 25, 1959, by I. N. Vekua, Academician

SUBMITTED: April 26, 1959

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S/049/60/000/004/009/018
E032/E514

3.5000

AUTHORS: Bibilashvili, N.Sh., Lapcheva, V.F., Ordzhonikidze, A.A. and Sulakvelidze, G.K.

TITLE: Characteristics of Coagulational Growth of Hailstones, Associated with Changes in the Velocity of Vertical Streams with Altitude

PERIODICAL: Izvestiya Akademii nauk SSSR, Seriya geofizicheskaya, 1960, No.4, pp.585-593

TEXT: Existing theories of precipitation from thick cumulus clouds lead to certain results which are not confirmed by observation. Thus, for example, in order to obtain hailstones having a radius of 2 to 3 cm, cloud thicknesses of 10 to 15 km are required (Ref.1) with constant upward current velocities of the order of 20 to 25 m/sec. The amount of precipitation from hail and shower clouds exceeds the store of moisture in these clouds by a factor of 5-10. These and other results are not confirmed in practice. Studies of cumulus and thick cumulus clouds carried out by the present authors have led to the following results: a) in cumulus and thick cumulus clouds one observes an increase in the velocity of the upward currents with altitude until a certain maximum value

Characteristics of Coagulational Growth of Hailstones Associated with Changes in the Velocity of Vertical Streams with Altitude

is reached. Thereafter the velocity begins to decrease. The maximum value of the upward current velocity in developing thick cumulus and storm clouds does not exceed 27 m/sec according to the data obtained in eighteen experiments. The mean maximum velocity is of the order of 7-8 m/sec (Fig.1). A similar distribution of upward current velocities with altitude is also observed in cumulus clouds. The magnitude of the average maximum velocity in cumulus clouds was found to be 3-4 m/sec (average of 40 experiments). Measurements showed that the mean level of maximum velocities for the above types of clouds over the Alazanskaya plane and in the region of El'brus is at 2500-3500 m above the Earth's surface, i.e. in the middle or upper parts of the cloud. b) Microphysical studies showed that in the lower part of a cloud, most of the droplets have radii of 6-10 μ, and the number of particles per cubic centimeter lies between 200 and 1500. The mean liquid water content does not exceed 10^{-6} g/cm^3. Large droplets having a radius of 40-60 μ are also found in the lower part of a cloud. In the middle and the upper parts of a thick cumulus cloud located above the zone of

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maximum vertical velocities, the dimensions of isolated droplets reach 400 - 600 μ and the liquid water content about 2×10^{-5} g/cm^3 (data from ten experiments). The accuracy of these measurements was estimated to be about 20 - 30%. c) Radar studies of hail and shower precipitation showed that the precipitation can continue to appear from a single focus for 10 to 20 minutes. Thus, the formation and precipitation of showers and hail is not a prolonged and continuous process. These results are used in the present paper to set up a theory of coagulational growth of cloud droplets forming showers and hailstones. It is shown that the accumulation of large amounts of water in a cloud takes place as a result of a reduction in the velocity of upward currents towards the upper part of a cloud. Thus, favourable conditions are produced for the droplets to come to rest and increase their size. These droplets then grow by coagulation with the smaller drops coming up with the upward stream and thus increase the liquid water content of the upper part of the cloud. Using this scheme it is possible to predict the appearance of hail, the finite dimensions of hailstones and the amount of precipitation.

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82704

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Characteristics of Coagulational Growth of Hailstones Associated with Changes in the Velocity of Vertical Streams with Altitude

The most effective weapon in the fight against hail at the present time is the continuous crystallization of the supercooled part of the cloud. It is, therefore, important to develop studies of microscopic parameters of thick cumulus clouds so that hail centres can be discovered and neutralized. There are 5 figures, 3 tables and 3 references: 1 Soviet, 1 a Russian translation from English and 1 English.

ASSOCIATION: Akademiya nauk SSSR El'brusskaya ekspeditsiya IPG (Academy of Sciences USSR, El'brus Expedition of the Institute of Applied Geophysics)

SUBMITTED: February 25, 1959

Card 4/4

S/030/61/000/001/015/017
B105/B206

AUTHORS: Sulakvelidze, G. K., Professor, Lapcheva, V. F.

TITLE: Research in the field of the physics of the atmosphere

PERIODICAL: Vestnik Akademii nauk SSSR, no. 1, 1961, 115-116

TEXT: In connection with the 25th anniversary of the Kabardino-Balkarskoye otdeleniye (Kabardino-Balkarskaya Branch) of the Institut prikladnoy geofiziki Akademii nauk SSSR (Institute of Applied Geophysics of the Academy of Sciences USSR), the former El'brusskaya ekspeditsiya (El'brus Expedition), a Scientific Meeting was held at Nal'chik from September 26 to 30, 1960. The region of the El'brus is described as being the best place in the Soviet Union for scientific high-mountain research. Studies started here by S. I. Vavilov were interrupted by the war and developed in a big way under the direction of Ye. K. Fedorov in the period 1948 to 1954. G. K. Sulakvelidze, Chief of the Branch, characterized the scientific achievements of the last ten years. It was possible to find an explanation for the intensity variations of the green line of luminescence of the night sky by studying the optical

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Research in the field of the ...

properties of the atmosphere on the slopes of the El'brus. Some conclusions on the structure of the upper atmospheric layers were confirmed through research by means of artificial satellites and cosmic rockets (report by I. A. Khvostikov). S. F. Rodionov reported that the effect of the anomalous transparency of the atmosphere in the ultraviolet range of the spectrum was discovered and explained in 1936-1937 by studies made under his supervision. The transparency of clouds and fog was also studied. S. F. Rodionov is of the opinion that a new branch of science, Soviet high-mountain optics, may be said to have been created. Further reports were delivered by: Ye. I. Bocharov on studies of the visible part of the spectrum which is weakened by clouds and fog; L. N. Gutman on problems of local meteorological processes. The new theory on the formation of hail, developed after the war, was also explained. N. Sh. Bibilashvili clarified the law of the distribution of the velocity of rising currents in a cloud. On the basis of experimental material, the theory of the forming of sudden downpours and hail was established permitting the proposal of new methods for affecting the processes which take place in the cloud. L. M. Levin established the value of the coefficient of the capture of drops as a

function of their radius and the velocity of the accumulating flow, and elaborated the theory of the "traps" of cloud drops. The study of snow cover and the dynamics of avalanches made it possible for V. S. Chitadze to establish the standards for avalanche-protective constructions. K. S. Shifrin reported on the use of calculations of artificial effects on supercooled clouds. N. V. Krasnogorskaya reported on the study of atmospheric electricity in the El'brus region. N. N. Sirotinin and A. Z. Kolchinskaya reported on the investigation of the mountain sickness, anoxia under high-mountain conditions as well as treatment methods by high-mountain climate. Symposia on atmospheric optics, crystallization processes, and physics of cloud and rain were held during the meeting. A comprehensive discussion under participation of scientists from Moscow, Leningrad, and Tbilisi permitted a critical consideration of the results obtained, the proposal of recommendations for further studies as well as their coordination.

S/169/62/000/008/052/090
E202/E192

AUTHORS: Bibilashvili, N.Sh., Zaytseva, A.M., Kuz'min, Ye.A., ~~Lapcheva, V.F.~~, Ordzhonikidze, A.M., and Sulakvelidze, G.K.

TITLE: Theory of the formation of large drop fractions in the heavy radial cumulo-nimbus clouds, and factors affecting these processes

PERIODICAL: Referativnyy zhurnal, Geofizika, no.8, 1962, 80, abstract 8 B 550. (In the collection: "Issled. oblakov, osadkov i grozovogo elektrichestva" ('Studies of clouds, precipitations and thunderstorm electricity') M., AN SSSR, 1961, 3-6).

TEXT: Using observational data from the strato-cumulus, cumulus and heavy cumulus clouds in the years 1956-1958 in Trans-Caucasus and Caucasus, the growth of clouds' droplets was calculated according to the method of Bouen and Kiryukhin, in terms of the gravitational coagulation, assuming linear increase of the anabatic velocity w, with respect to the height z.

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As a result of these calculations it was established that with the greater velocities of the vertical streams the drop does almost cease to grow during the anabatic branch of the trajectory. The droplets are retained in the upper part of the cloud, where the velocities are small and the principal growth of the droplets or hailstones occurs prior to reaching the upper portion of the cloud. With the aqueous exchange of 10^{-6} g/cm^3, and the coefficient of catchment of 0.85, the position of the apex of the trajectory depends principally on the height z_1, at which $w = w_{max}$ and the degree of decrease of w with height at which $z > z_1$. With the velocity of the anabatic stream w_{max} greater than the velocity attained by the falling droplet with a radius of 2.5 mm of the v_{cr}, a chain reaction is started which leads to the accumulation of a large quantity of moisture in the upper part of the cloud and to the appearance of intensive showers. A cloud with $w_{max} < v_{cr}$ gives only a very short-duration and weak shower.

In the case when the temperature of the cloud's top is lower than the temperature of natural crystallisation, hail is formed in the cloud and the size of the falling hail particles is determined by the relation:

$$R \geq 1/8 w_{max}^2 \rho(z) \rho(0),$$

where $\rho(z)$ and $\rho(0)$ are air densities at levels z and y of the Earth's surface. The growth of hail to the size $R \sim 2.4$ cm at $w_{max} \approx 10 - 20$ m/sec occurs substantially above the level w_{max} at the beginning of the katabatic branch of hail trajectory. The time necessary for the growth of hailstones to the above dimensions depends chiefly on the value of w_{max} and varies within the interval of 20 - 70 min. The terminal dimensions of hailstones depend very little on the vertical thickness of the cloud, and are determined chiefly by the moisture content of the air masses entering the cloud, the height of the zero isotherm, the value and the stability of w_{max}, and also by the velocity gradient of the vertical streams along their height.

Taking into consideration in the calculations the last mentioned, leads to a conclusion that the accumulation of large amounts of droplet water and hail takes place in the zone before the top of the cloud, which explains the high intensity and short duration of the showery precipitates and hail. The pressure of the large droplet fraction in the upper part of the cloud lowers the value of the anabatic velocity of the stream down to v_{cr}, and the corresponding quantity of water holding may be calculated from the formula:

$$q = \frac{m}{2gz} (w_{max}^2 - v_{cr}^2),$$

where m - the mass of air in a unit volume. The action on the upper part of the growing heavy cumulus with $w_{max} > v_{cr}$, with surface active or hygroscopic agents does not give a positive effect. Prevention or even weakening the effect of a hail is possible only by full crystallisation of the supercooled fraction of the liquid droplets entering the upper part of the cloud. 4-10 kg of reagent are required to destroy the hail centre.

Card 4/4 [Abstractor's note: Complete translation.]

37328

S/169/62/000/004/028/103
D228/D302

3,5110

AUTHORS: Bartishvili, G. S., Biblashvili, N. Sh., Zaytseva, A. M., Lapcheva, V. F., Ordzhonikidze, A. A. and Sulakvelidze, G. K.

TITLE: The growth of drops and hailstones in thick cumulus could with allowance for the change in the velocity of vertical currents with height and the physical bases of the effect on hail processes

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 4, 1962, 19, abstract 4B134 (V sb. Fiz. oblakov i osadkov, v. 2 (5), M., AN SSSR, 1961, 146-148)

TEXT: In the article a method is given for calculating the growth of cloud drops and hail particles at the expense of coagulation processes, and the influence of the character of the change in the velocity of ascending currents on the growth of cloud particles is investigated. The question of calculating the water content of thick cumulus cloud and the amount of precipitation is considered;

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D228/D302

The growth of drops ...

the physical bases of the effects on hail processes are also illu-
minated. The results, accumulated during the study of mass convec-
tive clouds on the El'brus and the Alazani expeditions of 1954-1959
are used as the original experimental material. In conclusion the
following deductions are formulated: The accumulation of large wa-
ter reserves in a cloud in liquid or solid phases occurs as a re-
sult of the decreasing velocity of ascending currents with alti-
tude. This creates favorable conditions for the coagulation growth
of the largest drops or of soft hail at the expense of the fine-
drop liquid fraction, entering from below. A "locking-layer" in
which a chain reaction in the watery cloud, or a considerable
growth of hail particles, occurs, is formed in the zone of the maxi-
mum vertical-current velocity. On the whole the hailstone dimensions
depend on the presence in the cloud's middle part of stable and
prolonged (not less than 30 - 90 min) vertical currents with speeds
of 10 - 25 m/sec, as well as on the height of the zero isotherm,
and not on the thickness and the water content on the cloud's lower
part. If the zero isotherm is situated at the level of maximum ver-
tical velocities, or below this level, the hailstone sizes are

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largely governed by the vertical flow magnitude. If the zero isotherm is located well above the maximum velocity level, the hailstone dimensions are determined by the velocity magnitude at the zero isotherm level. The radius of a falling hailstone satisfies the following disparity, which is one of the criteria for the likelihood of hail fall:

$$R < \frac{2\omega_o^2 \rho_z}{\rho_o}$$

where ω_o is the ascending current velocity, ρ_o is the air density at a standard pressure, and ρ_z is the air density at a set height. The ascending current velocity also determines the water content of a cloud's upper part, which may reach 20 g/m^3 at the beginning of precipitation. The amount of precipitation from intra-mass cumulus clouds depends, too, on the ascending current velocity. Hail processes cannot be averted by the episodic effect of hygroscopic

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or other substances, which accelerate the gravitational coagulation of drops, upon the upper part of a thick cumulus water-drop cloud. However, the continuous action on the cloud's lower part may be an effective means of combating hail in consequence of the "washing out" of the lower part and the coarsening of the nuclei at its summit. The episodic effect of crystallizing substances on the supercooled part of thick cumulus cloud can lead to the artificial development of hail. In the authors' opinion the most effective way of preventing hail is the full crystallization of the cloud's supercooled part. Questions of the study of the microstructural cloud parameters that are necessary for the advanced detection of hail foci are most pressing at the present time. Questions of the method of introducing active matter into a cloud and of the search for new reagents are also important. [Abstracter's note: Complete translation.]

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GLUSHKOVA, N.I.; LAPCHEVA, V.F.

Forecasting showers and hail forming in air-mass cumulus congestus cluds. Trudy Vysokogor. geofiz. inst. AN SSSR 2:195-198 '61.
(MIRA 14:12)
(Precipitation (Meteorology))

YEFIMOV, V.Ye.; LAPCHEVA, V.F.; SULAKVELIDZE, G.K.

Radar method for determining the seats of origin of hails.
Meteor. i gidrol. no.10:10-14 O '63. (MIRA 16:11)

1. Vysokogornyy geofizicheskiy institut.

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SOURCE: Ref. zh. Geofizika, Abs. 9B163

AUTHOR: Lapcheva, V. F.; Sulakvelidze, G. K.

TITLE: Radar method for determining the size and concentration of hail particles in a cloud and the form of precipitation which will reach the earth when melting of the hail is taken into account

CITED SOURCE: Tr. Zakavkazsk. n.-i. gidrometeorol. in-ta. vyp. 16(22), 1964, 99-106

TOPIC TAGS: radio echo, meteorologic radar, atmospheric precipitation, hail

TRANSLATION: In experiments conducted in the mountainous regions of the Kabardino-Balkarskaya ASSR, the appearance of hail in a cloud was determined from the power of the reflected signal and the temperature at the level of the upper boundary of the radio echo. On days with hail, the altitude of the zero isotherm was 0.6-1.1 km above the surface of the earth. Therefore, melting of the hail was insignificant during the precipitation. The experimental data were used as a basis for selecting boundary values for the radar reflectivity $\eta=P_r R^2 C_K$ for various forms of precipitation. Weak and moderate precipitation are observed when $\eta<1\cdot10^{-7}$ cm^{-1}, reflection

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