"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

SOV/99-59-5-1/9

Experience in Designing Prefab Reinforced Concrete Troughs With a Semicircular Section for Irrigation Canals

0.6 to 0.8 m in diameter must have a 6 mm wire for reinforcement instead of the proposed 8 mm wire. There are 4 sets of diagrams, 2 diagrams, 3 tables, and 2 references.

ASSOCIATION: Gruzgiprovodkhoz

Card 4/4

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

SULADZE, I.D., inzh.

Use of precast prestressed reinforced concrete flumes in irrigation engineering. Gidr.i mel. 12 no.7:13-22 Jl '60. (MIRA 13:7)

1. Gruzgiprovodkhoz. (Irrigation canals and flumes)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

LORDKIPANIDZE, R.S.; LOSABERIDZE, G.D.; SULADZE, I.D.

Experimental study of recast prestressed concrete flumes. Soob AN Gruz. SSR 25 no. 3:305-310 S '60. (MIRA 14:1)

1. Akademiya nauk Gruzinskoy SSR, Institut stroitel'nogo dela, Tbilisi. Predstavleno akademikom K.S. Zavriyevym.
(Irrigation canals and flumes)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

SULADZE, I.D., inzh.

Manufacture of prestressed reinforced concrete flumes of a parabolic cross section. Gidr. i mel. 13 no.9:6-13 S '61. (MIRA 14:9)

1. Gruzgiprovodkhoz.

(Irrigation canals and flumes)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

AGABABOV, E.A., kand. tekhn. nauk (Tbilisi); SULADZE, I.D., inzh. (Tbilisi)

Selection of flume sections for canals of varying gradients.
Gidr. i mel. 16 no.7:58-59 Jl '64. (MIRA 17:11)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

SULADZE, I.D., kand. tekhn. nauk (Tbilisi)

1. Manufacture of reinforced concrete pipes in Georgia. Gidr. i mel. 17 no.3:25-31 Mr '65. (MIRA 18:4)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

[illegible], [illegible], kand. tekhn. nauk ([illegible])

Improved joints for flumes. Gidr. i mel. [illegible] no.2:[illegible]-40 F '65.
(MIRA 18:5)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

24(3)

AUTHORS: Kvartskhava, I. F., Bondarenko, V. V., Meladze, R. D., Suladze, K. V. SOV/56-35-4-12/52

TITLE: Electric Explosion of Spiral Wires in Vacuum (Elektricheskiy vzryv spiral'nykh provolok v vakuume)

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1958, Vol 35, Nr 4, pp 911-916 (USSR)

ABSTRACT: In two earlier papers the authors already investigated electric wire explosions in a vacuum (Refs 1, 2). The investigation of the phenomena of luminescence accompanying the explosion was carried out photographically; the experimental scheme used has already been described (Ref 2). For the wire explosion a battery condenser with a capacity of 4.8 μF and a working voltage of 50 kV was used. In the present paper only the results of investigations are given, while as to the investigations themselves references 1 and 2 are mentioned. Results are discussed on the basis of the reproduced photographs. Figure 1 shows 2 photos of explosions of cylindrical copper wire spirals and 2 of sinusoidally curved wires. Figure 2 shows the photo-

Card 1/3

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

graph of an explosion on a copper wire ring, of an explosion on a straight Cu-Al wire, and one of mirror scanning. All data concerning these photographs are given. It was found that, in the case of wire explosions in a vacuum, also glow effects are observed besides the phenomenon of the current tubes. This phenomenon is a consequence of the motion of explosion products through the magnetic field of the current (during the discharge an additional electric field $\vec{E} = \frac{1}{c}\left[\vec{v} \times \vec{H}\right]$ is formed, where $\vec{v}$ denotes the velocity of the explosion products in the $\vec{H}$-field, and c the velocity of light in the vacuum); the former effect is considered to be a consequence of reciprocal interaction among the currents of the explosion products. The velocity of the explosion front is determined by scanning the explosion with a mirror as amounting to 10^6 cm/sec. It is also found that during the very short time of the explosion, thermal insulation of the plasma is possible by means of a strong magnetic field. In conclusion, the authors endeavor to give a

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

[illegible]

[illegible]

AUTHORS: Kvartskhava, I. F., [illegible], A. D., [illegible], K. V.

TITLE: Investigations on Electrodynamic Acceleration of Plasma

PERIODICAL: Zhurnal Tekhnicheskoy Fiziki, 1959, Vol 29, Nr 5, pp 239-256 (USSR)

ABSTRACT: The authors worked with two types of accelerators, the coaxial and the induction accelerator. In the first case, the plasma clot is built in a discharge between two coaxial electrodes and is accelerated by the magnetic field of the discharge current. In the second case, the clot is formed in an electrodeless gaseous discharge and accelerated by means of an inhomogeneous magnetic field quickly varying in time. These devices are shown on Fig. 1.

Card 1/3

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

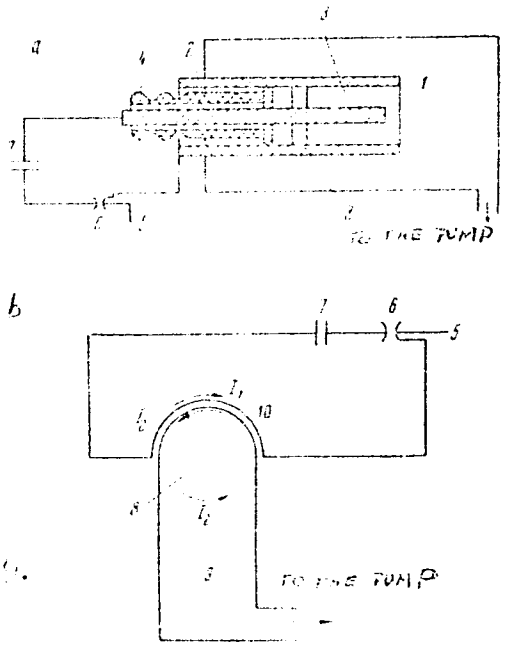


Fig. 1.
See caption on Card 5/6.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

Investigation of Electrodynamic Acceleration of Plasma

[illegible]
SOV/[illegible]-30-[illegible]-6/15

[illegible] of Ampere on the gaseous discharge are directed along the axes of the chamber and accelerate the plasma in the direction of the decreasing magnetic field. The discharge starts by means of an impulse on electrode [illegible] synchronized with the photo-camera SFR-PM and the position of the spread-out mirror. Tests were performed at various pressures of hydrogen and air. The [illegible] impulse and the total kinetic energy of the slots, accelerated during one cycle of the capacitor discharge, were measured, respectively, by means of a ballistic pendulum made from a glass cylinder of a few hundred grams on bifilar suspension, and by means of a slanted copper cylinder with an opening through which entered the accelerated plasma. The volume of the cylinder [illegible] chosen so that the plasma remained inside long [illegible] for the establishment of thermal equilibrium. Temperature difference was measured by means of [illegible] thermocouples. The photo registration of [illegible] was performed in two ways, orienting the slit

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

Investigations on Electrodynamic Acceleration of Plasma

77840
SOV/57-30-3-6/15

perimental conditions. The latter case can be observed also under the Bostick plasma accelerator. The authors present also transverse photographs of the induction accelerator and longitudinal pictures of opposing motion and "collisions" of accelerated clots, emerging from coaxials facing one another. One sees that induction accelerator generates only one kind of clot, and they are most compact at low gas pressures. After leaving the strong magnetic field region, a clot generated during the later parts of the half periods of the current divides into two parts, one of which slows down appreciably, while the other continues without change in velocity. In this type of accelerator, clots are not capable of effectively removing the gas from the discharge region. In the coaxial device, the leading clot did not move faster than 10^7 m/sec, while the small clot attained velocities of $4 \cdot 10^7$ m/sec. Maximum current

Card 6/9

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

Investigations on Electrodynamic Acceleration of Plasma

77840
SOV/57-30-3-6/15

amplitude during those tests was 80 ka, while a later increase to 300 ka led only to the increase in number of the small clots without increasing their velocity. Induction accelerator yielded velocities up to $6 \cdot 10^7$ m/sec. Total mass of the clots at $U_a = 45$ kv was 10^{-4} gm for the coaxial device and of one order of magnitude lower for the induction accelerator. The authors conclude that the coaxial accelerator is more effective in obtaining fast fluxes of matter than the magnetic one. The authors obtain additional information by analysing the transverse pictures and those of the induction accelerator and opposing coaxial accelerators. To compare the experimental results for the clot velocity with theoretical expectations, the authors derive the average average velocity equation

$$\bar{v} = \frac{I_0}{t_0} = \frac{8\pi RU}{H^2 S}$$

Card 7/9

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

Investigations of Electrodynamic Acceleration of Plasma

77840
SOV/57-30-3-6/15

Where L_0 is distance traveled by the clot during the time t_0, I discharge current, U positive accelerating potential, H average value of the accelerating field, and S cross-section surface of the coaxial. For optimal values of the parameters I = 80 ka, U ≈ 100 v, H ≈ 10,000 Oersted, and S ≈ 1.5 cm², $\bar{v}$ comes out $3 \cdot 10^7$ cm/sec, which agrees satisfactorily with the measured values. The authors describe also the mechanism of formation of small-sized clots. Those obtained inside the coaxial are probably due to the fact that the electric strength lasts a finite time of 10^{-7} sec necessary to build up the strong current discharge against the counter emf due to the motion of the clot. Those originating at the outer end of the electrodes are due to the fact that for some reason the main discharge current flows to the end of the electrode producing a flow of vapor which becomes pinched by the magnetic field of its own current. This pinching process is characterized by a definite

Card 6/9

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

L 12915-63 BDS/EWT(1)/EWG(k)/ES(w)-2 AFFTC/ASD/ESD-3/AFWL/SSD
Pz-4/Pab-4/Pi-4/Po-4 AT/IJP(C)

ACCESSION NR: AP3001331 S/0057/63/033/006/0715/0718

84
78

AUTHOR: Suladze, K. V.; Plyutto, A. A.

TITLE: Some peculiarities of confluent plasma jets in an induction discharge

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 33, no. 6, 1963, 715-718

TOPIC TAGS: plasma, plasma jets, plasmoid

ABSTRACT: Plasmoids 3-4 cm in diameter with a lifetime of 5-6 microseconds were formed by the radial confluence of six plasma jets. These plasmoids have a certain magneto-hydrodynamic stability, and the jet instabilities observed in theta-pinches are absent. The authors believe it possible to obtain longer lived plasmoids by similar means, and that radical injection may be useful for obtaining the initial plasma for high temperature studies. The plasma jets were formed in six glass cups fastened to the inner faces of the hexagonal vacuum chamber. The chamber and the cups are surrounded by a copper strip which carries the 50 kc discharge of two 10 microfarad condensers charged to 80 kv. Each cup constitutes an induction plasma accelerator of a type discussed earlier (N.F. Kvartskhav, P.D. Meladze and K.V. Suladze, ZhTF, 30, 289, 1960). The development and confluence of the jets were photographed with a SFR-2M high speed camera operating at two frames per microsecond. Probes were used to measure the magnetic fields and currents,

Card 1/2

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

L 12915-63

ACCESSION NR: AP3001331

6

both on the axis of the chamber and near the walls (between the cups). As the jets approach the axis of the chamber their motion is not quite radial (this is clearly visible in the photographs); thus they impart a rotary motion to the plasmoid formed when they meet. The field and current measurements indicate that a ring current is formed less than 4 cm from the axis. After some initial compression, the plasmoid expands and spreads out along the magnetic lines of force at the rate of about 10 sup 6 cm/sec. "In conclusion, we feel obliged to thank I.F. Kvartskhav, A.M. Romanovskiy, V.T. Tolok and E.M. Barkhudarov for valuable discussions, and B.M. Nekry*lov and V.F. Molchankin for aid in performing the experiments." Orig. art. has: 4 figures.

ASSOCIATION: none

SUBMITTED: 05Jun62 DATE ACQ: 01Jul63 ENCL: 00

SUB CODE: CO NO REF SOV: C03 OTHER: 001

Card 2/2

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

ACCESSION NR: AP5018312

ed ions were either caught in a 6 cm diameter Faraday cup, or the central portion

[illegible] ions or 70% hydrogen ions,

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

[illegible] that

[illegible] figures.

SUBMITTED: 25Jul64 ENCL: 00 SUB CODE: ME, NP

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

SOV/137-59-3-5454

Translation from: Referativnyy zhurnal. Metallurgiya, 1959, Nr 3 p 74 (USSR)

AUTHORS: Khukhunayshvili, I. A., Mkheidze, T. A., Suladze, M. A.

TITLE: Investigation of the Feasibility of Concentration of the Mercury Ore From the "Akheiskiy" Deposit (Issledovaniye obogatimosti rtutnoy rudy Akheyskogo mestorozhdeniya)

PERIODICAL: Tr. Gruz. politekhn. in-t, 1958, Nr 2 (59), pp 179-184

ABSTRACT: As a result of the investigation the authors developed and recommended a qualitative procedure proposing the initial flotation of HgS by means of the OP-10 reagent and four consecutive refining operations for the initial concentrate without adding reagents. The finished concentrate contains 29% Hg, the yield of concentrate is 0.26%, the yield of metal from the concentrate is 96.9%, the concentration factor is 372.

M. M.

Card 1/1

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

L 23312-66 EWT(d)/EWT(m)/EWP(v)/EWP(t)/EWP(k)/EWP(n)/EWP(1) JD/HW

ACC NR: AP6011200 SOURCE CODE: UR/0413/66/000/006/0032/0032

INVENTOR: Semenov, O. A.; Alferova, N. S.; Yankovskiy, V. M.; Kolesnik, B. P.; Ostrin, G. Ya.; Plyatskovskiy, O. A.; Kheyfets, G. N.; Gleyberg, A. Z.; Chemerinskaya, R. I.; Gomelauri, N. G.; Blanter, M. Ye.; Sharadzenidze, S. A.; Suladze, O. N.; Gol'denberg, A. A.; Tsereteli, P. A.; Ubiriya, A. Ye. Seperteladze, O. G.

ORG: none

TITLE: Method of manufacturing strengthened tubes. Class 18, No. 179786 [announced by the Ukrainian Scientific Research Institute of Pipes (Ukrainskiy nauchno-issledovatel'skiy trubnyy institut)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 6, 1966, 32

TOPIC TAGS: tube manufacturing, tube rolling, tube strengthening, tube heat treatment

ABSTRACT: This Author Certificate introduces a method of strengthening hot-rolled tubes. According to this method, the hot-rolled tube is quenched immediately after it leaves the first rolling mill, and then is sized or reduced at a tempering temperature. [ND]

SUB CODE: 13/ SUBM DATE: 12Nov63/ ATD PRESS: 4230

Card 1/1 UDC: 621.78.08.621.771.2

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

STEKL, M., inz.; SULAK, M., ~~inz.~~

Electric resistance brake. Zel dop tech 10 no.10:300-301 '62.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

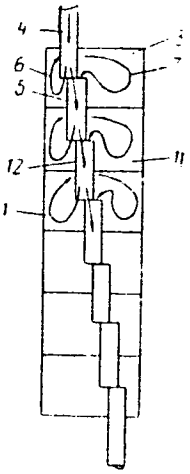
"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

S/262/62/000/006/012/021
I007/I207

Author Šulák, Vladimír

Title MUFFLER

Periodical *Referativnyy zhurnal. otdel'nyy vypusk* 42 *Silovye ustanovki*, no 6, 1962, 72, abstract 42 6 341 (Chekhosl pat., kl 46 c^6, 1/01, no. 94505, 15 03 60)



Text The muffler (see figure) consists of short, tubular sections (4), (5), (12), etc., interconnected so as to be slightly shifted with respect to the center line. These sections are located in separate compartments (chambers) (3), (11), etc which form a common cylindrical housing The basic exhaust-gas stream flows through the gap between the shifted tube-sections Losing here its dynamic pressure, the gas stream joins the common exhaust-gas steam through other similar gaps (7) The muffler has a low (aerodynamic) resistance and high efficiency

[Abstracter's note: Complete translation]

Card 1/1

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

S/262/62/000/006/019/021
D007/D207

Author Šulák Vladimír

Title OPPOSED-PISTON ENGINE WITH SLIDE-VALVE DISTRIBUTION

Periodical *Referativnyy zhurnal, otdel'nyy vypusk 42 Silovye ustanovki*, no. 6, 1962, 98, abstract 42 6 501 (Chekhosl. pat., kl. 46b[1], 19/01, no. 97499, 15.12.60)

Text A patent has been granted for a four-stroke opposed-piston engine in which distribution is effected by means of a rotating slide-valve (1) (see figs. 1 and 2) and the piston (2). The upper and lower crankshafts are connected by the chain (5) or a gear transmission, the upper crankshaft has a rotational speed half that of the lower shaft and is provided with the cam (6) for rocking the fork lever (7) which rotates the slide valve (1). The area of the admission and exhaust ports (8) and (9) is much greater than in the case of ordinary-valve distribution. There are 2 figures.

Card 1/2

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

[illegible], A. [illegible].

"Changes in the Bone Marrow and the Peripheral Blood During Tuberculosis in Children." Cand Med Sci, Tbilisi State Medical Inst, Tbilisi, 1954. (KL, No 10, Mar 55)

SO: Sum. No. 670, 29 Sep 55--Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (15)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

ACC NR: AP6037095

the diameter of the cathode and reducing its length of protrusion increases heat flux, although the surface temperature of the cathode is reduced. The ratio of the heat flux (in watts) carried away by the water to the magnitude of the corresponding current (in amps) decreases as the current is raised and approaches a certain limit determined by electrode diameter and length of protrusion. Orig. art. has: 5 figures.

SUB CODE: 13, 20/ SUBM DATE: 09Mar66

Card 2/2

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

SHIADZE, R.N., inzh.

Selecting the power supply source for the gas-electric cutting of metal. Svar.proizv. no.11:35-37 N '64. (MIRA 18:1)

1. Tbilisskiy filial Vsesoyuznogo nauchno-issledovatel'skogo instituta elektrosvarochnogo oborudovaniya.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

[illegible], T. [illegible].

Mbr., Inst. Botany, Acad. Sci., Georgian SSR, -ol 48-. "Amounts of Ice in Frozen Winter Plants," Dok. AN, 23, No. 4, 1939; "The Capacity for Water Saturation in Plant Chlorosis," ibid, 60, No. 4, 1948.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

SULAKADZE, Tamara.

Grafting of olive trees. Soob.AN Gruz.SSR 8 no.6:407-412 '47
(MIRA 9:7)
1.Akademiya nauk Gruzinskoy SSR, Botanicheskiy institut, Tbilisi.
Predstavleno deystvitel'nym chlenom Akademii N.N.Ketskhoveli.
(Olive)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

[illegible]

S[illegible], T.S. "Peculiarities of Water Admission into Tissues of Plants Affected with Chlorosis and Effect of Growth Substances on this Process," Doklady Akademii Nauk SSSR, vol. 76, Feb. [illegible]1, 1951. pp. 941-944. 511 F444A

SO: SIRA SI-90-53 15Dec. 1953

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

SULAKADZE, T.S.

Cytophysiological study of chlorosis in some plants. Trudy Tbil. bot.inst. no.16:141-166 '54. (MLRA 8:11)
(Chlorosis (Plants))

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

SULAKADZE,T.S.

Early flowering of grapefruit seedlings under the effect of stimulants.
Trudy Tbil.bot.inst. no.16:167-174 '55. (MIRA 8:11)
(Grapefruit) (Plants, Flowering of)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

KHIDASHELI, A.N.; SULAKADZE, T.S.

Heating citrus plants with activated peat briquets in Tiflis.
Soob. AN Gruz. SSR 19 no.3:329-336 S '57. (MIRA 11:5)

1. Akademiya nauk Gruzinskoy SSR, Institut botaniki, Tbilisi.
Predstavleno akademikom L.I. Dzhaparidze.
(Tiflis—Citrus plants) (Frost protection) (Peat)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

Variation of Pigment Content and Composition of the Pigments in the Foliage of Lemon- and Orange Plants, as Connected with Trench Cultivation

20-3-45/52

the content of chlorophyll was much less in the first, which proves that the chlorophyll is quicker destroyed during a winter spent under normal conditions. The correlations of the yellow pigments (Xantophyll - an oxyde derivative of the caroxtin) tempted the authors to assume a reverse relation (Tab. 2). If the content of carotin increased the xantophyll decreased and vice versa. The darkening effected an increase of the carotin. This seems to be connected with the decrease of the oxydative-reductive processes in the cells with the plants growing in a trench. The decrease of the yellow pigments apparently is a specific property of the citrusplant. The observations showed that seedlings of the lemons, oranges and grapefruit developed an intensive life-activity during the wintering in a trench (at 0 - 5°). The active-functional state of the protoplasm is a biological characteristic of the citrusplants; to suppress it, is very difficult. Concluding be it said that the wintering of the lemon- and orange-plants in a deep trench for a period of 105 to 125 days mostly in complete darkness did not cause

Card 2/3

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

SULAKADZE, T.S.

Physiological and biochemical changes in citrus plants under conditions of trench culture. Trudy Tbil.bot.inst. 19:335-361 '58. (MIRA 12:8)

(Citrus fruits)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

[illegible], T. [illegible].

"Growth substances and the resistance against frost of citrus plants".

report presented at a Joint Session of the Biological Dept. of AN USSR and Biological and Medical Depts. AN Gruziya SSR, Tbilisi, 2[illegible] Sept - 3 Oct 1957. Vestnik Akad. Nauk USSR, 1957, Vol [illegible], No. 1, pp. 121-125. (author Gzidzishvili, N. N.)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

SULAKADZE, T.S.

Contribution to the study of grapevine chlorosis. Trudy Tbil. bot.inst. 20:83-107 '59. (MIRA 13:8)
(Georgia--Grapes--Diseases and pests)
(Chlorosis(Plants))

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

SULAKADZE, T.S.; KEZELI, T.A.; TARASASHVILI, K.M.

Dynamics of vitamin concentration in leaves of citrus plants as related to their frost resistance. Trudy Tbil.bot.inst. 20:161-179 '59. (MIRA 13:8)
(Citrus fruit) (Vitamins) (Plants—Frost resistance)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

SULAKADZE, T.S.

Growth substances and frost resistance in plants. Izv. AN SSSR. Ser. biol. no.4:551-560 Jl-Ag '61. (MIRA 14:9)

1. Institut botaniki AN Gruzinskoy SSR.
(PLANTS--FROST RESISTANCE) (GROWTH PROMOTING SUBSTANCES)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

SULAKADZE, T.S.

Phytoncidal properties of citrus plants. Trudy Tbil. bot. inst. 22:227-245 '62. (MIRA 17:2)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

SULAKADZE, T. S.

"Hardening of citrus plants against frost."

report submitted for 10th Intl Botanical Cong, Edinburgh, 3-12 Aug 64.

AS GSSR, Tbilisi.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

SULAKOVA, L.A.

Applying fertilizers to grain crops on the eroded soils of Nagornyy Karabakh. Trudy Inst.pochv.i agrokhim.AN Azerb.SSR 7:71-81 '55. (Nagorno-Karabakh Autonomous Province--Grain) (MLRA 9:12)
(Fertilizers and manures)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

SULAKOVA, L.A.

USSR / Cultivated Plants. Potatoes. Vegetables. Melons. H

Abs Jour : Ref Zhur - Biol., No 8, 1958, No 34706

Author : Sulakova, L. A.
Inst : AS AzerbSSR
Title : Effects of Tracer-Elements (Boron and Manganese) on Tomato Crops Under Conditions Prevailing in Apsheron.

Orig Pub : Tr. in-ta pochvoved. i agrokhimii AN AzerbSSR, 1955, 7, 139-144.

Abstract : Studies have been made (experiments conducted in 1938 and 1939) on the influence of B in amounts of 6 to 24 kg/h and Mn 5 to 18 kg/h together with NPK (100 kg/h each). B was used in the form of boracite flour, and Mn in the form of manganic residue. On the strongly limed soils of Apsheron (content of $CaCO_3$ up to 50

Card 1/2

69

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

SULAKOVA, L.A.

Loss of soluble nutrients from the soil as a result of erosion. Trudy Inst.pochv.i agrokhim.AN Azerb.SSR 7:175-181 '55. (Nagorno-Karabakh Autonomous Province--Nitrates) (MLRA 9:12) (Erosion)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

Sulakova

USSR/Forestry - Forest Culture. J-4

Abs Jour : Referat Zhur - Biologiya, No 16, 25 Aug 1957, 69135

Author : Sulakova, L.
Inst :
Title : Cultivation of Woody Species on Greatly Eroded Slopes of Nukhin District.

Orig Pub : Sots. s. kh. Azerbaidzhana, 1956, No 11, 38-40

Abstract : Experiments were conducted on a plot situated on highly skeletal, washed-down brown forest soil in fertilizers deposited in trenches around the trees manifested a different influence on their growth depending on the species and degree of their response to fertilizers. The greatest added growth was registered by ash and pine seedlings. The fertilizers manifested a positive influence on acclimatization of settings which in unfertilized trenches consisted of 21 to 57%, but in fertilized ones-- 6 to 12%. Less stable to unfavorable temperature and moisture conditions were settings of apricot.

Card 1/1 - 60 -

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

SULAKOVA, L.A.

Improving the fertility of eroded soils in the Nagorno-Karabakh Autonomous Province. Trudy Sekt. eroz. AN Azerb. SSR 2:68-99 '63. (MIRA 17:10)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

IZYUMOV, [illegible]

Measures for erosion control and soil fertility improvement in the Nagorno-Karabakh Autonomous Province. Trudy Sekt. eroz. AN Azerb. SSR 2:100-115 '63.

(MIRA 17:10)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

[illegible], [illegible]

[illegible], [illegible] -- "Discovery of Basic Factors Determining the [illegible] of Drilling of Shallow Wells in Soft and Flocculent Deposits, with the Aim of Increasing Production and the Technical Specifications Basis in the Designing of New Tools." Sub 1[illegible] Jun 5[illegible], Moscow Geological Prospecting Inst (Dissertation for the Degree of Candidate in Technical Sciences)

SO: Vechernaya Moskva, January-December 1952

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

SULAKSHIN, S.S.; VOZDVIZHENSKIY, B.I., redaktor; RABINOVICH, V.I., redaktor; MAIBK, Z.N., tekhnicheskiy redaktor.

[Handbook for measuring declination of drilled wells; for drilling crews] Rukovodstvo po izmereniiu iskrivleniia skvazhin; dlia tekhnicheskogo burovogo personala. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po geologii i okhrane nedr, 1954. 107 p. [Microfilm] (MLRA 8:5)
(Oil well drilling)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

132-58-7-5/13

AUTHOR: Sulakshin, S.S. and Sorokin, A.A.

TITLE: Several Laws of Curvature of Sampling-Drilling Bore Holes in the Kuzbass (O nekotorykh zakonomernostyakh iskrivleniya skvazhin v usloviyakh Kuzbassa)

PERIODICAL: Razvedka i okhrana nedr, 1958, Nr 7, pp 23-30 (USSR)

ABSTRACT: In 1956-57, the Kafedra tekhniki razvedki (the Chair of Prospecting Engineering) of the Tomsk Polytechnical Institute, compiled data on the bending of deep bore holes, especially when these were drilled at an angle of 90° to the surface. A total of 4,500 measurments of a large number of bore holes from 400 to 800 m deep were made. At the ultimate depth the zenith angle changed within the limits of 0° to 27° in vertical bore holes, while in horizontal drillings, the azimuthal angle changed from 40-56° to 250-280° with deviation of the bore holes in clockwise and counter-clockwise directions. The results of all measurements are shown in table Nr 1. The limits of angle deviation are marked "plus" when the deviation of the bore hole is clockwise and "minus" when there is a counter-clockwise deviation. These bore holes were drilled in different parts of the Kuzbass, but the study of deviations showed a certain regularity.

Card 1/3

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

132-58-7-5/13

Several Laws of Curvature of Sampling-Drilling Bore Holes in the Kuzbass

From table 2 it can be seen that all bore holes have the azimuthal bending; in most cases the deviation is clockwise, and only in a few cases is it counter-clockwise. The limits of azimuthal bending are shown in diagram 1. The bore holes were measured at 50 m intervals, and it can be seen that most of the intervals deviate within limits of 0 to 20°. It was also found that the azimuthal direction changes occur especially at the beginning of drilling operations and this deviation is more intense in vertical than in horizontal bore holes. It was also found that azimuthal bending decreased with increasing depth. The analysis of all avialable data showed that the observed regularity of bending was due to two causes: 1) the position of the axis of bore holes in relation to the plane of rock stratification; 2) the absolute value of the zenith angle at the piercing of rock layers. In the first case, the bore hole tends to take a direction perpendicular to the plane of stratification. In the second case, the intensity of azimuthal angle decreases with the increase of the zenith angle. The test showed that with the increase of the value of the zenith angle the azimuthal deviation decreases from 10° to 2.5° on each 50 m of uninterrupted drilling. This led to the following conclusions: 1) Under the condition

Card 2/3

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

SULAKSHIN, Stepan Stepanovich; VOZDVIZHENSKIY, B.I., red.; SERGEYEVA, N.A., red.izd-va; GUROVA, O.A., tekhn.red.

[Crookedness of boreholes and methods for measuring it] Iskrivlenie skvazhin i sposoby ego izmereniia. Izd.2., dop. i perer. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po geol. i okhrane nedr, 1960. 186 p. (MIRA 13:12)

(Oil well drilling)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

SULAKSHIN, S.S.; GREBENYUK, A.A.

Analysis of the factors affecting the core extracted by double coring tools in coal mining. Izv. vys. ucheb. zav.; geol. i razv. 4 no.3:115-125 Mr. '61. (MIRA 14:6)

1. Tomskiy politekhnicheskiy institut.
(Coal—Analysis) (Core drilling)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

SULAKSHIN, S.S.

Directional drilling of exploratory holes. Izv.vys.ucheb. zav.; geol. i razv. 5 no.5:132-137 My '62. (MIRA 15:6)

1. Tomskiy politekhnicheskiy institut.
(Boring)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

SULAKSHIN, S.S.

Classification of methods for rock breaking during drilling of holes. Izv. vys. ucheb. zav.; geol. i razv. 7 no.2:118-126 F'64. (MIRA 17:2)

1. Tomskiy politekhnicheskiy institut.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

KHALFIN, L.O., prof., otv. red.; IVANIYA, V.A., dots., kand. geol.-miner. nauk, red. toma; BAZHENOV, I.K., prof., red.; BULYNNIKOV, A.Ya., prof., red.; GORBUNOV, M.G., dots., kand. geol.-miner. nauk, red.; KUZ'MIN, A.M., prof., red.; MIKOV, D.S., prof., red.; ROGOV, G.M., dots., kand. geol.-miner. nauk, red.; SULAKSHIN, S.S., dots., kand. tekhn. nauk, red.; KHAKHLOV, V.A., prof., red.

[Materials on the geology and minerals of Western Siberia; reports] Materialy po geologii i poleznym iskopaemym Zapadnoi Sibiri; doklady. Tomsk, Izd-vo Tomskogo univ., 1964. 424 p. (MIRA 18:3)

1. Konferentsiya, posvyashchennaya 100-letiyu so dnya rozhdeniya akademika M.A.Usova, Tomsk, 1963.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

SULAKSHIN, Stepan Stepanovich; STEPANOV, P.I., kand. tekhn. nauk, red.

[Principles of the theory of rock breaking and removal of borings during the drilling of boreholes] Osnovy teorii razrusheniia gornykh porod i udaleniia produktov razrusheniia pri burenii skvazhin; uchebnoe posobie. Tomsk, Izd-vo Tomskogo univ., 1963. 261 p. (MIRA 18:7)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

SULAKSHIN, S.S.

Basic problems in directional drilling of exploratory holes. Izv.vys.ucheb.zav.; geol. i razv. 6 no.11:118-136 N '63. (MIRA 18:2)

1. Tomskiy politekhnicheskiy institut.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

SULAKSHIN, S.S.

Natural crookedness of holes as a factor of control for the construction of structural cross sections and maps. Izv. vys. ucheb. zav.; geol. i razv. 7 no.4:131-136 Ap '64. (MIRA 18:3)

1. Tomskiy politekhnicheskiy institut.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

SULAKSHIN, S.S., kand.tekhn.nauk

Introducing a core drill for the recovery of coal samples. Biul.tekh.-ekon.inform.Gos.nauch.-issl.inst.nauch.i tekh.inform. 18 no.4:6-7 Ap '65. (MIRA 18:6)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

VOLKOV [illegible] SULAKSHIN, Stepan Stepanovich, [illegible] Mitrofan Mitrofanovich; VOYTVIZHENSKIY, B.I., prof., red.

[Boring operations] Burovye dela. Moskva, Nedra, 1965. 49[illegible] p. (MIRA 18:8)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

[illegible], G. A.

"[illegible] of Clay [illegible] During [illegible]," [illegible], No. 2, [illegible], 1[illegible]

[illegible]

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

SULAKSHINA, G.A.

Use of petrological methods in the study of clayey-carbonate rocks in the engineering geological research exemplified in the Gor'kiy-Chebok-sary region of the Volga Valley. Biul.MOIP.Otd.geol. 30 no.2:83-100 Mr-Ap '55. (MIRA 8:8)
(Volga Valley--Petrology)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

SULAKSHINA, G. A.

Moisture conditions and their effect on the physicotechnical properties of loess-type rocks in the Tomsk area. Izv. vys. ucheb. zav.; geol. i razv. 5 no.10:101-105 O '62. (MIRA 16:1)

1. Tomskiy politekhnicheskiy institut.

(Tomsk region—Soil moisture)
(Loess—Testing)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

SULAKSHINA, G.A.; MIKHAL'CHENKO, B.F.

Structural characteristics and settling of loess in the western slope of the Tom'-Yaya watershed. Izv. vys. ucheb. zav.; geol. i razv. 7 no.2:93-98 F'64. (MIRA 17:2)

1. Tomskiy politekhnicheskiy institut.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

[illegible], [illegible]

[illegible] the loessial rocks of western Siberia [illegible] purposes of engineering geology. Razved. i okh. nedr 30 no. [illegible] (MIRA [illegible])

1. Tomskiy politekhnicheskiy institut.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

SULAKVELIDZE, B.; TETERIS, H.[translator]; BAHS, G., red.; ZAGARS, A., tekhn. red.

[Hoisting, coveying, and excavating machinery] Celsanas, transporta un zemes darbu masinas. Riga, Latvijas Valsts izdevnieciba, 1961. 241 p. Translated by H.Teteris. (MIRA 15:7)
(Hoisting machinery) (Conveying machinery)
(Excavating machinery)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

SULAKVELIDZE, B., inzh.

Crane for loading and unloading. Avt.transp. 40 no.9:54-55 S '62. (MIRA 15:9)

(Cranes, derricks, etc.)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

SULAKVELIDZE G.K.

797. Папалашвили Вахтанг Георгиевич. Исследование применяемости имеющихся годографов для определения сейсмических элементов близких землетрясений в Закавказье. 1953. 86 с., 32 рис. (Инст. Геофизики АН Груз. ССР).

Защ. 1954, 11.11.

798. Папинашвили Константин Иосифович. Характеристика весны в Грузии с точки зрения динамики атмосферных процессов.

Защ. 1948, 20.3.

799. Прангишвили Георгий Мелкиседекович. Применение метода первых вступлений упругих волн в разведке геологической структуры ступенчатой формы.

I 1940. 28 с. [4] Вкл. л.

II 1941. 20 с. [2] Вкл. л.

Некоторые особенности обратного годографа волн первого вступления при геологической структуре ступенчатой формы. III, 1942. 42 с., [5] Вкл. л., черт.

Обоснование применимости метода первого вступления сейсмических волн в условиях Супса—Омпарети. IV, 1942. 36 с., 9 Вкл. л., черт.

Интерпретация годографов волн первого вступления супсинской 2-й сейсмической экспедиции 1939 г. V, 1943. 37 с., [4] вкл. л., черт. (Инст. Физики и геофизики АН Груз. ССР).

Защ. 1943, 18.6.

800. Саквареидзе Иосиф Иванович. Исследование энергетического спектра проникающих частиц широких атмосферных ливней космических лучей на высоте 400 м. над уровнем моря. 1955. 72 с., 19 фиг. (Инст. физики АН Груз. ССР).

Защ. 1956, 8.5.

801. Собанская Армадна Викторовна. Синоптико-аэрологический анализ резких холодных вторжений на черноморское побережье Кавказа (район Сухуми) в зимы 1948 – 1951 гг. 1954. 257 с. (Инст. геофизики АН Груз. ССР).

Защ. 1955, 23.11.

802. Сулаквелидзе Георгий Константинович. Влияние физических факторов на образование и структуру снежного покрова Западной части Главного Кавказского хребта. 1947.

Защ. 1947, 9.12.

803. Хведелидзе Натела Семеновна. Исследование скоростей вариаций магнитного поля земли. 1954. 70с.

Защ. 1956, 23.6.

804. Цхакая Александр Давидович. Годограф S—P. По наблюдениям Тбилисской сейсмической станции. 1940. 61 с., с илл.

Защ. 1941, 2.1.

805. Чантуришвили Леван Сиоевич. Исследование искажения однородного электрического поля в земле в зависимости от неровности границы раздела земля—воздух (частные случаи). 1947. 111, 47 с., 18 рис.

Защ. 1948, 26.6.

806. Чхаидзе Шалва Манасевич. Солнечная радиация и мутность атмосферы над горным курортом Абастумани. 1949. 165 с., с рис.

Защ 1949, 24.6.

807. Чхенкели Шалва Михайлович. К вопросу радиоактивности пород дзирульского кристаллического массива. 1950. (Инст. физики и геофизики АН Груз. ССР).

Защ. 1950, 10.12.

700

Dissertation for degree of

Candidate Physico-Mathematical Sciences

Def. at

Tbilisi State U.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

SULAKVELIDZE, G.K.

Formation and movement of snow slides. Trudy Inst.geofiz.AN Gruz.SSR 11:101-110 '49. (MLRA 9:8)
(Avalanches)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

SULAKVELIDZE, G.K.

Chemical Abst.
Vol. 48 No. 3
Feb. 10, 1954
General and Physical Chemistry

Determination of the quantity of liquid aqueous phase in snow deposits. A. M. Okudzhava and G. K. Sulakvelidze. *Soobshcheniya Akad. Nauk Gruzinskoi S.S.R.* 13, 27-32 (1952). Two methods considered for detn. of the moisture content of snows are (1) a calorimetric method and (2) a mech. method. The principle of the calorimetric method consists of a detn. of the quantity of latent heat of fusion necessary for transition, to the liquid state, of snow with a given moisture content. The time required for detg. moisture content is more than an hr. The av. error of the method is about ± 1%. The mech. method for detg. the moisture content of snow is less accurate (± 2-3%) than the calorimetric. However, it has the advantage of being more rapid. Math. equations needed for making calcns. for both methods are provided. Schematic diagrams show cross-sectional views of both pieces of app. It is concluded that study of the relation between the moisture content and the phys. properties of snow will probably lead to discovery of a quant. relation between these factors.

Gladys. S Macy

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

SULAKVELIDZE, G.K.

Method for the study of the distribution of meteorological elements in mountainous regions. Soob.AN Gruz.SSR 14 no.4:217-219 '53. (MLRA 7:3)

1. Akademiya Nauk Gruzinskoy SSR, Institut geofiziki, Tb'lisi.
(Caucasus--Meteorology) (Meteorology--Caucasus)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

SULAKVELIDZE, G. K.

Temperature Measuring of Various Media by Resistance Thermometer

Operation of a balanced and semibalanced bridge, carried out in the Institute of Geophysics of the Academy of Sciences Georgian SSR, is described. Correction of errors is computed. Formulas, facilitating the choice of a galvanometer and of other parts of the system, are derived. Experiments confirmed the derived formulas. (RZhFiz, No. 8, 1955) Soobshch. AN Gruz SSR, 14, No. 3, 1953, 143-151.

SO: Sum. No. 744, 8 Dec 55 - Supplementary Survey of Soviet Scientific Abstracts (17)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

SULAKVELIDZE, G.K.

Albedo of snow cover. Trudy Inst.geofiz.AN Gruz.SSR 12:163-178 '53. (Snow) (Reflection (Optics)) (MLRA 9:9)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

BALABUYEV, A.G.; SULAKVELIDZE, G.K.

Avalanche graphs. Trudy Inst.geofiz.AN Gruz.SSR 12:157-161 '53.
(Avalanches) (MLRA 9:9)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

SULAKVELIDZE, G. K.

"Some Questions of Heat Conductivity of Wet Snow".
Soobshch. AN Gruz SSR, 15, No 8, pp 517-522, 1954

For explanation of the mechanism of heat conductivity of wet snow, some assumptions are made, subsequently confirmed by experience. Phase transitions, migration of water vapor, presence of temperature gradients are considered in the derived correlations which are at variance with the previous ones. Results proved that the maximum temperature change is lower in wet snow that in dry, and the coefficient of heat transfer is higher in wet snow than in dry. (RZhFiz, No 9, 1955)

SO: Sum No 812, 6 Feb 1956

Acad. Sci. Geo SSR. Inst. Geophysics, Tbilisi

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

Name: SULAKVELIDZE, Georgiy Konstantinovich

Dissertation: Snow cover of the Greater Caucasus and its physical properties

Degree: Doc Phys-Math Sci

Affiliation: Inst of Applied Geophysics, Acad Sci USSR

Defense Date, Place: 31 Oct 55, Council of Leningrad Order of Lenin State U imeni Zhdanov

Certification Date: 10 Nov 57

Source: BMVO 24/57

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

SULAKVELIDZE, G.K.

Popov, I.V

3(4,5) PHASE I BOOK EXPLOITATION SOV/1653

Akademiya nauk SSSR. Komitet po geodezii i geofizike.

Tezisy dokladov na XI General'noy assamblyee Mezhdunarodnogo geodezicheskogo i geofizicheskogo soyuza. Mezhdunarodnaya assotsiatsiya nauchnoy gidrologii (Abstracts of Reports Submitted to the 11th General Assembly of the International Union of Geodesy and Geophysics. The International Association of Scientific Hydrology) Moscow, 1957. 101 p. /Parallel texts in Russian and English or French/ 1,500 copies printed.

No additional contributors mentioned

PURPOSE: This booklet is intended for hydrologists and civil engineers.

COVERAGE: This collection of abstracts covers reports presented at the 11th General Assembly of the International Union of Geodesy and Geophysics on hydrological, erosional, and glaciological processes. Studies related to problems of underground waters, snow, and rivers are also discussed. The abstracts are in Russian, with English or French translations. Those appearing in English are designated by a single asterisk; those in French by two. There are no references given.

Card 1/4

Silin-Bekchurin, A.I. Types of Hydrochemical Maps in Hydrogeology* 68

Churinov, M.V. Hydrological Maps and Their Importance in Evaluating the Water-Bearing Capacity and Reserves of Underground Water * 71

Avsyuk, G.A. Glaciological Studies in the USSR * 74

Sulakvelidze, G.K. Physical Properties of a Snow Cover * 81

Khvetsov, P.F. Subject and Basic Problems in Geoglaciology in the USSR * 85

Shumskiy, P.A. Basic Problems in Modern Glaciology in the Light of Present-day Studies by Soviet Scientists * 88

Armand, D.L. Problems in the Study of Erosion Processes on the Territory of the USSR * 95

AVAILABLE: Library of Congress (GB653.A37)

Card 4/4

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

TUSHINSKIY, G.K.; SULAKVELIDZE, G.K.

Glaciological research on Mount Elbrus. Mezhdunar. geofiz. god no.5:56-63 '58. (MIRA 11:10)
(Elbrus, Mount--Glaciers)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

SULAKVELIDZE, G.K.; OKUDZHAVA, A.M.

Some physical properties of the snow cover. Trudy Inst. geofiz.AN Gruz.SSR 17:543-566 '58. (MIRA 13:4)

1. Institut prikladnoy geifiziki AN SSSR, Moskva i Institut geofiziki AN GruzSSR, Tbilisi.
(Snow)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

KUVAYEVA, G.M.; SULAKVELIDZE, G.K.

Water vapor migration and recrystallization process in the snow cover layer. Inform.sbor. o rab. Geog. fak. Mosk. gos. un. po Mezhdunar. geofiz. godu no.2:184-200 '58. (MIRA 15:10)
(Elbrus, Mount—Snow)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

SOV/49-59-2-13/25

AUTHOR: Sulakvelidze, G. K.

TITLE: The Equation of Heat Conductivity for a Porous Body Containing Saturated Vapour, Water or Ice (Uravneniye teploprovodnosti poristykh sred, soderzhashchikh nasyshchennyy par, vodu ili led)

PERIODICAL: Izvestiya Akademii nauk SSSR, Seriya geofizicheskaya, 1959, Nr 2, pp 284-287 (USSR)

ABSTRACT: A porous body containing saturated vapour and moisture is considered in this work. The quantity e of vapour in a unit of volume (g/m³) depends on the temperature u (Eq 1). The equation of heat transfer is derived when an assumption is made that the body has a constant initial temperature u and the origin of a system of coordinates where the axis z is directed towards its interior and is placed on its surface. Then the change of temperature can be defined by the Fourier equation (2) where λ - coefficient of molecular temperature conductivity. This equation should be adjusted in order to allow for the pressure gradient due to the presence of vapour, i.e. it becomes Eq (3) where L - latent heat of phase

Card 1/4

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

SOV/49-59-2-13/25

The Equation of Heat Conductivity for a Porous Body Containing Saturated Vapour, Water or Ice

units, e_0 - quantity of saturated vapour at 0^oC in g/cm^3. Then Eq (6) can be derived where $\partial^2 u/\partial z^2$ is used for simplicity. In order to find a solution of Eq (6) a new function, Eq (7), is introduced, where Q - temperature in degrees C. If, for example, the temperature changes from 0 to -5^oC, the expression (6) can be written as Eq (8), where $\partial^2 Q/\partial z^2$ - constant, i.e. the problem of the temperature distribution in the deposited snow is reduced to solving a Fourier equation with the coefficient λ_{eff}. As an example, the following data are given: L = 600, $A = 0.24 \times 10^{-7}$, $e_0 = 4.9 \times 10^{-6}$, $R_n = 4.6 \times 10^{-6}$, $u_0 = 273^o$, specific heat = 0.5, $\rho = 0.15$. The coefficient λ_{eff} is found from Eq (9) as equal to 2.1 λ (or 2.8 λ for $\rho = 0.1$). The expression (10) gives the relation of λ_{eff} to λ in more general terms. The coefficient of diffusion D can be related

Card 3/4

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

SOV/49-59-2-13/25

The Equation of Heat Conductivity for a Porous Body Containing Saturated Vapour, Water or Ice

to the coefficient λ in 3 different ways, $D \gg \lambda$ - the expression (5) should be used instead of Eq (3), $D \approx \lambda$ - then $\lambda_{eff} = \lambda$ and Eq (5) becomes the Fourier equation, $D \ll \lambda$ - λ_{eff} becomes a little smaller than λ. In conclusion it can be said generally that when the coefficient of molecular temperature conductivity and the relation of the saturated vapour to the temperature is known, it is possible to determine the coefficient of effective temperature conductivity and the distribution of the temperature. There are 6 references, of which 4 are Soviet and 2 English.

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

SUBMITTED: February 28, 1958.

Card 4/4

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

SOV/49-59-2-11/25

Experiments on the Stimulation of Cumulus Clouds in the Alazani Valley

at the temperatures -5 to -10°C. The effect of sunlight in these circumstances was found to be negligible. The weather conditions were forecast the evening before the day of the experiments. The air lift was checked by means of the pilot balloons each time the smoke was produced. The formation of the nucleus in the cumulus cloud was followed on the radar screen and at the same time it was filmed. The height of the cloud was measured with theodolites. The results are presented in the form of a Table on pp 264 and 265. The data given are (from left to right): date, experiment number, place of experiment, amount of reagent in kg, time and height of the isotherms 0° and 6°C, time and height of cloud top, zone number and time of nuclei formation, remarks on visual observations. The remarks are as follows:
Experiment Nr 1 - precipitation at 15.30 hours from the cloud spot where smoke entered - then cloud dispersed;
2 - cloud dispersed at 14.20 hours.
3 - no results observed.
4 - cloud subsided between 14 and 15 hours.

Card 2/5

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

SOV/49-59-2-11/25

Experiments on the Stimulation of Cumulus Clouds in the Alazani Valley

2) In order to ascertain the results, the analysis of the complex data of the physical conditions of the cloud (such as stratification of the atmosphere, the cloud energy, visual observation on cloud formation and precipitations, radar observation of nuclei, etc) should be made.
3) The characteristic feature of the formation of the artificial nuclei by means of smoke is their lower height (1.5 to 2 km) in comparison with the natural conditions.
4) As the smoking is not always practicable, some other methods of cloud stimulation should be investigated (from pilot balloons etc).
5) The vital moment of affecting the cloud is when it reaches the region of -5 to -10°C. However, because of the very high speed of hail formation (20 m/sec), that moment can be easily misjudged. Therefore, in order to prevent this, an investigation of a possibility of the air layer stimulation should be carried out.
6) The experiments on combustion with red phosphorus show that

Card 4/5

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

SOV/49-59-2-11/25

Experiments on the Stimulation of Cumulus Clouds in the Alazani Valley

a method of determination of the action of hydroscopic matter on a warm part of the cloud should be investigated.
7) It is important to obtain more data on the necessary amount of the active chemicals which can be applied for cloud stimulation. There are 11 figures, 1 table and 5 references; 1 of the references is Soviet and 4 are English.

ASSOCIATION: Akademiya nauk SSSR, Institut prikladnoy geofiziki (Academy of Sciences USSR, Institute of Applied Geophysics)

SUBMITTED: January 20, 1958.

Card 5/5

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

SOV/20-128-3-24/58

5(7)

AUTHORS: Bibilashvili, N. Sh., Zaytseva, A. N., 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 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 N. 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 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

Card 1/4

Card 2/4

Card 3/4

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

Card 4/4

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

SULAKVELIDZE, G.K., prof., red.; TUSHINSKIY, G.K., prof., red.; MAKHOV, A.G., red. izd-va; BARGI, T.N., tekhn. red.; KUTUKOVA, S.S., tekhn. red.

[Transaction of the Elbrus Alpine Expedition]Trudy El'brusskoy vysokogornoy ekspeditsii, 1934-. Nal'chik, Kavardino-Balkarskoe knizhnoe izd-vo. Vol.1(4).[Snow, avalanches, and the use of snow in the national economy]Sneg, laviny i primenenie snega v narodnom khoziaistve (Materialy II Vsesoiuznoi mezhvedomstvennoi konferentsii, posviashchennoi voprosam snezhnogo pokrova). 1959. 306 p. (MIRA 15:11)

1. El'brusskaya vysokogornaya ekspeditsiya, 1934-. (Snow)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

82704

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

Card 1/4

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

82704
S/049/60/000/004/009/018
E032/E514

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

Card 2/4

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

82704

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

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

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

LEVIN, L.M., otv. red.; SULAKVELIDZE, G.K., otv. red.; KUZNETSOVA, Ye.B., red. izd-va; VOLKOVA, V.V., tekhn. red.

[Transactions of the Elbrus High-Mountain Expedition] Trudy El'brusskoi vysokogornoi ekspeditsii. Moskva, Izd-vo Akad.nauk SSSR. Vol.2(5)[Physics of clouds and precipitation] Fizika oblakov i osadkov. 1961. 204 p. (MIRA 15:2)

1. El'brusskaya vysokogornaya ekspeditsiya.
(Cloud physics) (Precipitation (Meteorology))

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

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.

Card 1/4

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

Theory of the formation of large ... S/169/62/000/008/052/090
E202/E192

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.

Card 2/4

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8

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:

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

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.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820017-8"