CHUVATIN, L. M.

CHUVATIN, L. M. "On the topography of the vagina tendinia carpalis in horses", Izvestiya Azerbaydzh. s.-kh. in-ta im. Beriya, No. 3, 1948, p. 51-68.

SO: U-4393, 19 August 53, (Letopis 'Zhurnal 'nykh Statey', No. 22, 1949).

CHUVATIN, L. M.
Vertebrate Anatomy

Dissertation: "Synovial Sheaths and the Bursae Mucosae of the Carpal Region in Farm Animals and Other Mammals." Dr Vet Sci, Moscow Fur and Pelt Inst, 29 Mar 54. (Vechernyaya Moskva, Moscow, 17 Mar 54)

SO: SUM 213, 20 Sep 1954

Q

USSR/Farm Animals. General Problems.

Abs Jour: Ref Zhur-Biol., No 20, 1958, 92483.

Author : ~~Chuvatin, I.M.~~
Inst : Kirovsk Agricultural Institute.
Title : Capsular Ligament of the Carpal Joint in Farm Animals.

Orig Pub: Tr. Korovskogo s.-kh. in-ta, 1957, 12, No 24, 181-190.

Abstract: It was demonstrated in 23 bulls, 18 buffaloes, 14 pigs, 14 sheep, 95 horses, 4 asses and 2 mules, that the capsular ligament of the carpal joint has two extremely large protrusions: 1) located on the volar surface of the distal end of the antibrachium (protrustion of the carpal-antibrachial joint) and 2) located on the anterior end of the distal edge of the accessory bone (part of capsular ligament of the interorder [?] joint). The second protrustion is located deeper (except in pigs)

Card : 1/2

PODGORNY, I. M., CHUVATIN, S. A., BIKOV, G. A. and PIS"MENNY, V. D.

"Investigation of the Process of Electrodynamic Acceleration of Clumps of Plasma." (II). (Work carried out in 1957); Part I was published previously (L. A. Artsimovich, S. Yu. Luk'yanov, I. N. Podgorny, S. A. Chuvatin, Journal of Experimental 7 Theoretical Physics, 33, 3, 1957; pp. 222-234.

"The Physics of Plasmas; Problems of Controlled Thermonuclear Reactions." Vol. IV. 1958, published by Inst. Atomic Energy, Acad. Sci. USSR.
resp. ed. M. A. Leontovich, editorial work V. I. Kogan.

Available in Library.

CHUVATIN, S. A.

56-7-1/66

AUTHOR ARTSIMOVICH, L.A.; LUKYANOV, S.Yu, POPOVNYY, I.N., CHUVATIN, S.A.

TITLE Electrodynamical Acceleration of Plasma Bundles.
(Elektrodinamicheskoye uskoreniye sgustkov plazmy - Russian)

PERIODICAL Zhurnal Eksperim. i Teoret.Fiziki,1957,Vol 33,Nr 7,pp 3-8 (U. S.S.R.)

ABSTRACT In a vacuum chamber two rail electrodes, which are not connected and are parallel to each other, are fitted;they are earthed over a condenser (75 μF) and a sphere gap. If,between these two electrodes, a thin copper wire is smelted explosionlike, the plasma bundle produced will move with a certain velocity.This velocity is measured by means of a rapid-action camera (2.10^6 picture per second,time of exposure 0,2 μS) or by means of 2 magnetic inductors.
If a copper wire of 0,02 mm thickness is burned with 30 KV,the plasma bundle has a velocity of $(1-2).10^7$ cm/sec at a distance of 30 cm from the place of the explosion.
Thus it was possible to show that a plasma bundle can be electrodynamically accelerated.
(8 Slavic references)

ASSOCIATION Institute for Atomic Energy (Institut atomnoy energii)

PRESENTED BY

SUBMITTED 19.6.1957

AVAILABLE Library of Congress.

Card 1/1

AUTHORS: Podgornyy, I. M., Chuvatin, S. A. 20-117-5-18/54

TITLE: X-Ray Emission Caused by a High-power Pulse Discharge in Xenon (Rentgenovskoye izlucheniye pri moshchnom impul'snom razryade v ksenone).

PERIODICAL: Doklady AN SSSR, 1957, Vol. 117, Nr 5, pp. 795-797 (USSR)

ABSTRACT: The present paper furnishes some results of the investigation of X-ray emission of a gas discharge, which is not connected with the start. These results were obtained from the radiation of a discharge in xenon as well as in hydrogen-xenon mixtures. The discharge was made to pass in a farfor-(China)-chamber with a diameter of 175 mm and a height of 1000 mm. The discharge circuit consisted of a condenser battery with a capacity of 36 μF. The experiments were conducted at different initial gas pressure varying from 5.10^{-3} to 5.10^{-1} mm torr. The oscillograms of the pulses of X-ray radiation, of the discharge current and of the voltage were taken down with a two-ray pulse spectrograph of the type OK - 17. The X-ray radiation was recorded by X-ray films and with a scintillation counter. The oscillograms of the voltage at the electrodes of the discharge chamber show, that the discharges in hydrogen and in xenon take a different course. The oscillographs of the X-ray pulses are illustrated by figures attached to the paper and speak in favour of an identical duration of the X-

Card 1/3

X-Ray Emission Caused by a High-power Pulse Discharge in Xenon.

ray pulses in the case of the discharge in hydrogen and in xenon, repsectively.The duration of the pulses in both cases amounts to about 1μsec.The pulse of the start X-ray radiation is missing in the oscillographs of the X-ray pulses.There exist also essential differences in the dependence of the intensity of the X-ray emission on the pressure in the case of hydrogen and xenon,respectively.Therefore,the intensity of the X-ray emission is not determined by the number of atoms contained in the discharge chamber. On the basis of the theory of the compression of the discharge caused by inertia it may be assumed, that the overall mass of the gas contained in the discharge chamber represents one of the basic parameters determining the course taken by the various processes in a powerful discharge of short duration.Experiments were conducted to verify this assumption,which permitted to study the intensity of the X-ray emission from a discharge in mixtures of hydrogen and of xenon.An addition of small amounts of xenon to the hydrogen shows no marked influence on the intensity of the soft X-ray emission,if the experiments were conducted at a pressure of $6 \cdot 10^{-2}$ mm mercury.If the pressure is below this value,the amplitude of the X-ray pulse increases with an increasing proportion of xenon.There are 3 figures,and 2 Slavic references.

X-Ray Emission Caused by a High-power Pulse Discharge in Xenon. 20-117-5-18/54

PRESENTED: July 5, 1957, by L. A. Artsimovich, Academician

SUBMITTED: July 5, 1957

Card 3/3

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26.2331

27162
S/057/61/031/009/002/019
B109/B138

AUTHORS: Luk'yanov, S. Yu., Podgornyy, I. M., Chuvatin, S. A.

TITLE: Investigation of the electrodynamic acceleration of plasmoids. III (Coaxial system)

PERIODICAL: Zhurnal tekhnicheskoy fiziki, v. 31, no. 9, 1961, 1026-1032

TEXT: Experimental means, investigation methods, and results of measurements of the electrodynamic acceleration of plasmoids are given. Apparatus (Fig. 1): length of injector 1,000 mm, capacitor bank of 75 microfarads, charged to 10-20 kv, pressure in the test tube about 10^{-6} mm Hg, gas amount introduced about 0.3 cm^3. The total energy of a plasmoid is determined calorimetrically, the velocity photoelectrically by measuring the time of flight. The mass-spectroscopic analysis of a plasmoid was conducted by the Thomson parabola method (magnetic field 80-790 oersteds, voltage 100-1,325 v). Results of measurement: Fig. 2 shows the calorimetrically found radial distribution of the energy density for capacitor bank voltages of 20 kv (1), 15 kv (2), 10 kv (3). These

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Investigation of the ...

values of the total kinetic energy are compared with the photoelectrically measured directional velocity of the plasmoid, from which the efficiency of the injector and the number of accelerated particles is estimated (Table 1). Table 2 shows the mass-spectroscopic investigation of the mass composition of a plasmoid for various gases. The photoelectric measurement of velocity fails for fast particles; it must then be determined from the blackenings of the photoemulsion recording the mass-spectroscopic data. Values of up to $3.5 \cdot 10^8$ cm/sec are found for protons. The formation of very fast particles is not due to the usual acceleration in the electric field since the energy of these particles often surpasses the field energy eU_o (U_o discharge voltage). The authors think it probable that the existence of these fast particles is due to the reasons found by L. A. Artsimovich, A. M. Andrianov, Ye. I. Dobrokhotov, S. Yu. Luk'yanov, I. M. Podgornyy, V. I. Sinitsin, N. F. Filippov (Atomnaya energiya, 3, 84, 1956) according to which the formation of such particles is possible with strong pulse discharges. The authors thank V. D. Pis'menn and V. M. Chicherov for measurements made. There are 3 figures, 3 tables, and 13 references: 9 Soviet-bloc and 4 non-Soviet-bloc.

Card 2/6

POLUEKTOV, A.M., dots.; CHUVATIN, V.M., vetvrach

Experience in rodent control at meat and milk and food control stations. Veterinariia 36 no.3:64 Mr '59. (MIRA 12:4)

1. Kirovskiy sel'skokhozyaystvennyy institut (for Poluektov).
2. Kirovskaya myaso-molochnaya i pishchevaya kontrol'naya stantsiya (for Chuvatin).

(Rats--Extermination)

CHUVATINA, S.N.

Increasing the volume of an oil bath. Sbor. rats. predl. vnedr. v proizv. no.2:37 '61. (MIRA 14:7)

1. Zlatoustovskiy metallurgicheskiy zavod.
(Metals—Heat treatment)

CHUVATOV, V.V., kand. tekhn. nauk

Designing elastically supported plates. Trudy Ural. politekh. inst. no.71:62-74 '59. (MIRA 12:8)
(Elastic plates and shells)

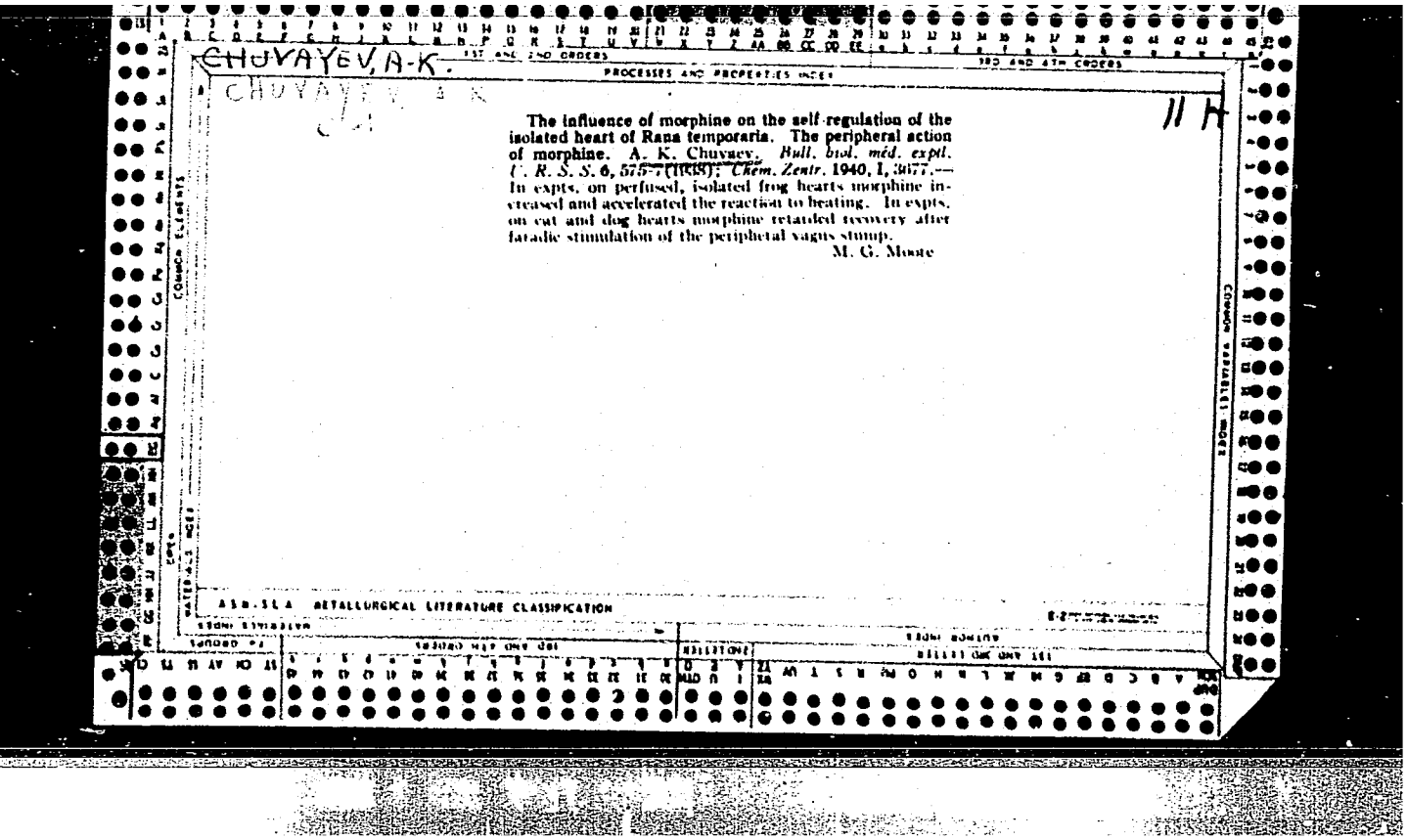
CHUVATOV, V.V.

Design of frames on an elastic foundation. Trudy Ural. politekh. inst. no.132:28-42 '62. (MIRA 16:6)

(Structural frames)

CHUVATOV, V.V.; BEREZIN, N.N.; METSGER, E.Kh.; NAGIN, V.A.; KARTASHOV, N.A., kand. tekhn. nauk, dots.; MIL'KOV, N.V., kand. tekhn. nauk; BYCHKOV, M.I., kand. tekhn.nauk, dots.; SUKHANOV, V.P., SHLYAPIN, V.A.; KORZHENKO, L.I.; ABRAMYCHEV, Ye.P.; KAZANTSEV, I.I.; YARES'KO, V.F.; LUKOYANOV, Yu.N.; DUDAROV, V.K.; BALINSKIY, R.P.; KOROTKOVSKIY, A.E.; PONOMAREV, I.I.; NOVOSEL'SKIY, S.A., kand. tekhn.nauk, dots.; IL'INYKH, N.Z.; TSITKIN, N.A.; ROGOZHIN, G.I.; PRAVOTOROV, B.A.; ORLOV, V.D.; RACHINSKIY, M.N.; KULTYSHEV, V.N.; SMAGIN, G.N.; KUZNETSOV, V.D.; MACHERET, I.G.; SHEGAL, A.V.; GALASHOV, F.K.; ANTIPIN, A.A.; SHALAKHIN, K.S.; RASCHEKTAYEV, I.M.; TISHCHENKO, Ye.I.; FOTIYEV, A.F.; IPPOLITOV, M.F.; DOROSINSKIY, G.P.; ROZHKOV, Ye.P.; RYUMIN, N.T.; AYZENBERG, S.L.; GOLUBTSOV, N.I.; VUS-VONSOVICH, I.K., inzh., retsenzent; GOLOVKIN, A.M., inzh., retsenzent; GUSELETOV, A.I., inzh., retsenzent; KALUGIN, N.I., inzh., retsenzent; KRAMINSKIY, I.S., inzh., retsenzent; MAYLE, O.Ya., inzh., retsenzent; OZERSKIY, S.M., inzh., retsenzent; SKOBLO, Ya.A., dots., retsenzent; SPERANSKIY, B.A., kand. tekhn. nauk, retsenzent; SHALAMOV, K.Ye., inzh., retsenzent; VOYNICH, N.F., inzh., red.; GETLING, Yu., red.; CHERNIKHOV, Ya., tekhn. red.

[Construction handbook] Spravochnik stroitelia. Red.kollegiia: M.I. Bychkov i dr. Sverdlovsk, Sverdlovskoe knizhnoe izd-vo. Vol.1. 1962. 532 p. Vol.2. 1963. 462 p. (MIRA 16:5)
(Construction industry)



CHUVAYEV, A-K.

CHUVAYEV, A. K.

11 H

The influence of morphine on the self-regulation of the isolated heart of Rana temporaria. The peripheral action of morphine. A. K. Chuvaev. *Bull. biol. méd. expti. U. R. S. S.* 6, 575–7 (1938); *Chem. Zentr.* 1940, I, 3677.— In expts. on perfused, isolated frog hearts morphine increased and accelerated the reaction to heating. In expts. on cat and dog hearts morphine retarded recovery after faradic stimulation of the peripheral vagus stump.

M. G. Moore

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

CHUVAYEV, A.K.

Role of the respiratory musculature in the reflex regulation of the respiration and blood circulation. Report No.1: Some changes in the respiration during a deliberate holding of the breath. Eksp. issl. po fiziol., biokhim. i farm. no.3:151-158 '61 (MIRA 16:12)

Methodology of the determination of the muscular tonus in man. Ibid.:159-170

1. Permskiy meditsinskiy institut.

CHUVAYEV, A. K. PA 55/49T59

USSR/Medicine - Irritants Dec 48
Medicine - Neurology

"Step-Like Nature of the Viscerosepta Thresholds in Ranae Temporariae," A. K. Chuvayev, Molotov Med Inst, 4 pp

"Dok Ak Nauk SSSR" Vol LXIII, No 5

Experimental data shows that both electrical and chemical stimulation of a frog's stomach receptors produced various reactions of a step-like nature. Threshold of visceromotor reaction, while less constant, is higher than that of gastrocardiac reaction. Cocaine, novocaine and sovcaine are important

55/49T59

USSR/Medicine - Irritants (cont'd) Dec 48

Irritants of the viscerosepta in frogs. Submitted by Acad K. M. Bykov 18 Oct 48.

55/49T59

U.S.S.R. / Human and Animal Physiology. Blood Circu- T
lation.

Abs Jour: Ref Zhur. Biol., No 5, 1958, 22144.

Author : Mogendovich M. P., Chuvayev A. K., Chuvayeva, G. Z.
Inst : Not given.
Title : Correlation Between the Condition of the Cardio-vascular System and the Tonus of Skeletal Muscles.

Orig Pub: Klinich. Meditsina, 1957, 35, No 3, 121-124.

Abstract: The tonus of the radio-brachial muscle was investigated with the aid of a spring mio-tonal meter in 74 healthy subjects, in twelve afflicted with hypertonsire disease and in twelve with hypotonic disease. Momentary disturbance

Card 1/2

CHUVAYEV, A.V.

FAYNSHTEYN, L.M.; CHUVAYEV, A.V., (Moskva)

Standardization of adiurecrine according to its antidiuretic action. Probl.endokr. i gorm. 1 no.4:79-80 Jl-Ag '55 (MLRA 8:10)

1. Iz Vsesoyuznogo nauchno-issledovatel'skogo instituta myasnoy promyshlennosti
(VASOPRESSIN,
standard.)

CHUVAYEV A. P.
"Condition of the Atmosphere over Pavlovsk during Stormy Days", Trudy GGO, No. 7, 1948
(96-134)

SO: U-3039, 11 Mar 1953

CHUVAYEV

"Luminescence of the Terrestrial Atmosphere in the Continuous Spectrum" by Chuvayev, translated from Dok. Akad. Nauk, 87 (1952), 4, 551-554, by Hope, dated 11 December 1953.

SO: D-12074

CHUVAYEV, A.P.

CHUVAYEV, A. P. and KRYUKOVA, G. T.

"Some Results of Studies of Strong Cumuli," Tr. Gl. geofiz. observ., No 47, 1954, pp 11-15

Physical characteristics of strong cumuli obtained during flights during the period 1948-1952 are described. Data are tabulated showing the vertical force of clouds, altitude and temperature of the upper and lower boundaries, force of the overcooled parts of the clouds, and the mean humidity. The concentration of drops was found to increase up to 1,500 M and stay constant thereafter.

RZhFiz, No 3, 1955

CHUVAYEV, A.P.

AID P - 2604

Subject : USSR/Meteorology

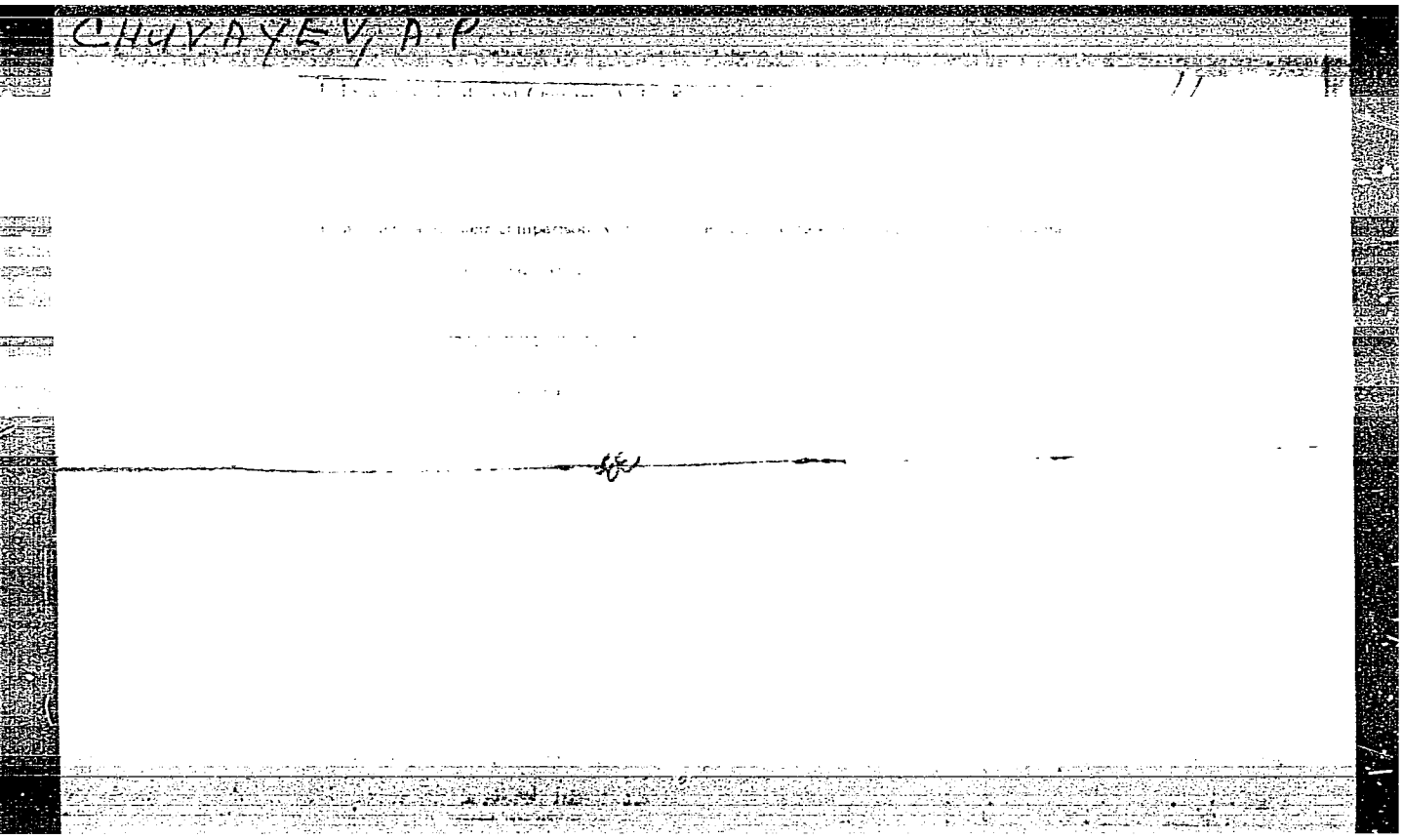
[redacted] Pub. 71-a - 7/26

Authors : Imyanitov, I. M. and Chuvayev, A. P.

Title : Basic process of electric charge in thunderclouds

Periodical : Met i gidr, 4, 34-36, Jl/Ag 1955

Abstract : Results of studies of highly convective thunderclouds are reported in this article. Research on the electric charge tension in cumulo-nimbus clouds before and after glaciation is presented. A table listing vertical measurements, time, and tension of the electric field in the cloud is given. The authors maintain that it is possible to determine the criterion of lightning danger for areas with radar echo by establishing the connection between the potential lightning capacity of various cloud formations and the thickness of the clouds (particularly in saturated part) and the location of the zero isotherm. One Russian reference, 1952, 2 American, 1952 and 1953.



NIKANDROVA, O.T.; CHUVAYEV, A.P.

Role of intercepting layers in solving problems of precipitation.
Meteor.i gidrol. no.4:12-18 Ap '56. (MLRA 9:8)
(Precipitation (Meteorology))

SOV/112-59-1-606

Translation from: Referativnyy zhurnal. Elektrotekhnika, 1959, Nr 1, p 80 (USSR)

AUTHOR: Imyanitov, I. M., and Chuvayev, A. P.

TITLE: Results of an Investigation of Electric Phenomena in Thunderclouds

PERIODICAL: V sb.: Issled. oblakov, osadkov i grozovogo elektrichestva. L., Gidrometeoizdat, 1957, pp 13-16

ABSTRACT: Investigations of meteorological conditions that accompany the accumulation of charges in clouds carried out with specially equipped aircraft have shown that neither the vertical thickness of the cloud, nor its water content, nor the velocity of vertical streams in it can bring about charges and fields high enough to cause lightning. It has been noted that the electric field strength in the convective clouds grows after the appearance of the ice phase in them. Introducing ice crystals into the cloud has resulted in a rapid field build-up in 5-20 min and lightnings in 20-45 min. The time of field recovery after a lightning stroke has been about 5 sec which can be explained only by the phenomena associated with water-ice phase transitions.

S.V.S.

Card 1/1

CHUVAYEV, A.P.

IMYANITOV, I.M.; KULIK, M.M.; CHUVAYEV, A.P.

Investigation of thunderstorm zones in the southern regions of European Russia and Transcaucasia. Trudy GGO no.67:3-32 '57. (MIRA 11:4)
(Thunderstorms)

CHUVIAYEV, A.P.

IMYANITOV, I.M.; KULIK, M.M.; CHUVAYEV, A.P.

Preliminary data on experiments designed for the control of development and change of the electric state of massive convection clouds in the southern regions of European Russia and Transcaucasia. Trudy GGO no.67:33-58 '57. (MIRA 11:4)

(Clouds) (Weather control)

CHUVAYEV, A.P.

Attempts to control the development of massive convection clouds in the northwestern regions of European Russia. Trudy GGO no.67: 59-103 '57. (MIRA 11:4)

(Clouds) (Weather control)

CHUVAYEV, A.P.

NIKANDROVA, G.T.; CHUVAYEV, A.P.

Investigation of the change-over of cloud microstructure following solid carbon dioxide treatment. Trudy GGO no.67:104-113 '57.
(Clouds) (Dry ice) (Rain making) (MIRA 11:4)

CHUVAYEV, A.P.

VOSKANOV, A.I.; IMYANITOV, I.M.; KULIK, M.M.; CHUVAYEV, A.P.

Feasibility of safe passage of airplanes through thunderstorm zones. Trudy GGO no.67:114-120 '57. (MIRA 11:4)
(Thunderstorms) (Radar in aeronautics)

CHUVAYEV, A.P.

IMYANITOV, I.M.; CHUVAYEV, A.P.

On basic processes leading to electric charge generation in thunderclouds. Trudy GGO no.67:121-128 '57. (MIRA 11:4)
(Atmospheric electricity) (Clouds)

~~CHUVAYEV, A.N.~~ CHUVAYEV, A.P.

3672-9/13

AUTHOR: Chuvayev, A.P.

TITLE: Factors in Activating Convective Clouds with Dry Ice to Induce Precipitation (Ob osobennostyakh metodiki vozdeystviy "sukhim l'dom" na konvektivnyye oblaka s tsel'yu vyzyvaniya iz nikh osadkov)

PERIODICAL: Trudy Glavnoy geofizicheskoy observatorii, 1957, Nr 72, pp. 110-117 (USSR)

ABSTRACT: Under certain conditions clouds and fogs may be artificially stimulated by activating the microphysical processes which control the transformation of their particles. Experiments made in 1951 showed that when large cumulus clouds are "seeded" with relatively large particles of dry ice, the process of their dispersion is basically different from the dispersion process which takes place when crystallization is artificially induced through the "evaporation" of dry ice in the super-cooled tops of such clouds. Dispersion in the latter case (or when very small particles of dry ice are introduced only into the very top of super-cooled clouds more closely resembles dispersion under natural conditions than does dispersion resulting from "seeding", with the

Card 1/2

36-72-9/13

Factors in Activating Convective Clouds with Dry Ice to Induce Precipitation (Cont.)

difference lying mainly in the number of crystal nuclei formed. An experiment conducted in the vicinity of Reshetilovka in the Ukraine on June 2, 1956, (described in detail) showed that considerable precipitation may be induced by introducing small particles of dry ice into the tops of clouds whose lower limits are relatively high (2,000 m), vertical extension relatively short (2,000 m), and whose upper limits reach only into the bounding of effective super-cooling. The Hydrometeorological Service of the USSR (GMS) in cooperation with the Civil Air Fleet (GVF) conducted experiments which showed very definitely that, in activating clouds and fogs several hundred meters large, best results are obtained with dry ice particles 3-5 mm in diameter, with an outlay of 0.5 kg per km of distance travelled. Instrument mentioned: Radiolocator. Authors mentioned: Bazilevich, V.V., Nikandrov, V.Ya., Shmel'kov, A.A., Tarasov, A.V., Kozenkov, K.I., Imyanitov, I.M., Titov, N.A., and Nikandrov, G.T. The text contains 5 figures and 15 references, 11 of which are USSR.

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Card 2/2

CHUVAYEV, A.P.

36-72-11/13

AUTHOR: Chuvayev, A.P., Tarasov, A.V., Nikandrova, G.T.

TITLE: Experiment in Controlling the Development of Powerful Convective Clouds over Large Areas (Opyt regulirovaniya razvitiya oblakov moshchnoy konvektsii nad znachitel'noy ploshchad'yu)

PERIODICAL: Trudy Glavnoy geofizicheskoy observatorii, 1957, Nr 72, pp. 127-133 (USSR)

ABSTRACT: In July 1956 a laboratory of the Main Geophysical Observatory (GGO), in cooperation with the Third Division of the State Scientific Research Institute of the Civil Air Fleet, conducted a field experiment in the dispersion of storm centers in powerful cumulus clouds with super-cooled tops. Dry ice particles, 0.5-2.0 cm in diameter were seeded along the edge of a field of clouds, whose individual summits rose over 5,000 m. Seeding, which lasted 20 min., was executed in three straight lines, running 6 km apart and 40 km long, covering an area of 40 x 15 km and using 65 kg of dry ice. Activation resulted in an almost complete disappearance of clouds in the entire zone of operation, without precipitation forming and reaching the ground, with only a few insignificant traces of clouds remaining. At the same time nearby masses of powerful cumulus clouds

Card 1/2

36-72-11/13

Experiment in Controlling the Development of Powerful Convective Clouds Over Large Areas (Cont.)

and groups of frontal clouds continued to develop during and after seeding. There are 7 figures, consisting of a synoptic map, a weather chart, and photographs of clouds taken at various points during the experiment.

AVAILABLE: Library of Congress

Card 2/2

CHUVAYEV, A. P.

AUTHOR: Chuvayev, A. P. 36-74-5/5

TITLE: Present-day Possibilities of Preventing Thunderstorms and Hailstorms (O sovremennykh vozmozhnostyakh predotvrashcheniya groz i grada)

PERIODICAL: Trudy Glavnoy geofizicheskoy observatorii, 1957, Nr 74, pp 71-102 (USSR)

ABSTRACT: The author quotes from a number of non-Soviet authors on the effectiveness of chemical agents (mainly carbon dioxide) in preventing turbulent conditions in clouds which cause dangerous cloudbursts and hail. In the USSR such attempts were first made in 1951 and 1952 but without notable results. In 1953, 1954 and 1956, more tests were made; these were discussed in Nos. 67 and 71 of Trudy Glavnoy geofizicheskoy observatorii. In the present article the author reports on one particular aspect of these experiments: the nine attempts aimed at preventing formation of thunder clouds by applying dry ice (CO_2) directly to the frontal zones of approaching storms. The clouds were attacked from above by the plane flying

Card 1/2

Present-day Possibilities of Preventing Thunderstorms (Cont.) 36-74-5/5

20-30 meters above the upper zone of the cloud (at an altitude of about 5,400 meters). The author describes in detail the nine test flights made - the time spent, the amount of dry ice or other agent such as silver iodine employed, and the characteristics of clouds which should be destroyed. The author also mentions briefly experiments on the activation of rainfall, but refers the reader to Nr 71 of the Trudy where this problem is discussed in detail. There are 18 photographs of clouds (before and after treatment), 5 maps of regions where the attempts were made, and 39 references, of which 18 are Soviet. The attempts described in the article are considered by the author as successful.

AVAILABLE: Library of Congress (QC 801 .I46)

Card 2/2

MM/vm
6-9-58

CHUVAYEV, A.P.

AUTHOR: None Given

SOV/5o-58-6-22/24

TITLE: Transactions of the Scientific Research Institutes of the "Hydrometeorologic" Service in 1957 (Trudy nauchno-issledovatel'skikh uchrezhdeniy Gidrometeosluzhby za 1957 g.) Continuation (Prodolzheniye)

PERIODICAL: Meteorologiya i gidrologiya, 1958, Nr 6, pp. 61 - 63 (USSR)

ABSTRACT: Transactions of the Geophysical Main Observatory imeni A. I. Voyeykov (Trudy Glavnoy geofizicheskoy observatorii im. A. I. Voyeykova) Periodical Nr 67. Research problems of clouds of mighty convection and of the zones of thunderstorm activity. Editor: V. V. Bazilevich, 153 pages, 11 articles.
Periodical Nr 68. Problems of actinometry and atmospheric optics. Editor: K. S. Shifrin and V. L. Gayevskiy, 2o8 pages, 18 articles.
Periodical Nr 69. Problems of the physics of the ground-near layer of the atmosphere. Editor: D. L. Laykhtman, 1o7 pages, 16 articles.
Periodical Nr 7o. Problems of general climatology. Editor: O. A. Drozdov, 135 pages, 6 articles.

Card 1/2

Periodical Nr 71. Problems of the numerical forecast and of climate theory. Editor: M. I. Yudin, 236 pages, 16 articles.
Periodical Nr 72. Problems of atmospheric physics. Editor: A. P. Chuvayev, 151 pages, 13 articles.
Periodical Nr 73. Atmospheric physics. Editor: V. V. Bazilevich, 132 pages, 11 articles.
(Periodical Nr 74 is not given).
Periodical Nr 75. Glazed frost and hoar-frost. Editor: O. A. Drozdov, 91 pages, 4 articles.

Transactions of the State Hydrological Institute (Trudy Gosudarstvennogo gidrologicheskogo instituta)
Periodical Nr 59. Experimental investigation of the elements of the water balance in Valday. Editors: A. R. Konstantinov and V. V. Kupriyanov, 224 pages, 6 articles.
Periodical Nr 6o. Problems of the hydrology of swamps. Editor: K. Ye. Ivanov, 1o8 pages, 6 articles.
Periodical Nr 61. Problems of the flow formation and the methods for its calculation. Editor: D. L. Sokolovskiy, 3o6 pages, 11 articles.

3.5000

68715

AUTHOR: Chuvayev, A. P.

S/050/60/000/03/004/020
B007/B002

TITLE: Temperature Boundaries of Initial Crystallization in Clouds

PERIODICAL: Meteorologiya i gidrologiya, 1960, Nr 3, pp 26 - 28 (USSR)

ABSTRACT: In the paper mentioned in reference 3 the author gave the characteristics of temperatures at the upper boundary of Cu Cong clouds. They were obtained by observations made in 57 zones of southern regions with a development of convection clouds, and 41 zones of the northwestern regions of the European part of the USSR. In 1957 and 1958 the author undertook flights to the region of Lake Sevan (Armyanskaya SSR). It was again possible to make observations during the maximum convection in the course of the day. Unlike former times, however, it was often possible to observe the development of the same cloud sections during a longer period. The flights took place from May to June and from September to October, during the period of the heaviest precipitations. The results obtained are given in table 1. They show that in the area of Lake Sevan 52% of the initial crystallization detected in Cu Cong clouds takes place at temperatures ranging from -21° to -26°. Above -12° no crystallization was observable. The results obtained must be accepted with certain restrictions, since the

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airplanes hardly ever climbed more than 7000 m above sea level, and since no flights were possible in these mountain region of Armenia during heavy thunderstorms. Figure 1 shows a diagrammatic comparison of data listed in the table with those relating to the southern and northwestern regions of the European part of the USSR. The totality of all data obtained shows that particularly great differences occur in the individual physical-geographical regions as regards the boundaries of initial crystallization of Cu Cong clouds. In this connection reference is made to observations conducted by the author during his flight from Moscow to Irkutsk from August 22 to 25, 1956, by N. F. Kotov in 1954 near Leningrad, by N. A. Titov (Ref 2) during test flights of jet planes between Moscow and Omsk in the summer of 1955, and to reports from abroad (Refs 5,6,8). The causes of these great differences are still unknown, and are to be closely investigated. There are 1 figure, 1 table, and 8 references, 4 of which are Soviet.

CHUVAYEV, A.P.

Data on crystallization temperature in the tops of thick cumulus clouds in different physicogeographical regions. Trudy GGO no.104: 39-45 '60. (MIRA 13:10)

(Cloud physics)

CHUVAYEV, A.P.

Investigating water resources of clouds during the warm half of the year in the Sevan Basin. Trudy GGO no.104:68-74 '60. (MIRA 13:10)
(Sevan region--Rain making)

42825

S/169/62/000/010/038/071
D228/D307

3,5100

AUTHOR: Chuvayev, A.P.

TITLE: Some characteristics of thick cumuli near Lake Sevan

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 10, 1962, 17, abstract 10B99 (In collection: Resultaty kompleksn. issled. po Sevansk. probl., v. 1, Yerevan, AN ArmSSR, 1961, 261-278)

TEXT: The physical characteristics of thick cumuli (with a vertical spread of not less than 1500 m) are studied from the data of aircraft flights near Lake Sevan. 73 cases of cloud observation in the May-October months of 1957-1958 are involved in the analysis. It is established as a result of the analysis that in more than 25% of cases thick cumuli are supercooled throughout; when the lower cloud boundary is located in the positive temperature region, the thickness of the 'warm' part of the clouds rarely exceeds 1000 m. At the lower cloud boundary the highest frequency level falls on the interval of values from 0 to 4°C; the frequency of negative temperatures at the cloud base amounts to 25%. In most (57%) cases the

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Some characteristics ...

S/169/62/000/010/038/071
D228/D307

vertical thickness of the prevalent cloud field falls on the range of values 1500-2500 m and only in 20% of cases (in May-June) does it exceed a value of 3000 m. The vertical spread of the best developed clouds exceeds 3000 m in 88% of all cases of observation, the thickness of clouds being not less than 4500 m in 37% of cases of observation. The mean vertical thickness of the most developed cumuli over the warmer 6 months of the year was ~ 4000 m. The temperature of the tops of the best developed cumuli does not exceed - 30°C in more than 25% of cases of observation; the upper part of a cloud often has no fibrous structure and hence does not reach the crystallization stage of its development. In 70% of cases developed cloud tops have a temperature of below - 20°C; the remaining 30% falls on the temperature range from -9 to - 20°C. The temperature range from - 24 to - 26°C is the most likely limit for the supercooling of the tops of cumuli. A relatively sharp frequency decrease occurs below - 30°C. The cloud-top crystallization temperature, established from the appearance of a fibrous structure, lies in the interval of values from - 21 to - 26°C; at a temperature above - 12°C there were no occasions on which crystallization appeared. The data of water

Card 2/3

Some characteristics ...

S/169/62/000/010/038/071
D228/D307

content measurements with V.A. Zaytsev's device were used to estimate the water resources of a cloud. Analysis of the resulting material indicates that the water content increases from 0.16 to 0.72 g/m^3 on moving away from the cloud's lower boundary for a distance of from 100-300 to 1000-1500 m; in higher parts of the cloud (3000-3500 m) the water content again decreases to a value of 0.17 g/m^3. The values found may be a little low in consequence of the icing of the instrument during measurements in the cloud's supercooled parts. The physical characteristics of cumuli were investigated in connection with the examination of the possibility of actively influencing them.

[Abstracter's note: Complete translation]

Card 3/3

LENSHIN, V.T.; OSIPOVA, G.I.; CHUVAYEV, A.P.

Relation between precipitation over individual areas of the Lake Sevan Basin. Trudy GGO no.126:57-61 '62. (MIRA 15:7)
(Sevan Lake region--Precipitation (Meteorology))

CHUVAYEV, A.P.

Some characteristics of summer precipitation on the leeward mountain slopes of the arid zone of Armenia. Trudy GGO no.126: 79-89 '62. (MIRA 15:7)

(Armenia—Precipitation (Meteorology))

ACCESSION NR: AT4045158 S/2531/64/000/156/0060/0082

AUTHOR: Chuvayev, A. P., Shvarts, V. T.

TITLE: Characteristics of the development of hail phenomena over the Armenian SSR

SOURCE: Leningrad. Glavnaya geofizicheskaya observatoriya. Trudy*, no. 156, 1964. Voprosy* fiziki oblakov i aktivny*kh vozdeystviy (Problems of the physics of clouds and active particles), 60-82

TOPIC TAGS: meteorology, hail, atmospheric turbulence, climate, climatology, cloud physics, atmospheric physics, weather forecasting

ABSTRACT: Hail occurs more frequently in the Armenian SSR than in any other part of the Soviet Union. This paper gives information on the areal distribution of hail in Armenia based on mean monthly and mean annual values of the number of days with hail at 55 stations. At 20 stations there were 5 or more such days per year, hail being most frequent in the northwestern part of the republic. At the Aragats high-mountain station the average was 14.6 occurrences annually. The complexity of orographic conditions in Armenia is one of the principal factors behind the relatively high frequency and nonuniform distribution of hail. Almost

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ACCESSION NR: AT4045158

90% of Armenia is more than 1,000 m above sea level; there are many mountain ranges with different orientations relative to the predominant paths of movement of precipitation-forming air masses; the mountain slopes themselves are considerably dissected and there are numerous river valleys, basins and isolated high peaks. Elevation itself is not the basic factor responsible for hail frequency, but tabulated data show there is some relationship. Another table shows that stations only short distances apart can have entirely different hail records. Hail falls in the warm season, mostly in May and June, somewhat later than the precipitation maximum, when the atmospheric instability and humidity are high, and the surface air layer is strongly heated. Attempts were made to relate the dates of disappearance of the snow cover to hail occurrence. Various tables give data such as the following: a) monthly number of cases of hail for the years 1946-1950; b) diurnal variation of hail (by hours); c) frequency of hail by 6-hour intervals; d) mean annual number of days with hail and thunderstorms at individual stations; e) number of days with hail associated with air-mass conditions and fronts; f) relationship between hail occurrence and type of pressure system aloft. These data and relationships are useful in weather (hail) forecasting and in development of methods for cloud modifications for the pre-

Card 2/3

ACCESSION NR: AT4045158

vention of destructive occurrences of hail. Orig. art. has: 10 figures and 11 tables.

ASSOCIATION: Glavnaya geofizicheskaya observatoriya, Leningrad (Main Geophysical Observatory)

SUBMITTED: 00 ENCL: 00 SUB CODE: ES

NO REF SOV: 014 OTHER: 000

Card 3/3

CHUVAYEV, A.P.; ORENBURGSKAYA, Ye.V.; OSIPOVA, G.I.; SHVARTS, V.T.

Methodology of estimating the climatic resources of an artificial increase of precipitation from convective clouds (based on materials of Lake Sevan Basin). Trudy GGO no.156:101-117 '64.

(MIRA 17:10)

OSIPOVA, G.I.; CHUVAYEV, A.P.; SHVARTS, V.T.

Some characteristics of the precipitation from various kinds of clouds during the warm season in the basin of Lake Sevan. Trudy GGO no.163:156-180 '64 (MIRA 18:1)

NATANSON, A.O.; MITASHOVA, N.I.; CHUVAYEV, A.V.

Role of the hypophysis in the development of hypertrophy of the adrenal glands in hypervitaminosis A in rats. Probl. endok. i gorm. 11 no.1:87-92 Ja-F '65. (MIRA 18:5)

1. Otdel biokhimii i fiziologii vitaminov Nauchno-issledovatel'skogo instituta vitaminologii (dir. - kand. biolog. nauk M.I. Smirnov) Ministerstva zdravookhraneniya SSSR, Moskva.

CHUVAYEV, K.K.

DOBRONRAVIN, P.P; CHUVAYEV, K.K.

Conference on astrospectroscopy. Astron.tsir. no.105:15-17 S '50.
(MLRA 6:8)
(Spectrum analysis)

1. CHUBAYEV, K. K.

2. USSR (600)

4. Atmosphere

7. Luminescence of earth's atmosphere in a continuous spectrum. Dokl. ANSSSR, 87, No. 4, 1952

Studies character of energy distribution in continuous spectrum of f lowing earth's atmosphere and concludes that 2 different causes exist; one which excites radiation 5577A and the other emission incontinuous spectrum. These results differ from previous ones by Barbier, Dufay and Williams (see Ann.d'Astrophys 14, 4, 1951). Presented by Acad G. A. Shayn, 1 Oct 52. 256T89

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

CHUVAYEV, K. K.

O svechenii zemnoy atmosfery v nepreryvnom spektre (Luminescence of the Earth's Atmosphere in a Continuous Spectrum). Akademiya Nauk SSSR. Doklady, 1952, v. 87, no. 4, p. 551-554, tables, diagrs., 11 refs.

AS262.S3663 v. 87

CHUVAYEV, K. K.

CHUVAYEV, K. K. - "Investigation of the Brightness of the Night Sky in Several Areas of the Spectrum." Sub 22 Oct 52, Moscow Order of Lenin State U imeni M. V. Lomonosov. (Dissertation for the Degree of Candidate in Physico-mathematical Sciences).

SO: Vechernaya Moskva January-December 1952

CHUVAYEV, K. K.

PA 249T57

USSR/Astronomy - Night Sky 1 Feb 53

"Probable Mechanism for Glow of Night Sky in Continuous Spectrum," S. B. Pikel'ner and K. K. Chuvayev, Crimean Astrophys Observ, Acad Sci USSR

DAN SSSR, Vol 88, No 4, pp 661-663

It was found that upper layers of terrestrial atmosphere are the source not only of monochromatic but also of continuous spectrum emission (see D. Barbier et al Ann d'Astrophys. 14,4(1951)). Authors assume the formation of negative ions and the emission of quanta of frequency higher than the energy of ionization of negative ions to be responsible for the emission of continuous spectrum. Presented by Acad G. A. Shayn 21 Nov 52.

249T57

249T57

CHUVAYEV, K. K.

Atmospheric Physics, Night Sky Glow (6785)
Izv. Krymskoy Astrofiz. Observ., No 10, 1953, pp 54-73
Chuvayev, K. K.
Electrophotometric Investigation of Night Sky Glow in Several Spectral Regions

Describes apparatus used and results of observations which permitted detection of the intensity of exygen emission OI (λ 5577). Assumes that upper atmospheric layers are the emission source of continuous spectrum. Concludes that there exist two independent machanisms exciting the glow.

So: Moscow, Referativnyy, Zhurnal -- Fizika, No 6, 1954 W-31059

CHUBAYEV, K. K. and PIKEL'NER, S. B.

O veroyatnom mekhanizme svecheniya nochnogo neba v nepreryvnom spektre (On the Probable Mechanism of Night Sky Luminescence in a Continuous Spectrum). Akademiya Nauk SSSR. Doklady, 1953, v. 88, no. 4, p. 661-663, 6 refs.

AS262.S3663 v. 88

CHUVAYEV, K. K.

PIKELNER, S. B., and CHUVAYEV, K. K.

"The Probable Mechanism of Night Sky Glow in the Continuous Spectrum," Izv, Krymsk. Astrofiz. obser., 11, pp 178-184, 1954

The nature of night sky glow in the continuous spectrum was observed by K. K. Chuvayev using a photometer with a secondary electron multiplier. It was suggested that the sky glow may be due to recombination of electrons and neutral oxygen atoms, forming negative O^- ions and capable of emitting the observed radiation (RZhFiz, No 4, 1955)

SO: Sum, No 606, 5 Aug 55

NIKONOV, V.B.; NEKRASOVA, S.V.; POLOSUKHINA, N.S.; RACHKOVSKIY, D.N.; CHUVAYEV, K.K.

Color-luminosity diagram for stars in the vicinity of the sun. Izv.Krym.astrofiz.obser. 17:42-88 '57.
(MIRA 13:4)

(Stars)

CHUVAYEV, K.K.

Division of the luminosity of the night sky into components. Aston.zhur. 38 no.4:692-705 Jl-Ag '61. (MIRA 14:8)

1. Krymskaya astrofizicheskaya observatoriya AN SSSR.
(Night sky)

CHUVAYEV, K.K.

37397

S/033/62/039/002/011/014
E032/E314

3,1260

AUTHORS: Butslov, M.M., Kopylov, I.M., Nikonov, V.B., Severnyy, A.B. and Chuvayev, K.K.

TITLE: Experiments in electron-optical photography of galaxies in hydrogen light using the 2.6 m reflector of the Crimean Astrophysical Observatory

PERIODICAL: Astronomicheskiy zhurnal, t. 39, no. 2, 1962, 315 - 322 + 3 plates

TEXT: Detailed studies of extragalactic nebulae require the use of large telescopes. As regards detecting apparatus, the use of ordinary photographic techniques in conjunction with narrow-band filters necessitates long exposures and is therefore inconvenient in practice. The authors have investigated therefore the possibilities of image-converters as a means of avoiding these disadvantages. An image-convertor was set up in the direct focus of the 2.6 m reflector of the Crimean Astrophysical Observatory. The immediate object was to investigate the hydrogen emission in a number of galaxies. Four light colour filters were introduced in front of the converter and

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the screen of the latter was photographed by a motion-picture camera. Altogether 58 galaxies were photographed in H_α and other light. Photographs of 10 of these are reproduced and their features are described (NGC 604, 1569, 4214, 4449, 4490, 4736, 5194, 5457, 6822 and 6946). Many unknown clouds of hydrogen-emission were detected in the galaxies. In many cases there is no correspondence between hot-star clusters and hydrogen clouds. The hydrogen component shows greater concentration in the equatorial planes than the stellar component. In some galaxies the nuclei consist of isolated condensations. The dimensions of the nuclei in H_α light are in some cases appreciably larger than in other light, although in a number of cases the reverse situation obtains. In several galaxies, streams or ejections from the nucleus, which are visible only in H_α light, were detected.

S/033/62/039/002/011/014
Experiments in electron-optical... E032/E314

ASSOCIATION: Krymskaya astrofizicheskaya observatoriya Akademii nauk SSSR (Crimean Astrophysical Observatory of the Academy of Sciences, USSR)

SUBMITTED: December 31, 1961

Card 3/3

GRASYUK, A.Z.; ZUYEV, V.S.; KOKURIN, Yu.L.; KRYUKOV, P.G.; KURBASOV, V.V.; LOBANOV, V.F.; MOZHZHERIN, V.M.; SUKHANOVSKIY, A.N.; CHERNYKH, N.S.; CHUVAYEV, K.K.

Optical location of the moon. Dokl. AN SSSR 154 no.6:1303-1305 F '64. (MIRA 17:2)

1. Fizicheskiy institut im. P.N.Lebedeva AN SSSR i Krymskaya astrofizicheskaya observatoriya AN SSSR. Predstavleno akademikom D.V.Skobel'tsynym.

CHUVAYEV, P. P.

42197 CHUVAYEV, P. P. I voprosu o zakonomernostyakh razvitiya rostovykh i tsvetochnykh pobegov izpochek. Zapiski Tadzh. c-x. in-ta, T. I, 1948, c. 145-59.-- Bibliogri 5 nazv.

SO: Letopis' Zhurnal'nykh Statey, Vol. 47, 1948

USSR / Plant Physiology. Mineral Nutrition. I-2

Abs Jour : Ref Zhur - Biol., No 22, 1958, No 99913

Authors : Chuvryev, P. P.; and Shirshova, A. L.
Inst : Tadzhik Inst of Horticulture, Viniculture and Subtropical Cultures
Title : Comparative Assays of the Absorption of Carbon by the Roots and Leaves of Lemon and the Speeds of the Migration of Carbin From Leaves to Roots and From Roots to Leaves by the Tagged-Atom Method.

Orig Pub : Biol. Nauchno-Tekhn. Inform. Tadzh. N.-I. In-t Sadovodstva, Vinogradarstva i Subtrop. Kul'tur, No 1, 32-38, 1957

Abstract : The experiments were conducted in two versions: in aqueous cultures with pryanishnikov's solution, and in soil-filled pots. It was established that the roots of lemon may assimilate carbon and also gaseous CO_2 from carbonate solutions

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Abs Jour : Ref Zhur - Biol., No 22, 1958, No 99913

but only in negligible quantities that cannot serve as a serious source of carbon nutrition. The role of the assimilation of CO_2 by roots consists not in replacing the work of leaves and supplying the plant with carbonic acid but in its participation in A. L. Kursanov's cycle. The speed of the translocation of radioactive carbon from leaves to roots and vice versa is very low and totally not comparable with the data obtained by A. L. Kursanov for other plants. The speed of the migration of tagged C^{14} of organic substances depends on the stage of the plant: when the plant is crumpled this speed decreases. In addition to the bark, xylem is another major factor in the migration of organic substances through the plant, while the bark itself is the principal factor in the upward migration of the mineral compounds of carbon. The leaves of plants are a special organ absorbing and assimilating the carbon. -- N. V. Ryndin.

NIKOLAYEVA, M.I.; CHUVAYEV, P.P.; BRODNIKOVSKIY, M.I.

Some methods of increasing the frost resistance of grapevines as related to the dynamics of carbohydrate metabolism. Trudy Otd. fiziol. i biofiz. rast. AN Tadzh. SSR 1:76-105 '62. (MIRA 16:3)
(Plants--Frost resistance) (Carbohydrate metabolism)
(Tajikistan--Grapes)

CHUVAYEV, P.P.; TURSUNOVA, S.A.

Effect of wilting on the assimilation of phosphorus by tomatoes and lemon. Trudy Otd. fiziol. i biofiz. rast. AN Tadzh. SSR 1: 106-142 '62. (MIRA 16:3)
(Plants, Effect of aridity on) (Phosphorus metabolism)

SULTANOVA, S.G.; CHUVAYEV, P.P.; Prinimala uchastiye SHISHOVA, A.M.

Movement of substances in some fruit plant in the early spring period (in the leafless state). Trudy Otd. fiziol. i biofiz. rast. AN Tadzh. SSR 3:35:48 '64. (MIRA 18:4)

CHUVAYEV, P.P.

Fermentation (activation) of seed before sowing. Trudy Otd. fiziol. i biofiz. rast. AN Tadzh. SSR 3:82-123 '64. (MIRA 18:4)

24,4200
15 8510

25479
S/020/61/139/001/011/013
B104/B231

AUTHORS: Ivanova, L. V., Chuvayev, V. F., and Rebinder, P. A. Academician

TITLE: Kinetics of conditionally instantaneous elastic deformation of polymers in elastic state

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 139, no. 1, 1961, 83-86

TEXT: It has been demonstrated in a previous work (Rebinder et al., DAN, 81, 239, (1951)) that the development rate of elastic deformations of such polymers as cannot be determined by the Kelvin relation $d\varepsilon/d\tau = (\varepsilon_m - \varepsilon)/\theta$ (1) depends upon the equation $d\varepsilon/d\tau = aP(\varepsilon_m - \varepsilon)/\varepsilon$ (2). The present study deals with kinetics of the development of a conditionally instantaneous elastic deformation of elastic polymers which are subjected to a constant pressure P. It is shown that the deformation develops according to (2), and that compared to slow elastic deformations there is a difference only so far as the constant a is 8 - 10 times bigger. The device used for the investigations transformed the pure displacement deformation in the test specimen (15 by 7 by 1.5 mm) into an electric signal which was subsequently transmitted to an

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oscilloscope. The presented oscillograms show that the deformation develops in the same way as it would in case of a slow deformation, only much more rapidly. This permits the relation

$$-\frac{\left(x_m \ln\frac{x_m - x}{x_m} + x\right)\frac{1}{b}}{\tau} = a_1 P, \qquad (3)$$

already established in the previous work, to be used for the calculation. x_m stands here for the absolute limiting displacement value, x denotes the absolute displacement, b the thickness of the displaced layer, and a_1 is a constant. The computed values for polyisobutylene are collected in Table 1. As to fractionated polyisobutylene (molecular weight $6.4 \cdot 10^5$ at 30° C, P = 200 g/cm^2) the following is obtained for a_1: $a_1 = 0.67 \cdot 10^{-4}$ cm^2/dyn sec. Increasing the temperature causes the time of development of the deformation to be reduced, and at 80°C it is fully within such period of time as - due to the inertia of the test arrangement - is necessary for the displacement

Kinetics of conditionally...

to attain $x_m = 66 \cdot 10^{-4}$ cm. Instead of the characteristic monotone asymptotic development of the deformation, an oscillation occurs about a position of equilibrium (Fig. 3). Relations

$$x_1 = [x_m (1 - e^{-\gamma t} \cos \delta t), \quad \gamma = \frac{B}{2m}, \quad \delta t = \sqrt{\frac{B^2}{4m^2} - \frac{k}{m}}. \qquad (7)$$

are derived which describe the curve shown in Fig. 3. The required characteristic $\eta \approx 1/a_1$ is determined from the amplitude damping (Table 2). Moreover, a linear relation between $\log(1/a_1)$ and $1/T$ was established. (Fig. 4). There are 4 figures and 2 references: 1 Soviet-bloc and 1 non-Soviet-bloc.

ASSOCIATION: Institut fizicheskoy khimii Akademii nauk SSSR (Institute of Physical Chemistry Academy of Sciences USSR)

SUBMITTED: March 28, 1961

Card 3/7

L 61702-65 EFF(c)/EPR/EWP(j)/EWT(m)/T Pc-4/Pr-4/Ps-4 WW/RM

ACCESSION NR: AP5015966 UR/0314/65/000/006/0033/0036
678.742:620.17

AUTHORS: Avgustov, Yu. A. (Engineer); Chuvayev, V. F. (Engineer); Sanzharovskiy, A. T. (Candidate of technical sciences); Zubov, P. I. (Doctor of chemical sciences)

TITLE: Physico-mechanical properties of polyethylene spray coatings

SOURCE: Khimicheskoye i neftyanoye mashinostroyeniye, no. 6, 1965, 33-36

TOPIC TAGS: plastic, polyethylene, plastic coating

ABSTRACT: Physico-mechanical properties and internal stresses in polyethylene [illegible] and means for increasing their durability. [illegible] of the coatings were investigated by the method described by A. T. Sanzharovskiy (Vysokomolekulyarnyye soyedineniya, 1960, t. 2, No. 1). They varied erratically with cooling. Thermal treatment of the specimens at 200C increased the coating elasticity, but higher temperatures changed its color. Thermal effect on the magnitude of thermal stresses and on the mechanical properties of coating is shown in Figs. 1 and 2 on the Enclosure; according to the curve 1, 200C was the optimal [illegible] for thermal treatment, resulting in considerable improvement of strength

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L 61702-65

ACCESSION NR: AP5015966

and elasticity of plastic coatings. The study of the variations in the polymer molecular and supermolecular structure revealed its direct relation to the physico-mechanical properties: the strength of the coating grew during the initial heating stage, while further heating caused the destruction of macromolecules and lowering of tensile strength. Orig. art. has: 1 table and 5 figures.

ASSOCIATION: none

SUBMITTED: 00 ENCL: 02 SUB CODE: MT

NO REF SOV: 007 OTHER: 001

Card 2/4

L 61702-65

ACCESSION NR: AP5015966

ENCLOSURE: 01

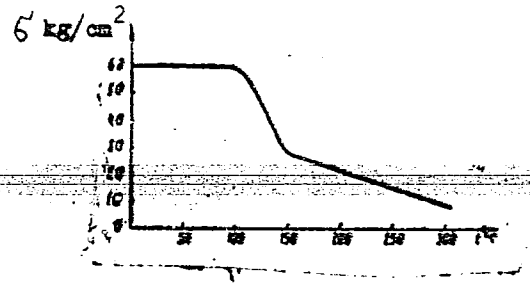

Fig. 1. Effect of thermal treatment temperature t on the magnitude of internal stresses σ in polyethylene coating (duration of treatment--4 hours)

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L 61702-65

ACCESSION NR: AP5015966

ENCLOSURE: 02

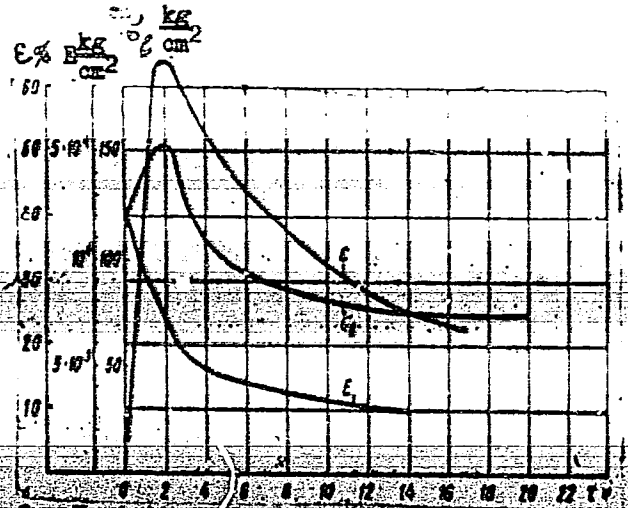

Fig. 2. Variation of the strength limit σ_r, of tensile elongation δ, and elasticity modulus E of polyethylene coating with respect to duration of thermal treatment τ' at 200C

Card 4/4

CHUVAYEV, V.F.; KABANOV, V.Ya.; SPITSYN, Viktor I., akademik

Study of the state of water in phosphomolybdic acid by means of nuclear magnetic resonance. Dokl. AN SSSR 155 no. 4:908-911 Ap '64. (MIRA 17:5)

1. Institut fizicheskoy khimii AN SSSR.

CHUVAYEV, V.F.; IVANOVA, L.V.; ZUBOV, P.I.

Nuclear magnetic resonance study of the process of hardening of an unsaturated polyester resin. Vysokom.soed. 6 no.8:1501-1504 Ag '64. (MIRA 17:10)

1. Institut fizicheskoy khimii AN SSSR.

KABANOV, V.Ya.; CHUVAYEV, V.F.

Infrared spectroscopy and nuclear magnetic resonance study of the state of water in yellow tungstic acid. Zhur. fiz. khim. 38 no.5:1317-1318 My '64. (MIRA 18:12)

1. Institut fizicheskoy khimii AN SSSR. Submitted June 18, 1963.

SPITSYN, Vikt.I., akademik; MIKHAYLENKO, I.Ye.; CHUVAYEV, V.F.

Changes taken place in a magnesium sulfate catalyst during its use. Dokl. AN SSSR 162 no.6:1346-1348 Je '65. (MIRA 18:7)

1. Institut fizicheskoy khimii AN SSSR.

CHUVAYEV, V.F.; BAKHCHISARAYTSEVA, S.A.; SPITSYN, Vikt.I., akademik

Position of hydrogen ions in some heteropoly compounds studied by means of nuclear magnetic resonance. Dokl. AN SSSR 165 no.5:1126-1129 D '65. (MIRA 19:1)

1. Institut fizicheskoy khimii AN SSSR. Submitted May 25, 1965.

CHUVAYEV, V.F.; SPITSYN, Vikt.I., akademik

Proton magnetic resonance (P.M.R.) spectra of certain 12-heteropoly acids. Dokl. AN SSSR 166 no.1:160-163 Ja '66. (MIRA 19:1)

1. Institut fizicheskoy khimii AN SSSR.

Reel #91
Chugayev, V.N.