SUKHOV, K.S.

"Virus inclusions in plant cells." M.I. Gol'din. Reviewed by K.S. Sukhov. Mikrobiologiia 25 no.1:132-133 Ja-F '56 (MLRA 9:5)

(VIRUSES) (PLANT DISEASES) (GOL'DIN, M.I.)

SUKHOV, K.S.; KAPITSA, O.S.

Discovery of a "noninfectious" phase in the development of the tobacco mosaic virus. Dokl. AN SSSR 110 no.3:469-471 S '56. (MLRA 9:12)

1. Institut genetiki Akademii nauk SSSR. Predstavleno akademikom A.I. Oparinym.

(MOSAIC DISEASE)

SUKHOV, K.S., professor.

Hereditary changes in phytopathogenic viruses. Agrobiologiia no.1:36-53 Ja-F '57. (MLRA 10:4)

1. Institut genetiki Akademii nauk SSSR.
(Virus diseases of plants) (Heredity of acquired characters)

Country : USSR
Category : Plant Diseases. Diseases of Cultivated Plants. 0

Abs Jour. : Ref. Zhur.-Biologiya No. 11, 1958. No. 49367

Author : Sukhov, K.S.; Razvyazkina, G.M.
Institute : Not given
Title : Sugar Beet Yellows

Orig. Pub.: Kashchita rast. ot vredit. i bolezney, 1957, No. 6, 55
Abstract : This disease which is widespread throughout the countries of Western and Central Europe has been detected in the western regions of the USSR. The symptoms of yellows, its carriers, the susceptibility in plants of different families are described.

Card 1/1

E

USSR / Virology. Plant Viruses.

Abs Jour: Ref Zhur-Biol., No 5. 1959, 19289.

Author : Sukhov, K. S.
Inst : Institute of Genetics, AS USSR.
Title : The Problem of Hereditary Mutation of Phytopathogenic Viruses.

Orig Pub: Tr. In-ta genet. AN SSR, 1958, No 24, 117-137.

Abstract: A paper read at the International Symposium on Genetics in Tokyo on September 6, 1956. The results of experimental investigations of the author on mutation of some phytopathogenetic viruses are presented: (see RZhBiol., 1956, 52669, 54627). 12 photographs.

Card 1/1

The Problem of Heredity and Variability. Conference Held at the Institute of Genetics

ber of inherited features of androgynous offspring.

6) I. Ye. Glushchenko: New works in the field of vegetative hybridization

7) S. N. Bocharov: The obtaining of productive yeast by the method of vegetative hybridization.

8) I. A. Barychnikov: The influence exercised by the organism of the mother on the properties of the offspring.

9) B. G. Novikov: Change of the properties of heritage of male sex cells in domestic fowls by means of an inter-racial transplantation of the testicles.

10) P. M. Sopikov, Ye. V. Tolokonnikov: On marked changes of the character of the color of the feathers in the offspring of chickens that underwent a transfusion of the blood of another species of fowls.

11) P. P. Sakharov: On inheriting immunity and the creation of highly resistant forms of argicultural animals and fowls.

12) Ye. S. Smirnov: On the connection between the inheriting of properties and the phenomenon of adaptation to new conditions of existance.

30-1-34/39

The Problem of Heredity and Variability. Conference Held at the Institute of Genetics

their offspring.

20) V. D. Timakov: Certain rules governing the variability of pathogenic microorganisms.

21) S. N. Muromtsev: The present stage of the problems of variability of microorganisms.

22) N. S. Butarin: An attempt making creative use of the
N. V. Loginova: Mitshurin method of remote hybridization
A. I. Lopyrin: for the purpose of the selection of agri-
N. S. Gigineyshvili: cultural animals.
A. A. Rakhimov:

AVAILABLE: Library of Congress

1. Biology 2. Scientific reports-USSR

Card 4/4

SUKHOV, Konstantin Stepanovich, prof.; PEREDEL'SKAYA, N.M., red.; SIDOROVA, V.I., red.izd-va; GRIGORCHUK, L.A., tekhn.red.

[General virusology] Obshchaia virusologiia. Moskva, Sovetskaia nauka, 1959. 235 p. (MIRA 13:7)
(VIRUSES)

SUKHOV, K.S.

Stabilization of tobacco mosaic virus crystals extracted from cells by means of antiviral serum. Vop.virus. 4 no.6:741-742 N-D '59. (MIRA 13:3)

1. Institut genetiki AN SSSR, Moskva.
(VIRUSES chem.)
(IMMUNE SERUM)

SUKHOV, Konstantin Stepanovich, doktor biolog.nauk; STAROSTENKOVA, M.M., red.; ATROSHCHENKO, L.Ye., tekhn.red.

[Viruses and virus diseases of plants] Virusy i virusnye bolezni rastenii. Moskva, Izd-vo "Znanie," 1960. 29 p. (Vsesoiuznoe obshchestvo po rasprostraneniiu politicheskikh i nauchnykh znanii. Ser.8, Biologiia i meditsina, no.22). (MIRA 13:12)
(Virus diseases of plants)

SUKHOV, K.S., red.

[Virus diseases of farm crops and ways of controlling them] Virusnye bolezni sel'skokhoziaistvennykh rastenii i mery bor'by s nimi; sbornik trudov soveshchaniia. Moskva, Izd-vo M-va sel'.khoz.SSSR, 1960. 389 p. (MIRA 13:10)

1. Vsesoyuznoye soveshchaniye po virusnym boleznyam rasteniy. 3d, Moscow, 1958.
(Virus diseases of plants--Congresses)

SUKHOV, K.S., prof.

Problems of general and agricultural virology. Zashch. rast. ot vred. i bol. 5 no.1:18-22 Ja '60. (MIRA 14:6)
(Virology) (Virus diseases of plants)

SUKHOV, K.S.; KAPITSA, O.S.; MUKOZOBOVA, L.I.

Infection of roots by tobacco mosaic virus. Trudy Inst. gen. no.29:379-388 '62. (MIRA 16:7)

(Tobacco mosaic virus)
(Roots(Botany)—Diseases and pests)

SUKHOV, K.S.; RAZVYAZKINA, G.M.; PRIDANTSEVA, Ye.A.; BELYANCHIKOVA, Yu.V.

Studying virus diseases of grain crops. Zashch.rast.ot vred.i bol. 7 no.4:40 Ap '62. (MIRA 15:12)
(Krasnodar Territory--Grain--Diseases and pests)
(Krasnodar Territory--Virus diseases of plants)

Malov, Konstantin Stepanovich

[Virus diseases of early potatoes in Moscow Province and their control] Virusnye bolezni rannego kartofelia v Moskovskoi oblasti i bor'ba s nimi. Moskva, Izd-vo "Nauka," 1964. 74 p.
(MIRA 17:8)

SUKHOV, K.S.; IZVEKOVA, L.I.; KAPITSA, O.S.

Spread of potato virus X. Trudy Inst. gen. no.31:335-344 '64.
(MIRA 17:9)

SUKHOV, K.S.

Structural and functional characteristics of viruses. Trudy Inst.gen. no.35:3-17 '65. (MIRA 18:12)

SUKHOV, K.S.; YAZYKOVA, T.F.

Prolonged sterile cultivation of tomato roots in the presence of tobacco mosaic virus. Trudy Inst.gen. no.35:88-93 '65.
(MIRA 18:12)

SUKHOV, K.S., prof.

Legacy of D.I. Ivanovskii. Zashch. rast. ot vred. i bol. 9 no.12:1-4 '64. (MIRA 18:4)

1. Institut genetiki AN SSSR.

DOB[illegible], L.G.

[illegible]tice in the composition of the unified stratigraphic scale of volcanic formations in the northwestern part of the Siberian Platform (Yenisey ore area). Uch. zap. NIIGA Reg.geol. no.3:27-50 '[illegible].

(MIRA 18:10)

[illegible], I.M.; SOKHOV, L.G.; LUKINA, V.Yu.

Stratigraphy of the volcanic complex in the Gorbiachin and Lower Tunguska interfluve. Uch. zap. NIIGA. Reg. geol. no.4:36-59 '64. (MIRA 18:12)

SUKHOV, L.G.; GOLUBKOV, V.S.

Principles of the delineation and correlation of ancient volcanic formations as revealed by a study in the northwestern part of the Siberian Platform. Dokl. AN SSSR 162 no.6:1378-1381 Je '65. (MIRA 18:7)

1. Nauchno-issledovatel'skiy institut geologii Arktiki. Submitted March 19, 1965.

P.A.

Industrial & Scientific Applications of Photography

222 778.3 : 523.16 : 771.535.1

Fading of the Latent Image of Nuclear Tracks. G. E. BELOVRELSKII and L. V. SUKHOV. *Doklady Akad. Nauk S.S.S.R.*, 1948, **61**, 243 ; *S. et I.P.*, 1950, **21**, 373.—The tracks of protons and α particles in thick nuclear emulsions disappear after storage for 24 hours at 30° or after 3 days at 17° in a humid atmosphere, while the latent image is conserved after one month storage in a desiccator over calcium chloride. The effect is also reduced by storage at low pressures (*ca.* 1 mm. mercury). Plates exposed for one month to cosmic rays at various heights show more tracks when the exposure is made in *vacuo* than those exposed at atmospheric pressure. Storage in a humid atmosphere followed by desiccation removes tracks always present in the photographic plates without lowering their sensitivity to protons and α particles. A J.L.

1948 2

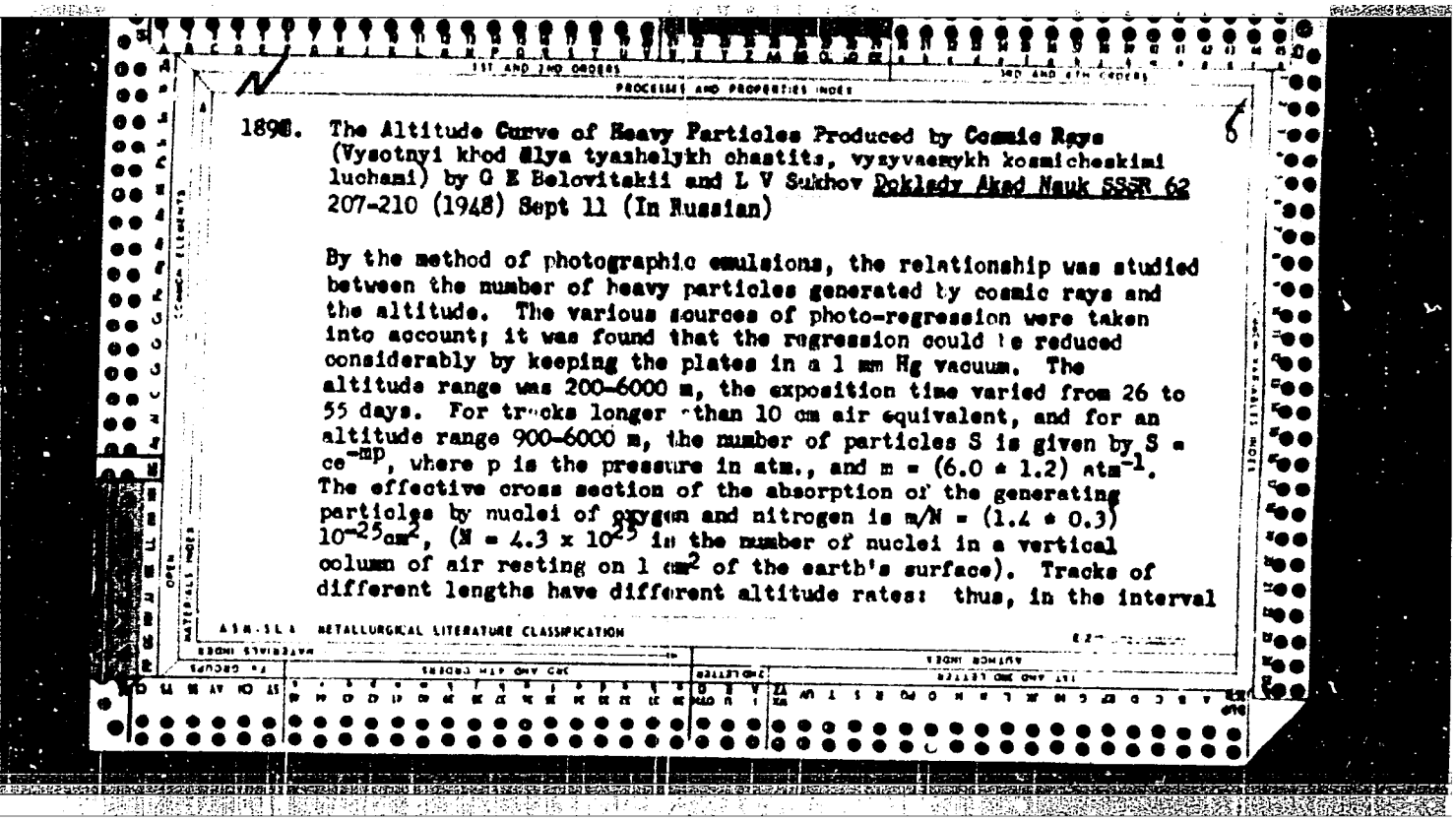
USSR/Nuclear Physics - Cosmic Radiation Jul 48
Nuclear Physics - Particles, Charged - Trajectories

"Photographing the Background of Trajectories Made by Charged Particles in an Emulsion by the Rapid Photoregression Method," G. Ye. Belovitskiy, L. V. Sukhov, 1 p

"Dok Ak Nauk SSSR" Vol LXI, No 2

Rapid acceleration of regression of trajectories of protons and alpha particles under conditions of increased moisture and temperature was used to photograph background of radioactive charges and cosmic rays which is invariably present in photographic plates. Submitted 13 May 48.

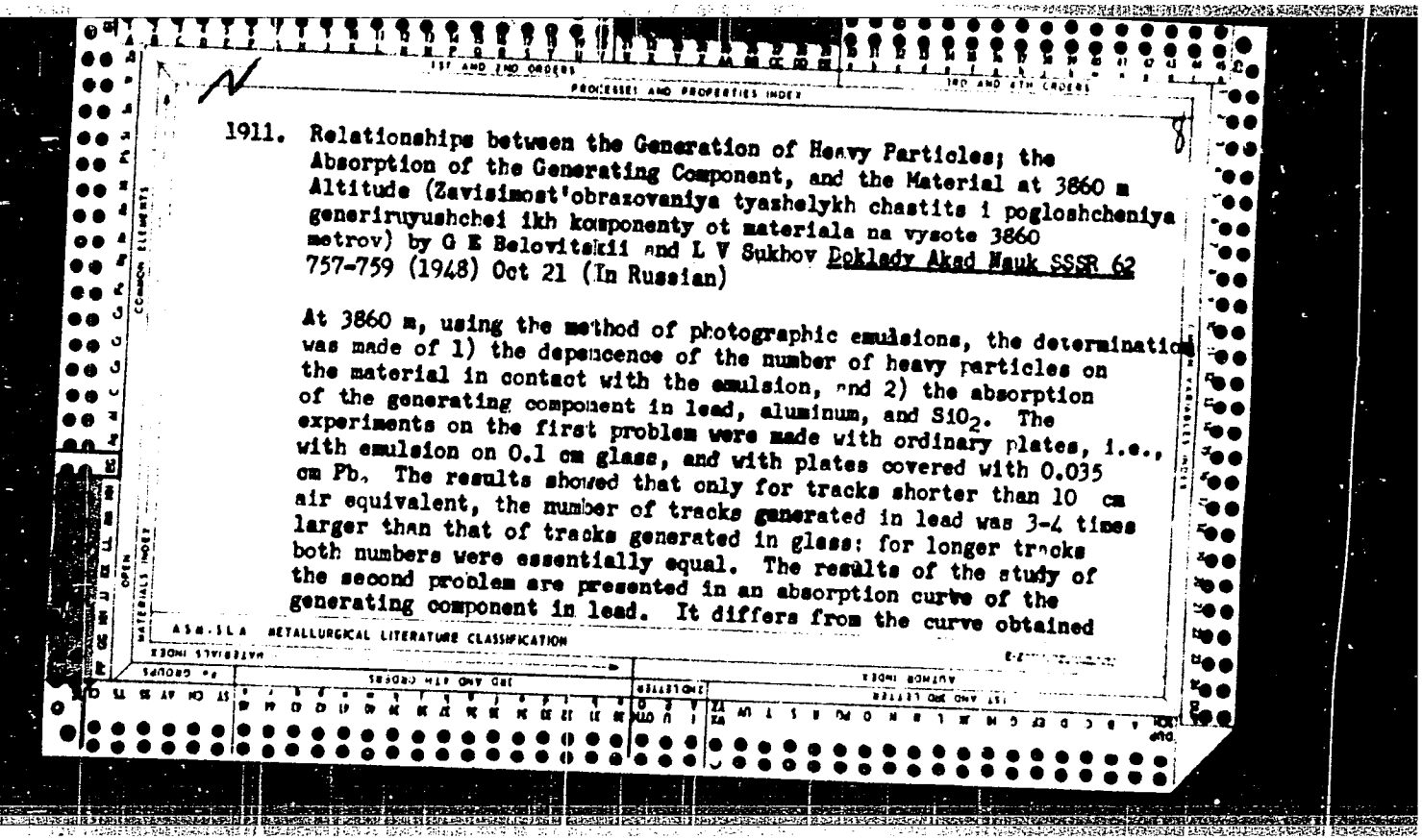
11/49187



1898. The Altitude Curve of Heavy Particles Produced by Cosmic Rays (Vysotnyi khod ilya tyazhelykh chastits, vyzyvaemykh kosmicheskimi luchami) by G E Belovitskii and L V Sukhov Doklady Akad Nauk SSSR 62 207-210 (1948) Sept 11 (In Russian)

By the method of photographic emulsions, the relationship was studied between the number of heavy particles generated by cosmic rays and the altitude. The various sources of photo-regression were taken into account; it was found that the regression could be reduced considerably by keeping the plates in a 1 mm Hg vacuum. The altitude range was 200-6000 m, the exposition time varied from 26 to 55 days. For tracks longer than 10 cm air equivalent, and for an altitude range 900-6000 m, the number of particles S is given by $S = ce^{-mp}$, where p is the pressure in atm., and $m = (6.0 \pm 1.2)$ atm^{-1}. The effective cross section of the absorption of the generating particles by nuclei of oxygen and nitrogen is $\sigma/N = (1.4 \pm 0.3)$ $10^{-25} cm^2$, ($N = 4.3 \times 10^{25}$ is the number of nuclei in a vertical column of air resting on 1 cm^2 of the earth's surface). Tracks of different lengths have different altitude rates: thus, in the interval

900–6000 m the number of tracks of 10–20 cm air equivalent increases 8 fold, while the number of tracks exceeding 20 cm increases 12 fold. All these data differ from those obtained by Widhalm (Z Physik 115 481 (1940)). For "stars" the same value of m(= 6 atm^{-1}) was found; this points to a genetic relationship between heavy particles and stars. Since most of the tracks cross the emulsion, the heavy particles must originate in the glass of the plate or in other surrounding objects. The track distribution is isotropic. At 3860 m the intensity of the generating component is probably several times that of the hard component of the cosmic radiation.



1911. Relationships between the Generation of Heavy Particles; the Absorption of the Generating Component, and the Material at 3860 m Altitude (Zavisimost'obrazovaniya tyazhelykh chastits i pogloshcheniya generiruyushchei ikh komponenty ot materiala na vysote 3860 metrov) by G E Belovitskii and L V Sukhov Doklady Akad Nauk SSSR 62 757-759 (1948) Oct 21 (In Russian)

At 3860 m, using the method of photographic emulsions, the determination was made of 1) the depencence of the number of heavy particles on the material in contact with the emulsion, and 2) the absorption of the generating component in lead, aluminum, and SiO_2. The experiments on the first problem were made with ordinary plates, i.e., with emulsion on 0.1 cm glass, and with plates covered with 0.035 cm Pb. The results showed that only for tracks shorter than 10 cm air equivalent, the number of tracks generated in lead was 3-4 times larger than that of tracks generated in glass: for longer tracks both numbers were essentially equal. The results of the study of the second problem are presented in an absorption curve of the generating component in lead. It differs from the curve obtained

by Heitler [Phys Rev 54 873 (1938)] in that it has no maximum (Heitler's curve has a maximum at 1.2 cm Pb). Its shape suggests that, at 3860 m, the generating radiation consists of two components: one, absorbed by 1-2 cm Pb, with an effective cross section about 8×10^{-24} cm^2; and another, very much harder, whose effective cross section is 6×10^{-25} cm^2. For Al the corresponding value is probably 0.9×10^{-25} cm^2, and for air 1.4×10^{-25} cm^2 (found by the authors, Doklady Akad Nauk SSSR 62 207-210 (1948). These numbers point to a possibility of disintegration of the component generating the heavy particles.

SUKHOV, L. V.

3947. The instability of cosmic ray particles causing nuclear disintegrations. G. E. Belovitskii, N. V. Maslennekova, V.F. Smirnov and L. V. Sukhov. Dokl. Akad. Nauk, SSSR, 69 (No. 3) 321-4(1949) In Russian.

Nuclear emulsions sensitive to 100 MeV protons were exposed at 3 860m for 27 d, and the frequency of stars compared with that in similar plates exposed at 4 700 m which were covered with C equivalent to the difference in air pressures. The frecuency of 2- and 3-prong stars was lower in the first plates. That of the larger stars remained the same. It is concluded that the particles causing 2- and 3-prong stars are unstable, with = 5 x 10 - 6 sec. E. P. George

USSR/Nuclear Physics - Fission of U by negative pi-mesons FD-2349

Card 1/2 Pub. 146 - 14/34

Author : Belovitskiy, G. Ye.; Romanova, T. A.; Sukhov, L. V.; and Frank, I. M.

Title : Fission of uranium nuclei under the action of slow negative pi-mesons and high-energy particles

Periodical : Zhur. eksp. i teor. fiz. 28, 729-732, Jun 1955

Abstract : In this work the authors investigate the fission of uranium nuclei by slow negative pi-mesons (G. Ye. Belovitskiy, et alii, Otchet FIAN*, April 1950, June 1950, March 1951), by fast neutrons, with energies up to 460 Mev, and by gamma-rays with energies up to 250 Mev (G. Ye. Belovitskiy et alii, ibid., Dec 1952). For the recording of the fission of uranium nuclei they used photoplates with emulsion layer 100 microns thick with uranyl acetate (T. A. Romanova and G. Ye. Belovitskiy, ibid., June 1951), which plates permitted the observation of protons with energies up to 30 Mev. The irradiation of the plates by slow negative pi-mesons and fast neutrons was carried out in the synchrocyclotron of the Institute of Nuclear Problems. Academy of Sciences USSR; the irradiation by gamma-rays was by the synchrotron of FIAN*. They note that the energy spectrum of neutrons from "overcharging" (perezaryadka) of

670-Mev protons on beryllium was measured by V. B. Flyagin. They present 5 photographs of indicated fission. They thank Prof. M. G. Meshcheryakov, G. P. Dzhelepov, and Ye. Grigor'yev for aid in experiments with negative pi-mesons and fast neutrons, and also thank Prof. V. I. Veksler and Yu. S. Ivanov for aid in experiments with gamma-rays of high energy. They state that a more detailed report on the results obtained will be published in this journal. They conclude that the distinguishing peculiarity of the process of fission of uranium nuclei at high energies of excitation is the significant probability of the emission of fast protons and alphaparticles; these particles bear only a comparatively small part of energy obtained by the uranium nucleus from the primary particle. Thirteen references.

Institution : Physical Institute imeni P. N. Lebedev, Acad. Sci. USSR (FIAN*)

Submitted : March 9, 1955

10558

FISSION OF URANIUM BY SLOW π^- MESONS, FAST [illegible]

[illegible]

[illegible] 1956. Mar. (In English) Zhur. Eksper. i Teoret. Fiz. 29, 531-40(1955) Nov. (In Russian)

The fission of uranium by slow π^- mesons, fast neutrons and high energy [illegible] has been studied by use of thick photographic plates. It has been found that there is a high probability that the uranium nucleus will undergo fission when it captures a π^- meson. This probability is close to 0.5. At high energies of excitation, fission is often accompanied by the emission of charged particles -- protons and [illegible] particles. The energy distribution and angular distribution of these particles were determined. The mechanism [illegible] fission of uranium at high excitation energies is discussed on the basis of these observations. (auth)

Sukhov, L. V.

USSR/Nuclear Physics - Elementary Particles C-3

Abst Journal : Referat Zhur - Fizika, No 12, 1956, 33920

Author : Dul'kova, L. S., Romanova, T. A., Sokolova, I. B., Sukhov, L. V., Tolstov, K. D., Shafranova, M. G.

Institution : None

Title : Interaction of 300-Mev π^--Mesons with Protons, Deuterons, and Nuclei of a Photographic Emulsion

Original Periodical : Dokl. AN SSSR, 1956, 107, No 1, 43-46

Abstract : AIKFI plates of the "p" type, enriched with H or loaded with D by impregnating in a 30% water solution of lithium acetate, were radiated in the phasotron of the Institute for Nuclear Problems, Academy of Sciences USSR by π^--mesons of 225 ± 8 Mev. The H content reached $6 \cdot 10^{22}$, and the D content reached $3 \cdot 10^{22}$ per cm^3. The presence of Li made it possible to control the evenness of the loading. The increased value of

Card 1/2

USSR/Nuclear Physics - Elementary Particles C-3

Abst Journal : Referat Zhur - Fizika, No 12, 1956, 33920

pH of the lithium acetate contributed to a reduction in regression. The radiation was carried out up to a density of 10^4 to 10^5 tracks per cm^2 . The examination was made by areas and along the track. The average free path for all the processes, including scattering by an angle greater than 20^o was 88 ± 5% of the geometric. The principal contributions are made by processes of inelastic scattering and absorption with star formation.

The area inspection method was used to trace 1,240 stars. A distribution was made by the number of rays. Fifty cases of scattering by H and 11 cases of scattering by D were found; the elastic-scattering sections were respectively $\sigma_H = 14 \pm 3.6$ millibarn and $\sigma_D = 15 \pm 5.5$ millibarns. The scattering by D is strongly anisotropic. A histogram is given for the differential scattering of π^--mesons by H in a center of gravity system. A discrepancy is noticed from the theoretical curve for small scattering angles.

Card 2/2

SOV/120-59-2-25/50

AUTHORS: Belovitskiy, G.Ye., Korablev, L.N., Sukhov, L.V. and Shtranikh, I.V.

TITLE: An Apparatus for the Automatic Meaurement of Multiple Scattering of Particles (Ustanovka dlya avtomatizatsii izmereniy mnogokratnogo rasseyaniya chastits)

PERIODICAL: Pribory i tekhnika eksperimenta, 1959, Nr 2, pp 86-90 (USSR)

ABSTRACT: The instrument may be used to carry out both measuring and computing operations on multiple Coulomb scattering. It can also be used to measure lengths. The table of the microscope can be moved repeatedly through fixed intervals (50, 100, 250 and 500 μ). The second coordinate which gives the deviation of the track from the x-axis is transformed into electrical pulses by means of a photoelectric device in the micrometer eyepiece. These pulses are transmitted to the computing part of the apparatus and the number of pulses given by the photoelectric device in each measurement of the y-coordinate is proportional to the magnitude of the first difference in the coordinates. The instrument is not fully automatic since an observer must place the track manually in a standard position. The apparatus was checked

Card 1/2

21398

S/120/61/000/002/008/042
E192/E382

24.6600

AUTHORS: Voronkov, A.Ye., Galaktionov, A.I., Murin, I.D., Sukhov, L.V. and Shtranikh, I.V.

TITLE: An Instrument for Automatic Inspection of Nuclear Photo-emulsions by the Television Raster Method. I. Servo Systems

PERIODICAL: Pribory i tekhnika eksperimenta, 1961, No. 2, pp. 63 - 68 + 1 plate

TEXT: The following two types of problems can be solved by using nuclear photo-emulsions:
1) search for the required events (stars and tracks from a given direction and density, etc.) and determining the number of such events in a given volume of emulsion;
2) inspection or scanning of chosen tracks in order to determine their scattering, ionisation, etc.
An automatic instrument capable of performing the following operations on photo-emulsions is described:
a) automatic following of a given track in three coordinates

An Instrument for ....

on the photocathode of a television-camera tube (type ЛИ-101 (LI-101)). In order to obtain the maximum ratio of track signal/background noise the slots which are usually employed in such equipment were eliminated (Refs. 1-3). The system is based on the principle of digital recording. Each field of the television picture is counted as the number of grains in a track; the deviation of the track from its central position in the field of vision of the camera tube is similarly recorded. On this basis it was possible to design an instrument capable of tracking only one grain (in the absence of background grains) which corresponds to the signal/noise ratio of about 1/400 over a segment of track 200 μ long. The functioning of the system is as follows. Of all these signals, from each line of the television reproduction of the picture, only those are selected which enter the so-called control zone a which is from 2 - 24 μ wide (depending on the chosen width of the zone and magnification of the microscope). Initially, the investigated track is introduced into this zone. The control zone is situated

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E192/E382

An Instrument for ....

The deviation k is expressed as the number of pulses corresponding to the number of the lanes ℓ multiplied by the number of lines n in a sub-zone which intersect the elements of a track, i.e. $k = \ell m$. The television system is based on interlaced scanning with 50 fields per second, the full number of lines being 567. For purely technical reasons, only two-thirds of all the lines of each are used. This amounts to about 94 lines per sub-zone for a field so that for the maximum detuning for a thick trace in one sub-zone the deviation is k = 378 pulses. The deviation of a track from its central position in the control zone is determined separately for all four sub-zones, for each third field, by means of four counter circuits 6 - 9 of the preliminary dividers and finally by means of four storage interpolators 10 - 13 (see Fig. 2). The logical control circuit 14 , which is coupled to 10 - 13 , produces a mismatch signal when the track deviates from its central position; the signal is then applied to the servo mechanisms of the microscope which eliminate the "mismatch". The

Card 5/10

An Instrument for ....

keys. The deviation of a track from its central position (α, β, or γ) results in the rotation of the Dovey prism due to the signals obtained from the logic circuit 14 ; this also results in the rotation of the sine-cosine potentiometer 29, whose output voltage controls the speed of the motors M_1 and M_2 via the control circuits 16 and 15 . A special shutter placed on the axis of the prism controls the motion of the drive screws by means of magnetic clutches which are operated by photo-diodes and relays. The motors employed have a comparatively small speed range (500 to about 7 000 r.p.m.). Consequently, at certain angular positions φ_2 of the prism which correspond to the predominant direction of motion along one of the coordinates X_1 or Y_1 , the system automatically produces a discrete displacement of the track along one of the coordinates by means of a magnetic clutch operating at a small constant velocity. The above deficiency of the motors limits the measurement of the track-

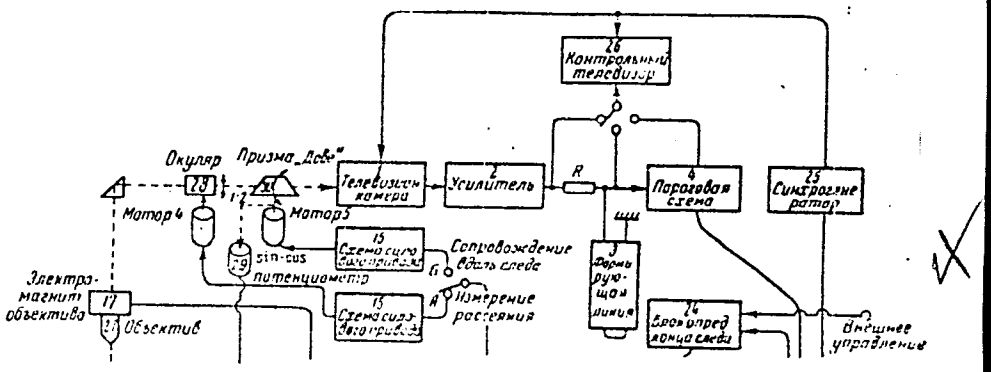
Card 7/10

S/120/61/000/002/008/042
An Instrument for E192/E382

There are 4 figures and 7 references: 3 Soviet and 4 non-Soviet.

ASSOCIATION: Fizicheskiy institut AN SSSR (Physics Institute of the AS USSR)

SUBMITTED: April 25, 1960



Card 9/10

S/120/62/000/001/008/061
E039/E485

24.6830
21.6000

AUTHORS: Voronkov, A.K., Murin, I.D., Sukhov, L.V., Shtranikh, I.V.

TITLE: An apparatus for the automatic survey of nuclear photo-emulsions by a television roster method
II. The recording system

PERIODICAL: Pribory i tekhnika eksperimenta, no.1, 1962, 42-4[illegible]

TEXT: In the study of cosmic rays and other nuclear processes thick layer photo-emulsion plates are used for recording charged particles. The resulting tracks in the emulsion are studied under a microscope. In the particular cases when emulsions are exposed in artificial satellites and in accelerators, a very large amount of work is entailed in surveying the plates. Using a device for the automatic television survey of nuclear photo-emulsions, previously described by the present authors (Ref.1: PTE, No.2, 1961, 63), the rate of making measurements on scattering and ionization of particles is accelerated by 10 to 100 times. Some of the main characteristics of the apparatus are as follows:
1) type of microscope МБИ8 (MBI8) (modified);

4'

An apparatus for the automatic ...

1) Maintenance of contrast, which depends on, a) the amplification coefficient of the video-amplifier; b) the sensitivity of the transmitting tubes; c) the intensity of illumination.
2) Maintenance of the linearity of the amplifier and accuracy of focusing.
There are 3 figures.

ASSOCIATION: Fizicheskiy institut AN SSSR
(Physics Institute AS USSR)

SUBMITTED: June 10, 1961

4

Card 3/3

ACC NR: AP6018012 (N) SOURCE CODE: UR/0413/66/000/010/0126/0126

INVENTORS: Lyubavskiy, K. V.; L'vova, Ye. P.; Sukhov, L. V.; Yarovinskiy, L. M.; Tarnovskiy, A. I.; Ryabchenkov, A. V.; Gerasimov, V. I.; Iodkovskiy, S. A.

ORG: none

TITLE: Welding electrode. Class 49, No. 181968 [announced by Scientific Research Institute of Technology and Machine Construction (Nauchno-issledovatel'skiy institut tekhnologii i mashinostroyeniya)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 10, 1966, 126

TOPIC TAGS: welding, welding electrode, austenite steel, carbon, silicon, manganese, chromium, nickel, molybdenum, niobium, sulfur, phosphorus

ABSTRACT: This Author Certificate presents a welding electrode for welding austenite steels containing carbon, silicon, manganese, chromium, nickel, molybdenum, niobium, sulfur, and phosphorus. To increase the resistance of welded seam to corrosion, the electrode composition is taken in the following percent relationship: carbon—not over 0.05; silicon—not over 0.45; manganese 2—10; chromium 19—25; nickel 33—50; niobium 0.8—1.2; molybdenum 2.5—7.5; sulfur or phosphorus—not over 0.02 of each.

SUB CODE: 13/ SUBM DATE: 29Apr65

Card 1/1 UDC: 621.791.042.2

L 16198-65

ACCESSION NR: AR4047525

that the application of adhesives in the assembly of industrial equipment makes it possible to assure the required strength, to simplify fabrication, and to reduce the labor required for fabrication and assembly by 1.5 to 2 times. The working temperature for the adhesive compound does not exceed 80°C. With an increase in temperature the strength of the adhesive compounds falls. Repeated heating of the parts attached with adhesives, without the application of loads, to a temperature of 150°C and holding for 90 min does not decrease the strength of the adhesive joints. After assembly with adhesives, it is possible to work the surface on a lathe, on a milling machine, on a grinder, or by other methods. Working of the surface after the use of adhesives must be done with the use of cooling, since in certain cases of high feed rates and high cutting speeds the high temperature can bring about destruction of the adhesive bond. Tables are presented showing fabricated units in which adhesive compounds are used. 5 figures.

SUB CODE: MT, IE ENCL: 00

Card 2/2

L 22578-65 EWT(m)/EWP(w)/EPF(c)/EWA(d)/EWP(v)/EPR/EWP(j)/T/EWP(t)/EWP(k)/EWP(b) Pc-4/Pf-4/Pr-4/Ps-4 JD/WW/HM/RM

ACCESSION NR: AP5002248 S/0122/64/000/012/0030/0033

AUTHORS: Kapustin, N. M. (Candidate of technical sciences, Docent); Sukhov, M. F. (Engineer)

TITLE: Effects of creep in glued joints on the initial clamping force

SOURCE: Vestnik mashinostroyeniya, no. 12, 1964, 30-33

TOPIC TAGS: creep characteristic, joint / ST 3 steel, ED5 100 resin

ABSTRACT: The effects of creep in the cemented joint of a stud as shown in Fig. 1 on the Enclosures on the initial clamping force was experimentally investigated.

... the Preloading was ... case. The force from ...

... force

... which an additional ...

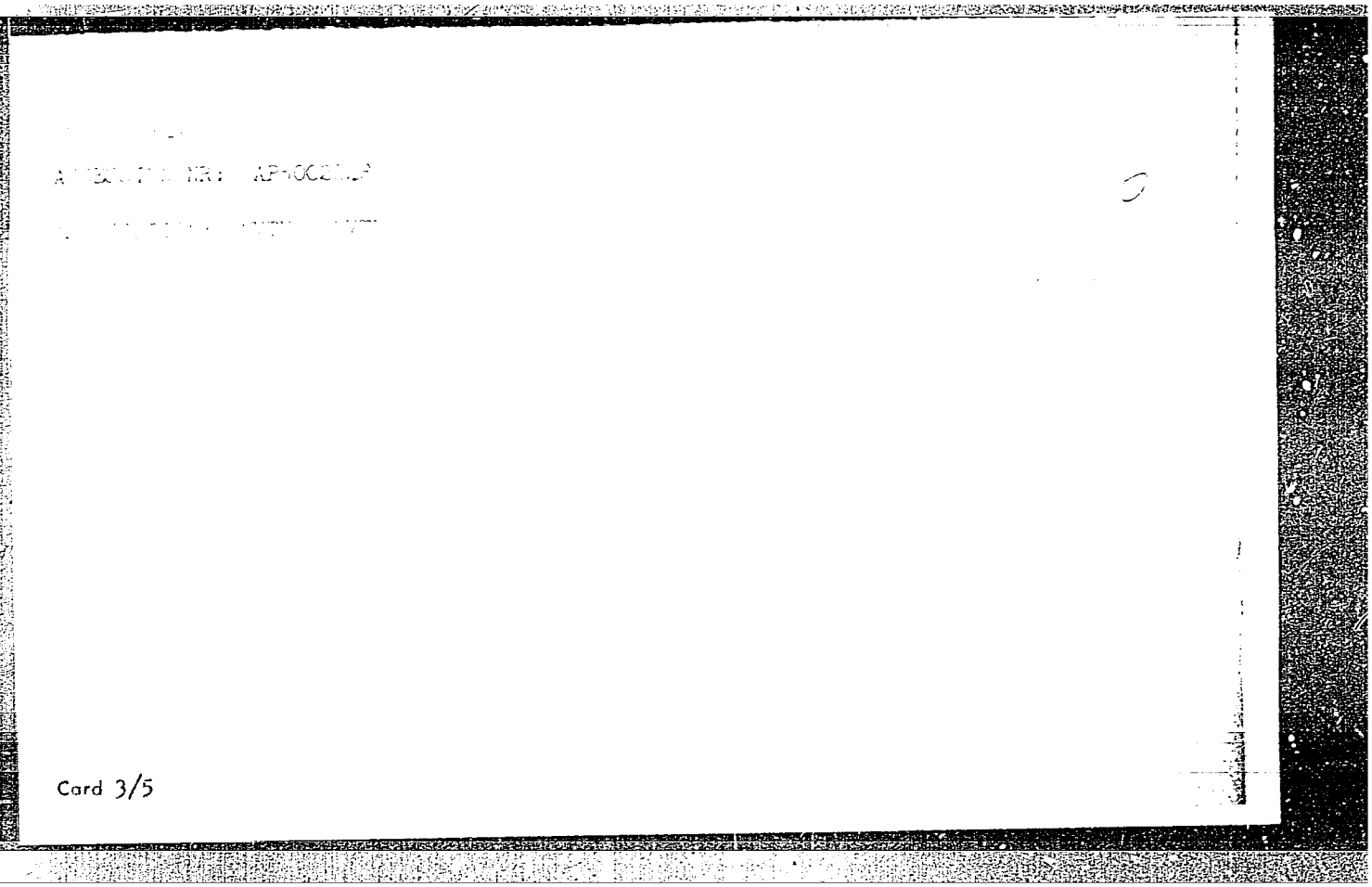
... following working ... experimental data for ...

[illegible]

(where [illegible] = 0.3, K = joint geometry coefficient = 0.75-1.0; E_b, E_c = modulus of [elasticity] of the stud and clamped material; F_b, F_c = areas of stud and clamped ... has: 5 figures, 1 ...

Card 2/5

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820010-5"



Card 3/5

ACCESSION NR: AP5002249

ENCLOSURE: 01

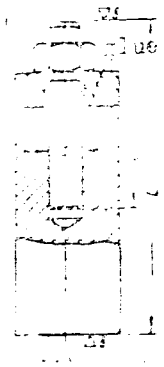


Fig. 1. Stud and clamped part geometry

Card 4/5

L 22578-65

ACCESSION NR: AP5002248

ENCLOSURE: 02

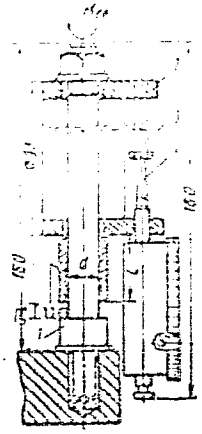


Fig. 2. Nomenclature in text

Card 5/5

SUKHOV, M. P.

BCS

Ceramic Products

glass

1279. **Grinding and polishing machines of the spindle type.**—A. P. ALEXANDROV and M. P. SUKHOV (*Stek. Keram.*, 7, No. 11, 20, 1950). Constructional characteristics are given of various spindle grinding and polishing machines for use in glass production. (7 figs., 1 table.)

BCS SUKHOV, M P.

Ceramic Products
Glass

1290. **The improvement of glass polishing.**—A. P. ALEKSANDROV and M. P. SUKHOV (*Stek. Keram.*, 7, No. 11, 22, 1950). Successful expts. were carried out with organic glass as an abrasive material for polishing silicate glass. (1 fig., 1 table.)

AUTHORS: Ryabov, V. A., Barbarina, T. M., Steshenko, M. I., Kireyev, P. S., Sukhov, M. P. 72-58-3-14/15

TITLE: Rubberoid and Hydro-Insulating-Tapes Based on Glass Fiber (Ruberoyd i gidroizolyatsionnyye lenty na osnove steklovolokna)

PERIODICAL: Steklo i Keramika, 1958, [illegible] Nr 3, pp. 43-47 (USSR).

ABSTRACT: The increased chemical stability, as well as the greater mechanical strength of glass fiber in comparison with organic fiber, makes it possible to use the former successfully as reinforcement for a series of products as rubberoid and other special tissues. Glass-fiber can also partly be used in concrete constructions in lieu of metal reinforcements, as referred to in the works by V. A. Ryabov, T. M. Barbarina, N. A. Sheludyakov and A. K. Burov, G. D. Andriyevskaya (reference 1). The manufacture of rubberoid and hydro-insulating tapes based upon glass fiber is worth noting in Czechoslovakia. This manufacture

Card 1/3

Rubberoid and Hydro-Insulating-Tapes Based on Glass Fiber 72-58-3-14/15

roofing and hydro-insulation. The authors recommend to introduce such a manufacture in the USSR.
There are 4 figures, and 2 references, 2 of which are Soviet.

1. Glass textiles--Applications 2. Insulation--Test results

Card 3/3

SUKHOV, N. A.

"On the Methods of Developing the Scientific Technical Terms of General Machine Building." Sub 25 Apr 51, Inst of Machine Science, Acad Sci USSR

Dissertations presented for science and engineering degrees in Moscow during 1951.

SO: Sum. No. 480, 9 May 55

SUKHOV, N.K.; TERPIGOREV, A.M.

Use of letter abbreviations to represent scientific and technological terms. Izv.AN SSSR. Otd.tekh.nauk no.7:1058-1064 Jl '53. (MLRA 6:8)
(Science--Terminology) (Technology--Terminology)

GAVRILOVA, M.A., doktor tekhn.nauk; ARTOBOLEVSKIY, S.I., doktor tekhn. nauk; BERSHTEYN, S.I., kand. tekhn. nauk; BOLGAKOV, A.A., kand. kand. tekhn. nauk; LERNER, A.Ya., doktor tekhn. nauk; MEYEROV, M.V., doktor tekhn. nauk ; SUKHOV, N.K., doktor tekhn. nauk; FEL'DBAUM, A.A., doktor tekhn. nauk; FILIPPOVICH, B.I., doktor tekhn. nauk; KHAMOY, A.V., doktor tekhn. nauk; SHORYGIN, A.B., doktor tekhn. nauk

[Terminology on the basic concepts of automatic control] Terminologiia osnovnykh poniatii avtomatiki; doklad. Moskva, 1960. 31 p. (International Federation of Automatic Control, ost Internationa Congress, Moscow, 1960. Doklady, no.232) (MIRA 14:8)

1. Natsional'nyy komitet po avtomaticheskomu upravleniyu. Nauchno-tekhnicheskiy komitet terminologii. 2. Nauchno-tekhnicheskiy komitet terminologii Natsional'nogo komiteta SSSR po avtomaticheskomu upravleniyu (for all).
(Automatic control—Terminology)

ASHKENAZI, G. I., inzh.; SUKHOV, N.K., kand.tekhn.nauk; VOLOTSKOY, N.V., kand.tekh.nauk

Letters to the editor. Svetotekhnika 6 no.11:21 N '60. (MIRA 13:11)

(Electric lighting)

ACC NR: AP7004757 (A) SOURCE CODE: UR/0413/67/000/001/0052/0052

INVENTOR: Sukhov, O. V.

ORG: None

TITLE: A capacitor seam welder. Class 21, No. 189961 [announced by the Institute of Electric Welding im. Ye. O. Paton (Institut elektrosvarki)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 1, 1967, 52

TOPIC TAGS: seam welding, welding equipment, capacitor

ABSTRACT: This Author's Certificate introduces a capacitor seam welder containing a charging transformer, working capacitors, commutators for the charging and discharging circuits, a welding transformer and a welding cycle control unit. The circuit is designed for stabilizing the magnitude of the energy stored in the capacitors. The control unit contains the following electrically interconnected elements: a meter which indicates the instantaneous voltages in the supply circuit, a shaper network which produces control pulses for commutator operation and an element for negative feedback with respect to the reverse voltage across the working capacitors.

Card 1/2 UDC: 621.791.763.3.037-523

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001653820010-5"

ACC NR: AP7002567 (A,N) SOURCE CODE: UR/0413/66/000/023/0054/0054

INVENTOR: Sukhov, O. V.

ORG: none

TITLE: Point capacitor machine. Class 21, No. 189086 [announced by Electric Welding Institute im. Ye. O. Paton (Institut elektrosvarki)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 23, 1966, 54

TOPIC TAGS: welding equipment, spot welding, capacitor

ABSTRACT: This Author Certificate presents a point capacitor machine intended for contact welding parts of small thicknesses. The machine contains a power rectifier, a buffer capacitor for preliminary heating of the parts, and charging and discharging commutators in the battery circuit of the working capacitors which are coupled electrically to the welding transformer (see Fig. 1). To increase the welding quality, an electronic voltage regulator for the working capacitors and an electronic time relay controlling the commutator operation are used in the machine.

Card 1/2 UDC: 621.791.037 621.791.763.1.037-523.8

Photoelectric Control of Metal Heating in Contact Roller Welding 125-58-7-7/14

ASSOCIATION: Institut elektrosvarki imeni Ye.O. Patona AN USSR (Institute of Electric Welding imeni Ye.O. Paton, AS UkrSSR)

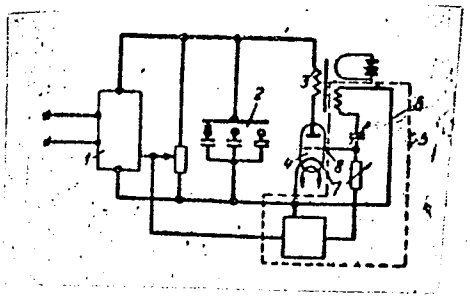
SUBMITTED: March 1, 1958

1. Resistance welding--Control 2. Spot welds--Quality control
3. Seam welds--Quality control 4. Welded joints--Properties
5. Photoelectric pyrometers--Applications

Card 2/2

L 25463-66
ACC NR: AP6011216

0



1--charging units; 2--working capacitors; 3--welding transformers; 4--discharge tube; 5--tube control unit; 6--positive feedback circuit; 7--cathode; 8--grid

SUB CODE: 09,13/ SUBM DATE: 28Apr64/ ORIG REF: 000/ OTH REF: 000

Card 2/2

REMIZOV, A.N.; [illegible]; POPIL'SKIY, R.Ya., [illegible] red.

[Industry's requirements as to the quality of mineral raw materials; a handbook for geologists] Trebovaniia promyshlennosti k kachestvu mineral'nogo syr'ia; spravochnik dlia geologov. Moskva, Nedra. No.64. 1964. 62 p. (MIRA 18.9)

1. Moscow. Vsesoyuznyy nauchno-issledovatel'skiy institut mineral'nogo syr'ya.

LUNDINA, [illegible]; [illegible]; [illegible]

Brick Houses

House from prefabricated ceramic elements. Trudy Niistroitekramika, No. 5, 1951.

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

REMPEL', A.M.; SUKHOV, P.V.; KOPEYKIN, A.A., glavnyy red.; ROKHVARGER, Ye.L., zamestitel' glavnogo red.; VASYUTINSKAYA, A.A., red.; GARTSMAN, B.M., red.; ZAYONTS, R.M., red.; LUNDINA, M.G., red.; MOSOVA, Z.A., red.; PETROV, N.A., red.; RIVKIN, A.M., red.; ROMANOV, P.R., red.; SOKOLOV, P.V., red.; FEYN, Yu.E., red.; KOSYAKINA, Z.K., red.; KASIMOV, D.Ya., tekhn.red.

[Research on clay materials] Issledovanie glinistogo syr'ia. Moskva, Gosstroiizdat, 1963. 119 p. (Kuchino. Gosudarstvennyi nauchno-issledovatel'skii institut stroitel'noi keramiki. Trudy, no.22). (MIRA 17:3)

SUKHOV, P.Z.; KLIMANOV, P.V.

Electric soldering iron with internal heating. Suggestion by P.Z. Sukhov, P.V. Klimanov. Prom.energ. 11 no.11:18 N '56. (MLRA 9:12)

(Solder and soldering)

SUKHOV, P.Z., inzhener.

Electric doldering iron of a new design. Energetik 5 no.2:20-21 F '57. (MLRA 10:3)
(Solder and soldering) (Electric apparatus and appliances)

SUKHOV, S. A. Cand. Physicomath Sci.

Dissertation: "Physical Investigation of Regularities in Dry and Boundary Friction of Metal Rough Surfaces."

17/1/50
Moscow Mechanical Inst.

SO Vec... Moskva
Sum 71

SUKHOV, S. A.

Sep 50

USSR/Metals - Friction, Testing

"Pendulum Tribometer for Investigation of Exterior Sliding Friction," A. A. Dyatlov, L. V. Yelin, S. A. Sukhov

"Zavod Lab" Vol XVI, No 9, pp 1106- 1111

Authors discuss previous methods for investigation of rolling and sliding friction with aid of oscillating systems, and suggest their own device, pendulum tribometer, in which some faults of inclined pendulum are eliminated. Tribometer is adaptable for investigating friction not only of dry surfaces but also friction in presence of boundary lubrication.

PA 169157

The Third Scientific and Technical Conference in Kiyev on the Improvement of the Wear Resistance and Service Life of Machines

unequal wear and the formation of clearances in assemblies and as a result of a change in the physical and chemical condition of contact surfaces.

B.D. Grozin, Corresponding Member of the Ac.Sc. Ukrainian SSR, in a paper entitled "The Complex Method of Analysis of Components Working Under the Conditions of Rolling Friction" presented a method which includes the combined use of electron microscope, X-ray diffraction and spectroscopic analyses to judge the condition of the surface layers in association with wear tests and static mechanical tests under tri-axial non-uniform compression at different temperatures. It is claimed that with the help of this method, the relation between the contact endurance strength of steel and the factors defining the condition of the surface can be established.

In a paper "On Temperature Measuring Methods in the Friction Process between Solid Bodies", by S.A. Sukhov, Candidate of Technical Sciences, a method for measuring the temperature gradients in the immediate vicinity of the friction surfaces with the help of a natural thermocouple was presented. Both sliding bodies (pin and ring) are made of the same material, but the pin end face is covered with a thin layer of another metal

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which constitutes the natural thermocouple of which one junction is the sliding surface and the other is the bond between the pin face and the coating metal.
Great interest was aroused by the paper "The Variation of Wear Resistance of Certain Anti-friction Alloys under Nuclear Radiation" by B.L. Slin'ko. Precipitation-hardening alloys (beryllium copper G2 and nickel silicon bronze Bp. KH 1-3) have their strength and wear resistance increased by nuclear radiation. Alloys changing their properties mainly as a result of phase transformations and having a higher re-crystallisation temperature change their properties insignificantly.
In a paper "Foundations of the Cavitation-erosion Failure of Ferrous Alloys", I.N. Bogachev, Doctor of Technical Sciences, and R.I. Mints, Candidate of Technical Sciences, generalised the studies of the effect of the chemical and phase composition of iron carbon alloys on their cavitation erosion resistance. Increasing the carbon content from 0.023 to 1.2% improves the erosion resistance. The effect of alloying is due solely to the metallographic structure obtained. A pronounced improvement of erosion resistance is obtained in spheroidal graphite cast iron

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by alloying with 1% nickel and 0.3% molybdenum.
Engineer L.A. Chatynyan in his paper "Investigation of the Wear of Nickel Alloys under Dry Friction at Elevated Temperatures", reported the results of his test which showed nickel alloys to have the best wear resistance at high temperatures, whilst the initial hardness is of little consequence. The optimum composition of a new alloy with a high wear resistance at 400 °C was given, whilst high-speed steel and ordinary chromium steels have little wear resistance under dry friction at high temperatures.
V.P. Grechin, Candidate of Technical Sciences, concluded in his paper "The Heat Resistance of Cast Iron as the Main Factor in its Wear Resistance under Sliding Friction" that the hardness of cast iron at high temperatures (up to 850 °C) determines its wear resistance. Based on numerous studies of various cast irons, recommendations for alloying and for the application of cast irons under different conditions were given.
It was noted by N.I. Kovalenko, Candidate of Technical Sciences, in his paper "The Wear Resistance of Wire Ropes" that the rubbing down of a wire rope is caused by an abrasive medium and its failure occurs before fatigue sets in. The author recommended

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the deposition of anti-friction metals such as cast iron or aluminium upon steel pulleys. In unlubricated operation, such deposits increase the wear life of wire ropes by a factor of 2-3. I.I. Frumin, Candidate of Technical Sciences, in his paper "Alloys for Wear-resistant Hard Facing Deposits", stated the theoretical basis and methods of alloying to obtain the desired results and surveyed the fields of application of different methods of deposition on wearing components.
In his paper, "Electric Slag Method of Hard Facing for Wear Resistance", I.K. Pokhodnya, Candidate of Technical Sciences, suggested the electric slag process for hard facing of different components and concluded that this method is appropriate when large quantities of metal have to be deposited or when large numbers of components require treatment.
M.V. Simonenko, Engineer, suggested in his paper "The Electrolytic Diffusion Method of Making Bi-metal Components" a novel method of manufacturing copper base alloys. The alloying proceeds at a temperature much below the fusion temperature of copper. Great economies are achieved in labour cost and in scarce metals. Small scale and automatic production procedures can be applied. Service

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tests have confirmed reliable operation of bi-metal components under different conditions.

In a paper "Electric Spark Hardening of Machine Components", S.S. Astaf'yev, Candidate of Technical Sciences, reported on a novel electric spark hardening process. The surface of the steel is alloyed with the electrode metal, as a result of instantaneous heat impulses occurring in rapid succession during spark discharges. A special treatment head makes high output possible. The wear resistance of machine components is said to increase 2-6 times at room temperatures and 4-5 times at elevated temperatures.

In a paper "New Anti-friction Materials and Coatings", I.Ya. Al'shits reported on work designed to evolve novel substitutes for babbitt and high-tin-content bronze alloys. The following have given good results: a) Moulded timber materials and plastics based on phenolic and other resins with different fillers (cord and cotton fibres and others), in conjunction with water lubrication. b) Metallised graphite, nylon and others for elevated temperatures. c) Graphite-loaded materials and compositions of resin and graphite for working in corrosive media.

Card6/8

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"Improvement in Wear Resistance and Service Life of Components with Large Transverse Cross-sections by the Method of Surface Quenching and Accelerated Heating in Heat Treatment Furnaces" was the subject of G.T. Fomin, Candidate of Technical Sciences, who reported that accelerated heating of steel components to achieve transition into an austenitic state for the surface layer alone makes it possible to intensify the heat treatment of components with a cross-section exceeding 40 mm. The depth of the quenched layer can be controlled without modifying the structure of the core, so achieving the best combination of wear resistance and impact strength.
N.S. Dombrovskaya, Doctor of Chemical Sciences, and Yu.M. Vinogradov, in a paper "The Improvement of the Anti-friction Properties of Metals by Means of Thermo-Chemical Surface Treatments", pointed out that, alongside nitriding and phosphating, steels can also be improved in their anti-friction properties by enrichment with chloride or sulphide on their surface. The latter methods mainly improve the anti-seizure properties, whilst the former improve wear resistance. Sulphiding can be achieved in solid, liquid and gaseous media;

The Third Scientific and Technical Conference in Kiyev on the Improvement of the Wear Resistance and Service Life of Machines

chloriding, in a gaseous medium at a temperature of about 200 °C.

AVAILABLE: Library of Congress

Card 8/8

SAMOYLOVICH, D. M., SMIRNITSKIY, V. A., SUKHOV, S. A., RYABOV, V. D. and RULEV, A. V.

"Appareil Pour Le Developpement Semi-Automatique Des Grands Empilements D'emulsion Nucleaire."

paper presented at the Second Intl. Colloquium On Corpuscular Photography. Montreal, 21 Aug - 7 Sep 1958.

Encl: B-3,114,647.

DELEUR, Ye.N., dotsent; SUKHOV, S.A., dotsent

Using a cathode ray oscillograph for investigating the processes of breaking in machine parts. Nauch.trudy OIIMF no.16:95-102 '58. (MIRA 11:11)

(Cathode ray oscillograph) (Mechanical wear)

SOV/115-59-2-19/38

9(2)

AUTHOR: Sukhov, S.A., Kadlets, S.Ya., Pavlyuk, G.D.

TITLE: Research into Electrolytic Thermo-Elements (Issledovaniye elektroliticheskoy termopary)

PERIODICAL: Izmeritel'naya tekhnika, 1959, Nr 2, pp 35-37 (USSR)

ABSTRACT: The authors refer to an article by P.D.Lebedev in Teploenergetika (Thermal Energy), 1956, Nr 4, which states that an electrolytic thermo-element produces the same amount of voltage as a soldered thermo-element of the same metal. However, Lebedev does not state that the voltage is dependent on the thickness of the connecting solder coating. Tests were made with various metals such as copper, nickel and so on. When data on various metals is available, electrolytic thermo-elements may be prepared with any voltage from 0 to ε, where $\varepsilon = u_1 - u_2$ (u_1 and u_2 = potentials). The electrolytic thermo-element, however, has one drawback, namely, when the joints are damaged (through friction or oxydation),

Card 1/2

Research into Electrolytic Thermo-Elements

its voltage is reduced. Brittle metals, even if they have excellent thermo-element qualities, should not be used to produce soldered thermo-elements. However, these may be used to make covers for electrolytic thermo-elements. The authors suggest a method for using electrolytic thermo-elements to prepare thermo-piles, by mounting them on a plastic frame, the piles consisting of hundreds and even thousands of electrolytic thermo-elements. Such thermo-piles are, in fact, simply made and highly sensitive. There are 4 diagrams and 1 Soviet reference.

SOV/120-59-4-11/50

AUTHORS: Samoylovich, D. M., [illegible], V. A., Sukhov, S. A.,
Ryabov, V. D., Pulev, A. V.

TITLE: An Installation for the Semi-Automatic Photographic Processing of Large Emulsion Stacks

PERIODICAL: Pribory i tekhnika eksperimenta, 1959, Nr 4, pp 58-62 (USSR)

ABSTRACT: This large scale and elaborate apparatus may be used to develop and fix a 4 litre stack in 4 to 6 days. The working area of the developing apparatus is $2 m^2$ and of the fixing apparatus $10 m^2$. Five hundred emulsions each 400 µ thick may be developed in 2 to 3 days, while the fixing takes 45 to 50 hours or 70 to 80 hours, depending on whether the emulsions are glass-backed [illegible]. The entire installation occupies an area of $200 m^2$. Various gadgets are described, such as thermostated containers, plate holders, special fixing dishes, etc. The basic process of development and fixing employed is

Card 1/2

An Installation for the Semi-Automatic Photographic Processing of Large Emulsion Stacks

conventional and has been described by the authors in Refs 2-7. There are 7 figures and 7 references, of which 1 is English and the rest are Soviet.

SUBMITTED: May 14, 1958.

[illegible], [illegible]

Method of Measuring Temperature Gradients in Thin Surface Layers of Rubbing Solids" p. 230

[illegible] Friktsionnyye materialy (Dry and Boundary Friction. Friction Materials) Moscow, Izd-vo AN SSSR, 1960. 302 p. Errata slip inserted. 3,500 copies printed. (Series: Its: Trudy, v. [illegible])

Sponsoring Agency: Akademiya nauk SSSR. Institut mashinovedeniya. Resp. Ed.: I. V. Kragel'skiy, Doctor of Technical Sciences, Professor; Ed. of Publishing House: K. I. Grigorash; Tech. Ed.: [illegible] Tikhomirova.

The collection published by the Institut mashinovedeniya, AN SSSR (Institute of Science of Machines, Academy of Sciences USSR) contains papers presented at the III Vsesoyuznaya konferentsiya po treniyu i iznosu v mashinakh (Third All-Union Conference on Friction and Wear in Machines, April 9-15, 1958.

307/133-60-1-20/30

AUTHORS: Belyayev, P.P., Nikitin, B.A., Sukhov, S.I.

TITLE: Electrolytic Pickling of Sheets With Industrial Frequency a-c Current

PERIODICAL: Stal', 1960, Nr 1, pp 79-81 (USSR)

ABSTRACT: The authors propose a method of contactless electrolytic pickling by means of 50-cycle a-c current with the help of a device mounted in the hot plating unit. Calculations made by one of the authors (P.P. Belyayev, Transactions of Vil'nyus Conference Concerning Electrochemistry, 1956, Publishing House of Lithuanian Academy of Sciences 1957) show that electrolytic pickling is possible in low concentration solutions within $1 \cdot 10^{-4}$ sec. During experimental pickling in hydrochloric acid done by the Scientific Research Institute of Chemical Machinery (NIIKhIMMASh) the formation of a passive indissoluble film was not observed, proving that lower acid

Card 1/5

concentration can be used. The basic metal dissolved 50% less than in anodic treatment with d-c current. After successful laboratory tests the method was verified under industrial conditions on an installation for 510 × 710 mm sheets. Pulling rolls moved the sheet at 6.1-11.5 m/min. Results are shown in table A.

Table A Results of experimental chemical and electrolytic pickling of sheets by a-c current.

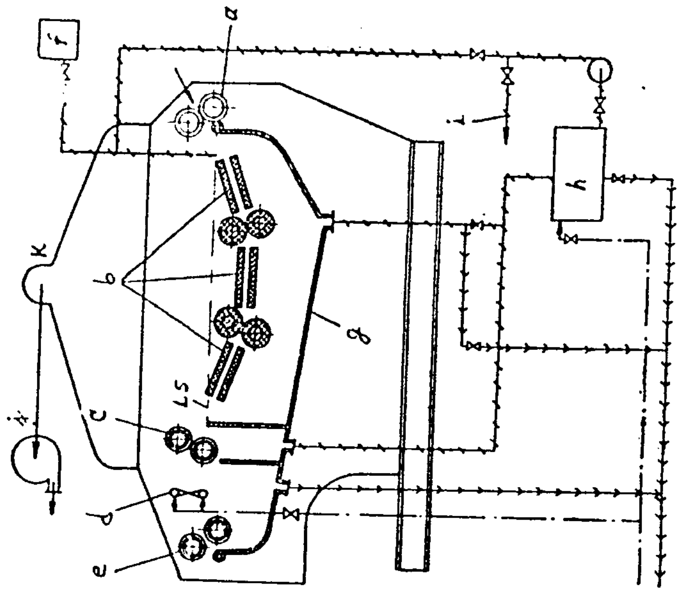
Parameters	Serial Number of Batches					
	1	2	3	4	5	6
Current, a.	240	240	360	360	360	—
Voltage on electrodes, v	2,8	2,8	5,5	5,5	5,5	—
Current density on electrodes, a/dm² . .	4	4	9	9	9	—
Pickling time, sec	9	9	6	3,2	6	6
Acid Concentration, g/l .	23	20	17,2	17,2	17,0	17,0
Production of First-Grade Tin Plated Sheets, %	69	73	70	74	71	48

The sheets were free of imperfections, contrary to pickling without current when 38% had surface flaws. Tests with bright annealed hot and cold rolled sheets were successful. Hydrogen and oxygen liberation due to the electrolytic dissociation of water was not observed. Based on industrial tests, the authors recommend a pickling unit, as shown in Fig. 3, to be located between mechanized sheet feed and fluxing machine in the hot tin-plating installation. Sheets are fed to rollers (a) and pass two sections of electrolytic treatment between three sets of graphite electrodes (b). The distance between the sheets and graphite plates is 70mm and the total length of sheet travel under the current amounts to 840 mm. Time of treatment is calculated from $t = l : v$, where t = time (min); l = length of sheet travel (m); v = rate of sheet movement (m/min). With a rate of sheet movement of 15 m/min, the treatment lasts 3.5 sec. The clean sheet passes through extraction rollers (c), water jet (d), and water extraction rollers (e). The pickling solution circulates through pressure

Electrolytic Pickling of Sheets With Industrial Frequency a-c Current

77405
SOV/1[illegible]-60-1-26/30

Fig. 5. Diagram of bath for electrolytic pickling by a-c Current. LS is level of solution (other explanations in text).



Card 4/5

tank (f) (capacity: 0.3 m^3), pickling bath (g) capacity: 1.2 m^3), and reserve tank (capacity: 2.0 m^3), from which it may be transferred for regeneration along line (i). The Fe content should not exceed 100 g/l. Contaminated air is exhausted by fan (j) (capacity: 6000 m^3/h) by way of hood (k). The method is effective in cleaning sheets, continuously moving strip, and wire as well as for the treatment of inner and outer tube surfaces. Advantages: (1) higher quality of product; (2) improved working conditions; (3) decrease in manual labor; (4) saving in power and chemicals. There are 3 figures; 1 table; and 4 Soviet references.

ASSOCIATION: Scientific Research Institute of Chemical Machinery (NIIKhIMMASh)

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AUTHOR: Sukhov, S. I.; Levin, A. N.

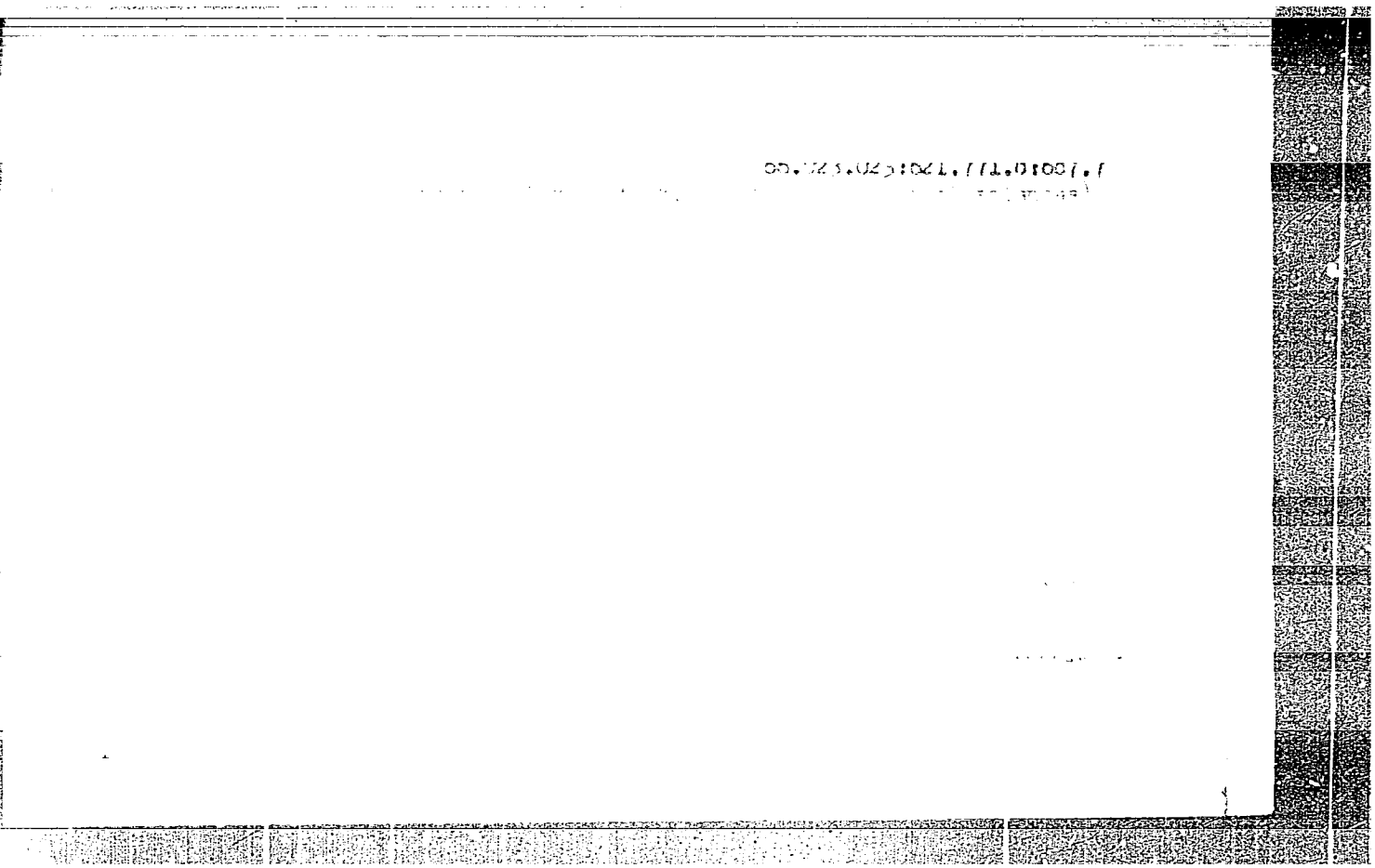
TITLE: Fiberglass clad with chemically stable thermoplastics. Methods of preparing and technology of manufacturing chemical apparatus

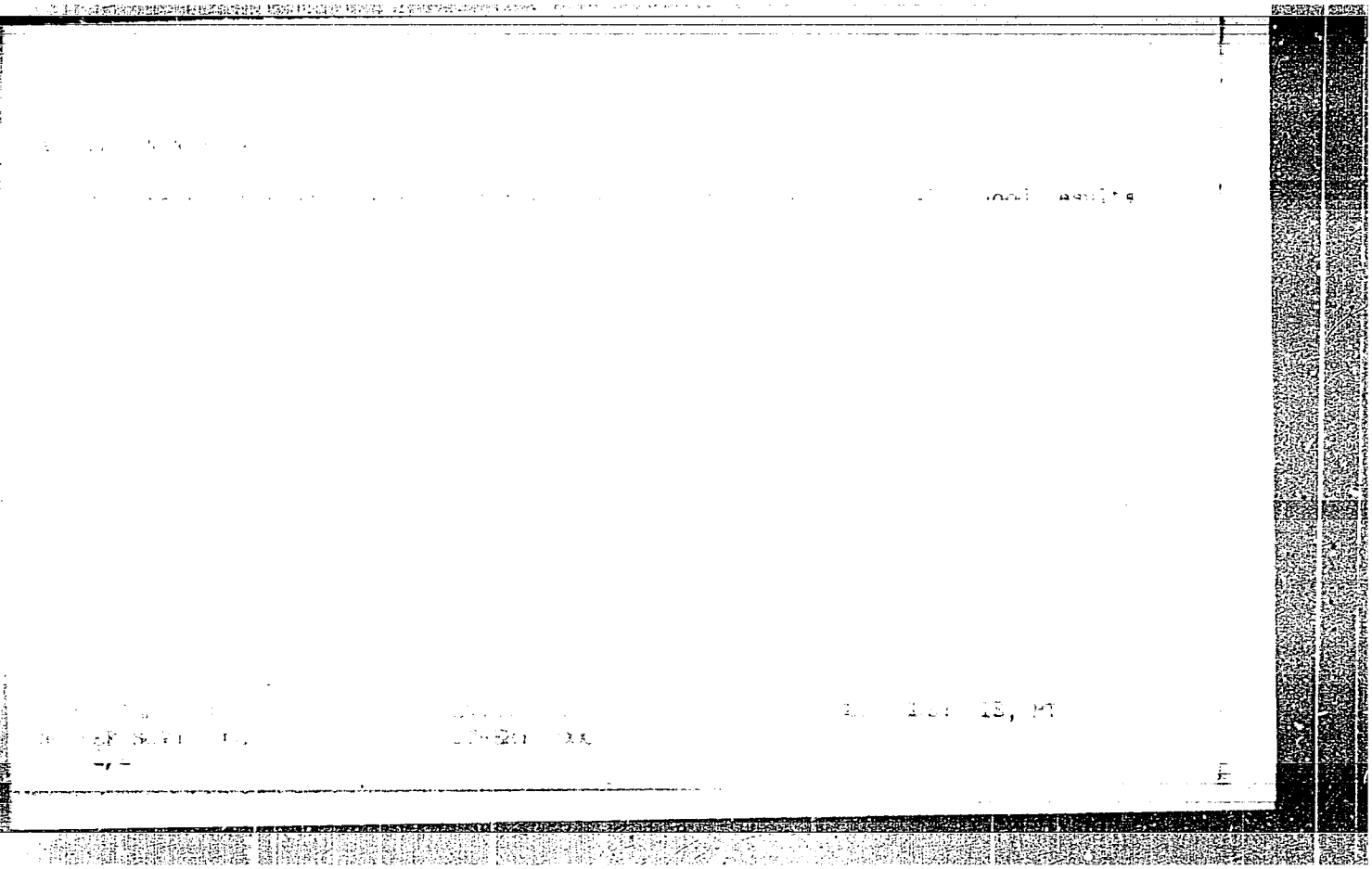
SOURCE: Plasticheskiye massy*, no. 5, 1964, 33-38

TOPIC TAGS: chemical apparatus, manufacture, thermoplastic clad fiberglass, chemically stable fiberglass construction, polyester fiberglass thermoplastic lamina, plastic cladding, machine construction, hermetic fiberglass, polyethylene clad fiberglass, polypropylene clad fiberglass, polyvinyl chloride clad fiberglass, fluoroplastic clad fiberglass, glass-reinforced plastic laminate, hermetic glass-reinforced plastic

ABSTRACT: Work was done on preparing lamellar compositions based on polyester glass-reinforced plastic and chemically resistant thermoplastics which may be applied in chemical apparatus and machine construction. The limited chemical stability and low hermetic state of fiberglass may be overcome by cladding with materials such as low- or high-density polyethylene, polypropylene, polyvinyl chloride, vinyl, or fluoroplastics. Cladding conditions and methods for forming

Card 1/2





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