SOV/58-59-8-18735

Translated from: Referativnyy Zhurnal Fizika, 1959, Nr 8, p 244 (USSR)

AUTHOR: Peregudov, F.I.

TITLE: On the Selection of a Radar Transmitter for the Radar Study of Meteor Traces

PERIODICAL: Byul. Komis. po kometam i meteoram Astron. Soveta AN SSSR, 1958, Nr 2, pp 44-45

ABSTRACT: It is pointed out that insufficiently high frequency-stability is an important shortcoming of the automatic generators serving as the basic type of transmitter in meteor radiolocators. In the case of automatic generators operating under pulse conditions, another shortcoming is the unstable lag of the high-frequency pulse front. In order to eliminate these shortcomings, it is suggested that the transmitter be built according to a many-stage arrangement with quartzitic stabilization and a complex modulation circuit.

V.A. Naslednik

Card 1/1

3(1)

AUTHOR: Peregudov, F.I.

SOV/33-35-6-8/18

TITLE: On the Influence of the Meteor Velocities on the Hour Number During Radio Detection

PERIODICAL: Astronomicheskiy zhurnal,1958,Vol 35,Nr 6,pp 888-892 (USSR)

ABSTRACT: At first the author investigates the influence of the meteor velocity on the magnitude S_o of its scattering surface. While the meteor trace is usually understood as a cylinder, the author considers the diffusion so that the trace becomes a paraboloid of revolution. The assumption leads to a more exact expression for S_o and then to an improved expression for the dependence between number of hours and wave length of the radio-echo station. Thereby the results of Ye.I. Fialko [Ref 3] are precised.
There are 2 figures, and 11 references, 4 of which are Soviet, 4 American, 1 Canadian, 1 German, and 1 English.

ASSOCIATION: Tomskiy politekhnicheskiy institut imeni S.M. Kirova (Tomsk Polytechnical Institute imeni S.M. Kirov)

SUBMITTED: September 6, 1957

Card 1/1

82472

9.3260

S/112/60/000/006/031/032

Translation from: Referativnyy zhurnal, Elektrotekhnika, 1960, No. 6, p. 496, # 6.5356

AUTHOR: Peregudov, F. I.

TITLE: On Application of a Pulse Self-Oscillator

PERIODICAL: Izv. Tomskogo politekhn. in-ta, 1958, No. 86, pp. 144-149

TEXT: The frequency instability of a radar pulse oscillator depends on the tuning precision and on the change of operation conditions. It is observed when rotating the antenna or when tubes are exchanged. It is connected with the spectrum width of the main radio pulse. In 2-circuit self-oscillators an additional instability is observed caused by transient processes at the beginning and at the end of a pulse. Due to the presence of an nonstationary rise time delay depending on the initial amplitude of natural oscillations, the self-oscillator is not suitable enough for high-precision distance measurements.

V. I. R.

Card 1/1

PRIGUDOV, F.I., Cand Tech Sci --(diss)"Certain problems of radio-location of meteoric tracks." Tomsk, 1959. 10 pp (Min of Higher Education USSR. Tomsk Order of Labor Red Banner Polytech Inst im S.M. Kirov), 150 copies (KL,32-59, 104)

The Characteristic of Meteor as a Radar Target

depends on the linear electron density in the ionized trail. If S_o is proportional to the square of the electron density, the variation of S_o proceeds according to an exponential law. In this case, the existence duration of echo-signals from the ionized trail is proportional to the wavelength of radar and does not depend on the linear electron density. The existence duration of S_o for echo-signals of constant amplitude is proportional to the product of the linear electron density by the square of the wavelength. For exponential decrease of S_o and cross polarization of the incident wave, resonance splashes are observed which increase S_o by about 4 times in comparison with its normal value. Formulae are presented which permit the determination of the echo-signal amplitude and their time characteristic

V.I.Sh.

Translator's note: This is the full translation of the original Russian abstract.

Card 2/2

85756
S/112/60/000/018/004/005
A005/A001

6,4700 (include 3402, 3403)

Translation from: Referativnyy zhurnal, Elektrotekhnika, 1960, No. 18, p. 42, # 6.15477

AUTHORS: Nemirova, E.K., Peregudov, F.I.

TITLE: The Radar Station ТПИ-1 (TPI-1) for the Investigation of Meteor Trails

PERIODICAL: Tr. Sibirsk. fiz.-tekhn. in-ta pri Tomskom un-te, 1959, No. 37, pp. 280-290

TEXT: A radar (λ = 10 m) is described for observing the ionized meteor trails. It makes it possible to determine the number of trails, their slant range, the duration of the echo-signals, and the trail motion velocity by the diffraction-pulse-method. In addition, the radial component of the wind velocity in the upper atmospheric layers was measured from the trail drift, and the existence of turbulence in the region of the meteor trails was stated from the trail deformation. The pulse power of the radar amounts to about 100 kw, the duration of pulse is 5 microseconds, the repetition frequency is 300 and 600 pulses/sec, and

Card 1/2

S/112/60/000/018/004/005
A005/A001

The Radar Station ТПИ-1 (TPI-1) for the Investigation of Meteor Trails

the response of the receiver is about 10^{-13} w. The receiving and sending antennae are half-wave vibrators and were installed at the altitude of $\lambda/3$ above the ground. The survey of the sky hemisphere is conducted from the position angles 20° and higher. The block-diagram of the radar is presented, photographs of the individual units are added, and the observation results are described. The radar was constructed in the Sibirskiy fiziko-tekhnicheskiy institut pri Tomskom universitete (Siberian Physico-Engineering Institute at the Tomsk University).

V.I.Sh.

Translator's note: This is the full translation of the original Russian abstract.

Card 2/2

S/033/60/037/03/016/027
E032/E314

AUTHOR: Peregudov, F.I.

TITLE: Dependence of the Time of Recording of Meteor Reflections on the Parameters of the Radar Station

PERIODICAL: Astronomicheskiy zhurnal, 1960, Vol 37, Nr 3, pp 530 - 535 (USSR)

ABSTRACT: In the literature, the duration of meteor reflections is usually determined at a relative level. This method of measurement can lead to large errors owing to the presence of resonance phenomena in meteor trails (Ref 4). Another disadvantage of measurements at the 1/n level is the fact that in some cases the zero level lies below the noise level of the receiver. It is therefore suggested that it may be convenient to introduce the concept of the time of recording of a meteor reflection T_p which corresponds to some absolute level defined for a given radar station. This level may be defined either by the discrimination or threshold level. Theoretical formulae are derived for calculating the time of recording of reflections from unstable meteor trails. The formulae obtained are in good agreement with the data of McKinley (Ref 8).

Card1/2

S/033/60/037/03/016/027
E032/E314

Dependence of the Time of Recording of Meteor Reflections on the Parameters of the Radar Station

Acknowledgment is expressed to V.V. Fedynskiy for valuable advice. There are 2 figures and 8 references, 3 of which are English and 5 are Soviet.

ASSOCIATION: Tomskiy politekhnicheskiy in-t im. S.M. Kirova (Tomsk Polytechnical Institute im. S.M. Kirov)

SUBMITTED: December 29, 1959

Card 2/2

√c

43284

S/831/62/000/008/005/016
E192/E382

3.2440

AUTHORS: Fialko, Ye.I., Peregudov, F.I., Nemirova, E.K., Pokrovskiy, L.A.

TITLE: Radar observations on meteors at Tomsk

SOURCE: Ionosfernyye issledovaniya (meteory). Sbornik statey, no.8. V razdel programmy MGG (ionosfera). Mezhduved. geofiz. kom. AN SSSR. Moscow, Izd-vo AN SSSR, 1962, 41-44

TEXT: Systematic radar observations of meteors at Tomskiy politekhnicheskiy institut im. S.M.Kirova (Tomsk Polytechnical Institute imeni S.M.Kirov) have been conducted as part of the IGY program. Special equipment, type ТПИ-2 (TPI-2), with wavelength of 10 m, pulse power 100 kW, pulse-duration 5 μs and pulsing frequency 600 cps, was used. Between July and December 1957, the overall observation time was 602 hours, during which 135000 reflections were observed. Between January and June 1958, the total observation time was 541 hours and the number of recorded reflections was 46000. The average number of recorded meteors per hour was $\bar{N} \cong 160$ but the average for various days deviated

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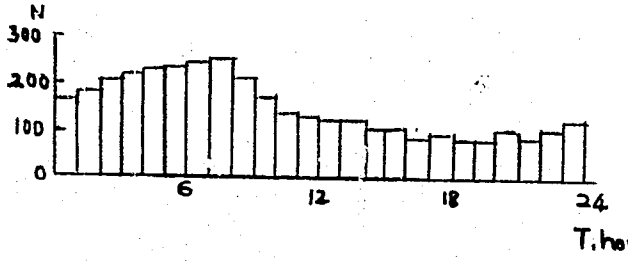
Radar observations on ...

considerably from $\bar{N}$. An idea of the daily variation of the meteor activity can be obtained from Fig.1, which shows N as a function of the time of the day. The distribution of time intervals between neighbouring meteor reflections can be approximated by an exponential law which confirms the random character of the appearance of meteors in the atmosphere. The distribution of the echo durations obeys an inverse proportional law, as can be seen from Fig.4. The drift velocity of the meteors varies from 0 to 50 m/s, the average being 25 m/s. About one-third of the meteors produced a resonance effect. There are 5 figures.

Fig.1.



Card 2/3 2

43285

S/831/62/000/008/006/016
E192/E382

6.4731

AUTHORS: Fialko, Ye.I., Peregudov, F.I., Nemirova, E.K., Zubarev, G.S., Zolotarev, I.D. and Pokrovskiy, L.A.

TITLE: Radar equipment for meteor observations at Tomsk

SOURCE: Ionosfernyye issledovaniya (meteory). Sbornik statey, no. 8. V razdel programmy MGG (ionosfera). Mezhduved. geofiz. kom. AN SSSR. Moscow, Izd-vo AN SSSR, 1962, 45 - 50

TEXT: Radar equipment, type ТПИ-2 (TPI-2), has been used for meteor observations at Tomsk since May, 1957. Apart from that, additional equipment, type M-3, was designed and built for operating at the wavelength of 4 m. The TPI-2 equipment operates at the wavelength of 10 m and permits determination of the range of a meteor track, its velocity and the radial component of the drift velocity of the track. The pulse-power of the radar transmitter is 100 kW, pulse duration 5 μs, pulsing frequency 600 c.p.s. (each alternate pulse being doubled) and its maximum range is 400 km. The sensitivity of the receiver is 10^{-13} W, the antenna being in the form of a half-wave dipole situated at a height of λ/3 above the

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Radar equipment ....

S/831/62/000/008/006/016
E192/E382

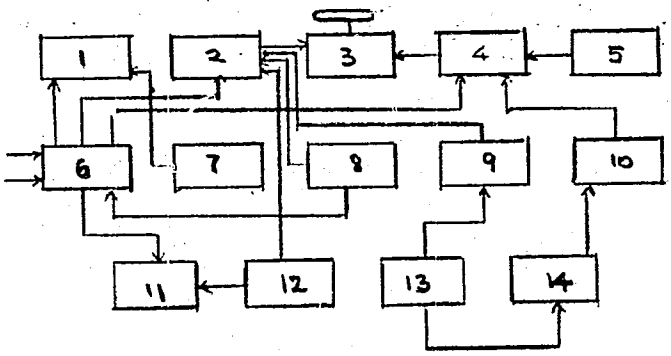
Earth. The transmitter equipment consists of: 1 - an excitation unit; 2 - high-frequency unit; 3 - output stage; 4 - modulator; 5 - rectifier circuit; 6 - sub-modulator unit; 7 - rectifier unit for 800 V; 8 - rectifier unit for 1 250 V; 9 - rectifier unit for 4 kV; 10 - high-voltage rectifier for 10 kW; 11 - control unit; 12 - rectifier circuits for 250 V and 2 kV; 13 - control panel and 14 - magnetic stabilizer. The transmitter employs a number of power-amplification stages, the output stage being capable of giving 100 kW pulse output. All the transmitter stages, except the quartz stabilized driver oscillator, operate under pulse conditions. The excitation unit consists of the driver, a buffer amplifier, power amplifier, tripler and a "coherent" voltage stage. The driver generates a frequency of 5 Mc/s and its anode circuit is tuned to 10 Mc/s. The buffer amplifier operates without grid currents and the following amplifier stage operates in class C; the tripler produces a frequency of 30 Mc/s and this is fed to the high-frequency unit consisting of two power stages. The modulating equipment consists of a sub-modulator and a modulator, the sub-modulator being driven by anode pulses with a

Card 2/4

Radar equipment ....

has a pulse power of 100 kW, repetition frequency of 600 cps and pulse-duration of 3 μs; it is furnished with a half-wave dipole antenna situated at a height of λ/3 above the Earth and a Yagi-type directional antenna.

Fig.1.



Card 4/4

duration of 5 μs, the grid pulses having a duration of 7 μs or gating pulses of 50 to 70 μs duration. The modulator produces powerful output pulses in the output stage and is based on discharging a storage capacitance. The output pulses from the modulator transformer secondary is applied to the anodes of the output tubes. The receiver equipment comprises a device for coherent pulse reception, range-measuring devices for amplitude and brightness, meteor-velocity indicator, drift indicator, noise suppressor, a synchronizing device, a photo-synchronization unit, coherent-pulse drift indicator and power supplies. The meteors are recorded on a photographic film moving with a velocity of 3 cm/min; under special conditions this can be increased to 70 cm/min. The range-indicator is used for visual observation of the reflected signals. The velocity of meteors is measured by the diffraction-pulse method (J.G.Davies, C.D.Ellyett. Philos. Mag., ser.7, v.40, no.305, 1949), the time-base being triggered by the signal reflected from the meteor. The equipment M-3 operates at a wavelength of 4 m and is used for recording the number, range and duration of meteor reflections. The equipment

L 46759-66 FSS-2/EWT(1) GW/WR

ACC NR: AR6004334 SOURCE CODE: UR/0274/65/000/009/B030/B030

AUTHOR: Peregudov, F. I.; Marinenko, V. A.; Yanyushkin, V. L.

REF SOURCE: Tr. Tomskogo in-ta radioelektron. i elektron. tekhn., v. 3, 1964, 98-103

TITLE: An automatic radar station for recording meteoric activity

SOURCE: Ref. zh. Radiotekhnika i elektrosvyaz', Abs. 9B198

TOPIC TAGS: radar meteor observation, meteor tracking, meteor observation

TRANSLATION: The general arguments concerning possible parameters for an automatic radar for observing meteorites are expressed. The radar is intended for use in the regular meteor tracking service in the USSR. A block diagram is shown for the radar operating at wavelength λ=4.2 m. To test the accuracy of the system's operation, several observations were made with a radar operating at a wavelength λ=10 m; these observations produced a larger amount of statistical material. The results of the observations, shown in a table, indicate that the course of meteoric activity at λ=4.2 m on the whole coincides with that observed at λ=10 m. 1 illustration. G. S.

SUB CODE: 17,03/ SUBM DATE: none

UDC: 621.396.969:523.164

Card 1/1

L 08726-67 FSS-2/EWT(1) GW/WR
ACC NR: AT6033997 SOURCE CODE: UR/3227/64/003/000/0098/0103

AUTHOR: Peregudov, F. I.; Marinenko, V. A.; Yanyushkin, V. L. 32

ORG: none

TITLE: Automatic radar station for registering meteor activity

SOURCE: Tomsk. Institut radioelektroniki i elektronnoy tekhniki. Trudy, v. 3, 1964, 98-103

TOPIC TAGS: radar meteor observation, radar station, meteorologic radar

ABSTRACT: The authors discuss some elements of the nationwide meteor-watch network which was to have been set up in the USSR to contribute to IGY-IQSY activities. This synchronized network of radar stations was to have operated semiautomatically, in that a detected meteor echo at one location would generate an actuating signal for adjacent stations. Experience with earlier radar meteor probes indicated a need for optimizing radar parameters for best statistical results; for example, wavelengths should be 4—6 m, and pulse repetition rates should not exceed 300/sec. The M-3 type station, developed at the Tomsk Polytechnical Institute to replace the less sensitive P-2M stations, has the

Card 1/3

L 08726-67

ACC NR: AT6033997

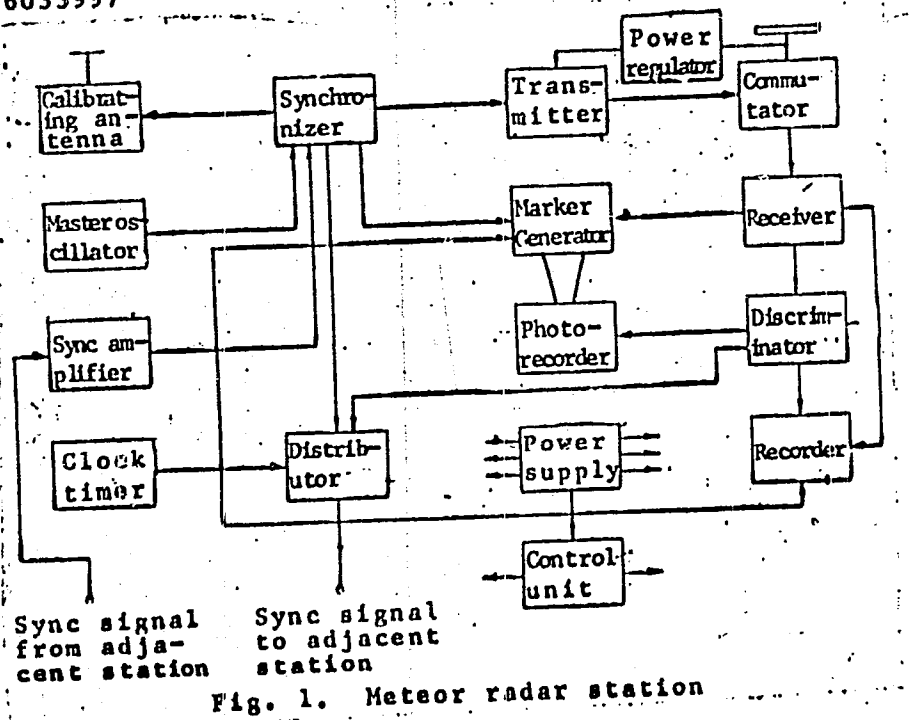


Fig. 1. Meteor radar station

Card 2/3

L 08726-67
ACC NR: AT6033997 O

following optimal parameters: λ = 4.2 m; transmitted pulse power, 100 kw; pulse width, 3 μsec; and pulse repetition rate, 300 pulses/sec in packets of 3 pulses. The antennas used were a narrow-beam wave channel type and a wide-beam folded dipole (see Fig. 1). Meteor echo data from this type of station, compared to those of a station operating at 10 m, showed the same qualitative response in terms of daily and seasonal echo frequency. Orig. art. has: 1 formula, 1 table, and 2 figures.

SUB CODE: 17,03/ SUBM DATE: none/ ORIG REF: 003/

Card 3/3 nst

FIALKO, Ye.I., prof. doktor; PEREGUDOV, F.I.; NEMIROVA, E.K.; SERAFINOVICH, L.P.; POKROVSKIY, L.A.; ZOLOTAREV, I.D.; ZUBAREV, G.S.

Some results of radar observations of meteors in Tomsk in 1957-1959. Izv. TPI 100:16-19 '62. (MIRA 18:9)

PEREGUDOV, F.I.

The M-3 radar satation for the observation of meteors in four meter range. Izv. TPI 105:31-34 '60. (MIRA 16:8)

1. Predstavleno nauchnym seminarom radiotekhnicheskogo fakul'teta Tomskogo ordena Trudovogo Krasnogo Znameni politekhnicheskogo instituta imeni Kirova.
(Radar in astronomy) (Meteors)

PEREGUDOV, F.M. [Perehudov, F.M.], aspirant; KADANER, L.I., dotsent

Cold chloride electrolyte for iron coating. Mekh. sil'. hosp. 12 no.11:18-19 N '61. (MIRA 14:11)

1. Khar'kovskiy institut mekhanizatsii sel'skogo khozyaystva.
(Electroplating)
(Agricultural machinery--Maintenance and repair)

PEREGUDOV, F.M.; KADANER, L.I.

Lamination and internal stresses of deposits obtained from chloride electrolytes of iron plating. Zhur.prikl.khim. 35 no.12:2624-2628 D '62. (MIRA 16:5)

(Iron plating) (Chlorides)

L 02367-67 EWT(m)/EWP(t)/ETI IJP(c) JD/HW/WB
ACC NR: AP6031945 SOURCE CODE: UR/0080/66/039/009/1956/1959

AUTHOR: Kadaner, L. I.; Masik, A. Kh.; Peregudov, F. M.; Bakalyuk, Ya. Kn. 49 B

ORG: none

TITLE: Increasing the adhesion strength of metal coatings by [base metal] passivation

SOURCE: Zhurnal prikladnoy khimii, v. 39, no. 9, 1966, 1956-1959

TOPIC TAGS: steel passivation, copper ~~coating~~, nickel ~~coating~~, iron ~~coating~~, aluminum ~~coating~~, ~~coating~~ adhesion ~~strength~~, ~~passivated steel coating~~ METAL COATING, ELECTROLYTIC DEPOSITION

ABSTRACT: The affect of passivation of the steel base on the adhesion strength of copper, nickel, iron and aluminum coatings deposited by electrolysis or by hot dipping has been investigated. Steel specimens were passivated in concentrated nitric acid at 4—8C or in an aqueous solution containing (g/l) NaOH-150, $NaNO_2$- 300, $Fe_2(SO_4)_3 \cdot 9H_2O$ - 5 at 106—114C for 8—12 sec. Copper coatings, deposited on steel passivated in nitric acid, had a high adhesion strength. The average value of the separation work was $1.73 \cdot 10^6$ erg/cm^{-2} compared with $0.63 \cdot 10^6$ erg/cm^2 for coatings deposited on nonpassivated specimens. The corresponding values for nickel coating on steel were $5.01 \cdot 10^6$ erg/cm^2 and $2.49 \cdot 10^6$. The separation of electrolytically deposited iron coatings occurred, as a rule, at the boundary between the base metal and the coating. Anodic passivation of steel in 30% sulfuric acid solution for 2 min slightly increased

Card 1/2 UDC: 621.357

Card 2/2 vmb

PEREGUDOV, G. V.

USSR/Physics - Raman Spectra Sep/Oct 52

"Improved Procedure for Molecular Analysis on the Basis of Raman Spectra," P. A. Bazhulin and G. V. Peregudov, Phys Inst im Lebedev, Acad Sci USSR

Iz Ak Nauk, Ser Fiz, Vol 17, No 5, pp 617-620

Describe photographic method of molecular analysis, based on simultaneous photography of the standard and the tested sample. Method has advantages over those previously described (Izv AN Ser Fiz 4, [1940]); 5, [1941]) in eliminating errors due to unsteady light of mercury lamps. Indebted to G. S. Landsberg.

274T93

G.V. PEREGUDOV

(2)

Improved methods of molecular analysis by means of Raman spectra. P. A. Bazhulin and G. V. Peregudov. *Izvest. Akad. Nauk S.S.S.R., Ser. Fiz.* 17, 617–20(1953).—A double-beam spectrograph is described for simultaneous photography of the investigated and the reference spectrum. A graduation blackening is also produced on the plate by using some luminescent compds. such as quinine sulfate. Suitable standard materials are methylcyclohexane for aliphatic and toluene for aromatic compds. The intensity of different lines of 1,1-dimethylcyclohexane and ethylbenzene is tabulated, and it is shown that the error is 10%. An example is given of the qual. and quant. analysis of a mixt. of carbohydrates. S. Pakswer

PEREGUDOV, G. V.

USSR/Physics - Spectral analysis

Card 1/1 Pub. 43 - 12/62

Authors : Landsberg, G. S.; Shatenshteya, A. I.; Peregudov, G. V.; Izrailevich, Ye. A.; and Novikova, L. A.

Title : Oscillation spectra of diphenyl and decadeuterodiphenyl molecules

Periodical : Izv. AN SSSR. Ser. fiz. 18/6, 669-671, Nov-Dec 1954

Abstract : The oscillation spectra of $C_{12}H_{10}$ and $C_{12}D_{10}$ and the depolarization of combined diffusion spectra were investigated and the importance of such studies for theoretical interpretation and calculation of spectra is explained. New possibilities for the derivation of deuterated arom. hydrocarbons discovered during the study of isotopic exchange reaction in liquid deutero-ammonia in the presence of potassium amide are briefly discussed. The number and possible types of oscillations of the hydrocarbon molecules are tabulated. Five USSR references (1950-1954). Tables

Institution : Acad. of Sc., USSR, The P. N. Lebedev Physics Inst. and the L. Ya. Karpov Phys.-Chem. Inst.

Submitted : .....

Peregudov, G V

535.343 : 535.375.5

VIBRATION SPECTRA OF DIPHENYL AND DECA-

Optika i Spektrosk., Vol. 1, No. 1, 34-40 (1956) In Russian

PEREGUDOV, G. V.

AUTHORS: Peregudov, G. V.; Markova, S. V.; Bazhulin, P. A.; Plate, A. F.; Terentyeva, Ye. M. 62-1-5/21

TITLE: Optical Method of Studying Hydrocarbons. Part 10. Combined Diffusion Spectra of Certain Naphthenes (Opticheskiy Metod issledovaniya uglevodorodov. Soobshcheniye 10. Spektry kombinatsionnogo rasseyaniya nekotorykh naftenov)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye Khimicheskikh Nauk, 1957, No. 1, pp. 37-42 (U.S.S.R.)

ABSTRACT: In this report, the results (combined diffusion spectra) obtained during the study of nine naphthenic and one aromatic hydrocarbons (three mono-cyclic cyclopentane, three dicyclic cyclohexane and four bicyclic hydrocarbons with condensed rings) are presented. All data on the intensities and frequencies of the hydrocarbons were determined photometrically. For each hydrocarbon, a brief description of its derivation and the basic constants such as boiling point, specific weight, index of refraction is given. The intensity data are expressed in a

Card 1/3

somewhat modified scale established by G. S. Landsberg and Associates (10). It was established on the basis of C_{11} - C_{13} hydrocarbons that the spectra of monosubstituted cyclopentane hydrocarbons have many weak and diffused lines. A majority of frequencies in this hydrocarbon series coincide; a distinction was observed only in the 150 - 600 cm^{-1} zone.

An increase in the radical displaces the most intensive deformation frequency into a zone of smaller frequencies. All the spectra observed showed the presence of an 890 cm^{-1} line pertaining to the fully symmetrical fluctuation of the five-membered ring. The intensity per molecule for the 890 cm^{-1} frequency was found to be approximately constant. A perfect analogy was seen to exist between the spectra of dicyclohexyl, dicyclohexylmethane and 1, 2-dicyclohexylethane and with the monosubstituted cyclohexane hydrocarbons.

Card 2/3 Table. There are 21 references, of which 11 are Slavic.

SOV/51-5-2-6/26

AUTHORS: Kovner, M.A. and Peregudov, G.V.

TITLE: Vibrational Spectra of Octadeuterotoluene (Kolebatel'nyye spektry oktadeyterotoluola)

PERIODICAL: Optika i Spektroskopiya, 1958, Vol 5, Nr 2, pp 134-140 (USSR)

ABSTRACT: Preparation of octadeuterotoluene ($C_6D_5CD_3$) and the preliminary results on its spectrum were published in Ref 13. The present paper reports more accurate results on the Raman spectrum of $C_6D_5CD_3$. A "Hilger" B II spectrograph was used to measure the Raman spectra. A low-pressure mercury lamp was used as the light source. The excitation lines at 4358 and 4047 Å were separated out by glass filters. A qualitative estimate of depolarization of lines was made following the method of Ref 14. Infrared absorption spectrum in the 2.5-15 μ region was also obtained. Table 1 gives the Raman and infrared frequencies measured to within 1-2 cm^{-1} for sharp lines and 2-4 cm^{-1} for broad lines. Table 1 shows also the intensities of the lines relative to the 761 cm^{-1} line, whose intensity is taken to be 100. The 975, 1554 and 1584 cm^{-1} lines are due to partly deuterated toluene present as an impurity. The authors also calculate vibrational frequencies of the octadeuterotoluene molecule. They compare two

Card 1/2

variants of force constants of the B_{2u} representation of benzene and two variants of force constants of interaction of the methyl group with the ring. Table 2 gives the fundamental frequencies of C_6H_6, C_6D_6, $C_6H_5CH_3$ and $C_6D_5CD_3$ (both experimental and calculated values). Complete interpretation of the octadeuterotoluene spectrum is given. G.V. Peregudov carried out the experiments, while calculations were made by M.A. Kovner. The authors thank P.A. Bazhulin for advice and A.M. Bogomolov, S.D. Osetinskiy and L.A. Novikova for help in experiments and calculations. There are 2 tables and 15 references, 10 of which are Soviet, 2 American, 1 Danish, 1 English and 1 French.

ASSOCIATION: Fizicheskiy institut im. P.N. Lebedeva, AN SSSR; Saratovskiy gosudarstvennyy universitet (Physics Institute imeni P.N. Lebedev, Academy of Sciences of the U.S.S.R.; Saratov State University)

SUBMITTED: October 3, 1957

Card 2/2 1. Toluene-d--Preparation 2. Toluene-d--Spectrographic analysis 3. Raman Spectroscopy--Applications 4. Infrared Spectroscopy --Applications

PEREGUDOV G. V.

76-1-22/32

AUTHORS: Shatenshteyn, A. I., Peregudov, G. V., Izrailevich, Ye. A., Kalinachenko, V. R.

TITLE: Preparation of Some Deuterated Aromatic Hydrocarbons and Their Raman Spectra (Polucheniye nekotorykh deyterirovannykh aromaticheskikh uglevodorodov i ikh spektry kombinatsionnogo rasseyaniya)

PERIODICAL: Zhurnal Fizicheskoy Khimii, 1958, Vol. 32, Nr 1, pp.146-151 (USSR)

ABSTRACT: Some known preparations, as well as some ones of deuterated aromatic hydrocarbons still not being mentioned in literature were obtained, and their Raman spectra were measured by means of isotope exchange of hydrogen with ND_3 + KND_2 or with liquid DBr. A comparison between the Raman spectra of hexadeuterobenzene- and octadeuteronaphthalene preparations and those from the references 11, 12, 14 and 15 proves the identity of all preparations and fully confirms the approbation of the new methods of preparation of deuterated hydrocarbons. The advantages of these new methods in relation to those of other authors are enumerated: rapid reaction, the solvent is easily to be removed, possibility of a complete deuteration of various aromatic-, aliphatic-aromatic- and ethylene-hydrocarbons, as well as many other organic compounds. The advantage on occasion of the deuteration by means of liquid DBr in relation

Card 1/4

Preparation of Some Deuterated Aromatic Hydrocarbons and Their Raman Spectra

to that one by means of liquid ND_3 is the higher coefficient of the deuteration distribution between the Cu- and NBr bonds (α =3,0) in comparison to α = 0,9 in CH- and NH bonds (see reference 18 and 21). In the presence of an equal quantity of heavy water, 25 times more of DBr than of ND_3 is obtained, besides. The pure benzene- and toluene preparations placed at the disposal by A. L. Libernab served as initial substances. The liquid ND_3 was prepared by the action of D_2O (99,6 atm.% D) upon Mg_3N_2 (reference 2), whilst the liquid DBr was produced synthetically from the elements (reference 24). The technique of the experiment has been described in these references. Presently, the representation of the deutero--ammonia is simplified: Mg_3N_2 and an ampule with heavy water are put into a steel balloon. A valve is screwed in into the latter one. By means of destroying the ampule the reaction between Mg_3N_2 and D_2O is liberated. On occasion of the hydrogen exchange the substances exist in the solution. As a rule the potassium amide concentration is not great (0,02 N). The exchange reaction was carried out once more with new solvent portions at room temperature during a period, which guarantees the obtaining of the equilibrium in the exchange reaction. On occasion of the experiments with $C_{10}H_8$ the number of the ND_3 mols amounted to 50-150 per mol of substance, whilst on occasion of the experiment with benzene

Preparation of Some Deuterated Aromatic Hydrocarbons and Their Raman Spectra

and toluene per mol of substance only 20-40 mol of the solvent was taken, because these hydrocarbons (especially benzene) on occasion of distilling after the experiment are easily entrained by ammonia. In order to obtain preparations by means of isotope exchange with liquid DBr 1 g of the substance was dissolved in 15 - 22 g of liquid DBr. After evaporation of the solvent the liquid substances were distilled (above $CuSO_4$, in order to remove the ND_3 traces, or above Na, in order to bind DBr). Solid substances were distilled 2 - 3 times.

The spectra of the combined scattering (Raman spectra) were measured by means of a two-prism-spectrograph "Huet" with relative aperture 1 : 4,7 and a dispersion of 100 cm^{-1} in the range of 4358 Å. In the following work the computations, and the interpretation of the spectra are given, and the values of the frequencies are precised. The Raman spectra of following substances were measured: C_6D_6, $C_{10}D_8$, $C_{12}D_{10}$, $C_6D_5CD_3$, 1,4,5,8-$C_{10}D_4H_4$, 2,3,6,7-$C_{10}D_4H_4$, 2,4,6,2',4',6'-$C_{12}D_6H_4$ and 3,5,3',5'-$C_{12}D_4H_6$.

The authors were advised by G. S. Landsberg, Academician, and Professor P. A. Bazhulin. P. N. Manochkina assisted. The density of

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Preparation of Some Deuterated Hydrocarbons and Their Raman Spectra

the preparations was measured by Yu. I. Antonchik. The preparations were placed at disposal by A. L. Liberman. There are 2 tables, and 24 references, 9 of which are Slavic.

ASSOCIATION: Physical-Chemical Institute imeni L. Ya. Karpov. AS USSR. Institute for Physics imeni P. N. Lebedev, Moscow
(Fiziko-khimicheskiy institut im. L. Ya. Karpova. Akademiya nauk SSSR. Fizicheskiy institut im. P. N. Lebedeva. Moskva)

SUBMITTED: October 31, 1956

AVAILABLE: Library of Congress

PEREGUDOV, G. V. Cand Phys-Math Sci -- "~~Vibration~~ Oscillation spectra of deuterated molecules of the aromatic series and their interpretation." Minsk, 1960 (Min of Higher and Secondary Specialized Education USSR. Belorussian State Univ im V. I. Lenin). (KL, 1-61, 180)

PEREGUDOV, G.V.

Interpretation of the vibration spectra of naphthalene and some of its deuterosubstituted. Opt. i spektr. 11 no.6:735-741 D '61. (MIRA 14:11)

(Molecules--Vibration) (Naphthalene--Spectra)

SAVINOVA, S.N.; PEREGUDOV, G.V.; MARGARITOVA, M.I.

Mechanism of interaction between benzoyl peroxide and dimethylaniline as studied by spectral methods. Dokl. AN SSSR 157 no.3: 636-638 Jl '64. (MIRA 17:7)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni Lomonosova. Predstavleno akademikom S.S. Medvedevym.

L 55618-65 EWT(m)/EWP(j)/T/EWP(t)/EWP(b) Pc-4 IJP(c) JD/JG/RM
ACCESSION NR: AP5006446 S/0051/65/018/003/0526/0529

AUTHOR: Bazhulin, P. A.; Derkacheva, L. D.; Distanov, B. G.; Peregudov, G. V.; Prokhorov, A. M.; Sokolovskaya, A. I.; Shigorin, D. N.

TITLE: Investigation of stimulated emission in solutions of rare-earth chelates

SOURCE: Optika i spektroskopiya, v. 18, no. 3, 1965, 526-529

TOPIC TAGS: rare earth compound, chelate, stimulated emission, laser action, laser material

ABSTRACT: To check on the feasibility of using rare-earth chelates for stimulated emission, the authors investigated frozen solutions of the Eu-, Tb-, and Sm-dibenzoylmethane (DBM), Eu- and Tb-benzoylacetonate (BA), Eu-(ethylenediamine-salicylaldehyde) (EDSA), Eu- and Sm-nitrosalicylaldehyde, a Eu- and Sm-picric acid, Eu-, Tb-, and Sm-acetylacetonate, Tb-vinyl salycilate, Eu-salicylaldehyde, and Eu-(di-methyl benzoate) complexes. Only the first six of these compounds withstood the action of strong light pulses and could be obtained in solution of required concentration ($\sim 10^{-2}$ mole/liter). The solvents were various mixtures and pure substances forming glasslike matrices at low temperatures. The absorption and luminescence

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L 35618-65
ACCESSION NR: AP5006446

spectra of the indicated six compounds were investigated. Typical data on the

[illegible] is pointed out that the data depend on various experimental [illegible]. The authors are grateful to V. V. Kuznetsova [illegible]

[illegible]. Art. has: 4 figures, [illegible] formulas, [illegible] tables.

ASSOCIATION: none

SUBMITTED: 13Apr64	ENCL: 01	SUB CODE: EC, IC	
NO REF SOV: 002	OTHER: 002	ATD PRESS: 3220	

Card 2/3

L 35618-65
ACCESSION NR: AP5006446

ENCLOSURE: 01

Table 1. Relative intensities of stimulated emission lines of rare-earth chelates

Substance	λ, Å	I_{rel}, %	$\Delta\nu$, cm^{-1}
Eu (DBM)$_3$	6128	85	22
	6154	100	30
	6171	88	—
Eu (BA)$_3$	6131	100	20
	6150	80	—
Eu (EDSA)$_2$	6140	54	—
	6169	100	40
	6190	50	—
Tb (DBM)$_3$	5420	—	11
Tb (BA)$_3$	5430	100	28
	5438	70	—
	5820	32	—
Sm (DBM)$_3$	6454	—	31

Table 2. Negative absorption coefficients of rare-earth chelate lines

Substance	λ, Å	C, mole/l	$\|K\|$, cm^{-1}
Eu (DBM)$_3$	6154	10^{-3}	$1 \cdot 10^{-3}$
Eu (BA)$_3$	6131	10^{-3}	$8 \cdot 10^{-4}$
Eu (EDSA)$_2$	6169	10^{-4}	$1 \cdot 10^{-4}$
Tb (DBM)$_3$	5420	10^{-4}	$8 \cdot 10^{-5}$
Tb (BA)$_3$	5430	10^{-3}	$2 \cdot 10^{-4}$
Sm (DBM)$_3$	6454	10^{-3}	$2 \cdot 10^{-4}$

Card 3/3

PEREGUDOV, I.G. (Leningrad, Divenskaya ul., d.5, kv.7)

Surgical treatment and radiation therapy of lymphogranulomatosis. Vest. khir. 70 no.6:119-120 Je'63 (MIRA 16:12)

1. Iz kliniki obshchey khirurgii (nachal'nik prof. V.I.Popov) Voyenno-meditsinskoy ordena Lenina akademii imeni Kirova.

PEREL', T.S.

Influence of the specific composition of forest stands on the density and specific composition of earthworm populations [with summary in English]. Zool. zhur. 37 no.9:1307-1315 S '58. (MIRA 11:10)

1.Kafedra zoologii moskovskogo gosudarstvennogo pedagogicheskogo instituta im. V.I. Lenina.
(Earthworms) (Forest influences)

BERLIN, L.B.; PEREGUDOV, I.G.

Some histological changes in the skin during homoplasty and cortisone therapy in healthy and irradiated rabbits. Biul. eksp. biol. i med. 55 no.2:116-120 F'63. (MIRA 16:6)

1. Iz kafedry obshchey khirurgii (nachal'nik - prof. V.I. Popov) Voyenno-meditsinskoy ordena Lenina akademii imeni S.M.Kirova. Predstavlena deystvitel'nym chlenom AMN SSSR I.P.Petrovym.

(RADIATION--PHYSIOLOGICAL EFFECT) (HOMOGRAFTS)
(CORTISONE)

PEREGUDOV, K., gvardii podpolkovnik

Old-time soldiers are the champions of military discipline.
Komm.Vooruzh.Sil 2 no.18:61-64 S '62. (MIRA 15:8)
(Russia--Army--Artillery)

PEREGUDOV, Kim Vasil'yevich, podpolkovnik; MURAV'YEV, A.I., polkovnik, red.; SLEPTSOVA, Ye.N., tekhn. red.

[Combat readiness. What does it mean?] Boevaia gotovnost'. Chto eto znachit? Moskva, Voenizdat, 1963. 58 p. (MIRA 16:11)

(Military education)
(Russia--Armed forces--Political activity)

MOICHANOV, G.N.; PEREGUDOV, L.V.

Using lathes with numerical program control. Stan. i instr. 36 no.2:40 F '65. (MIRA 18:3)

MOLCHANOV, G.N., kand.tekhn.nauk,dotsent; PEREGUDOV,L.V., inzh.

Machining precision on lathes with numerical programming.
Vest.mashinostr. 44 no.7:61-64 Jl '64. (MIRA 17:9)

MOLCHANOV, G.N.; MANGUTOV, R.A.; PETROCHUDOV, L.V.

Reliability of the numerical program control system for lathes.
Stan. i instr. 36 no.5:7-9 My '65. (MIRA 18:5)

REYZENKIND, Iosif Yakovlevich; SINANYAN, Ruben Rubenovich; PAVLOV, F.F., professor, doktor, retsenzent; PEREGUDOV, M.A., kandidat tekhnicheskikh nauk, retsenzent; OGLOBLIN, D.U., redaktor; PARTSEVSKIY, V.N., redaktor; ATTOPOVICH, M.K., tekhnicheskiy redaktor.

[Stereophotogrammetric surveying of open-cut mines] Stereofotogrammetricheskaia s"emka kar'erov. Moskva, Gos. nauchno-tekhn.izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1956. 177 p. (MLRA 9:5)
(Photogrammetry) (Mine surveying)

PEREGUDOV, M. A.

"The Transmission of Altitude Marks of Excavation Sections by Trigonometric Means," Ugol', No. 5, 1949. Cand. Tech. Sci.

PEREGUDOV, M. A.

732. TACHEOMETRIC SURVEY OF OPEN WORKINGS. Peregudov, M. A. (Ugol (Coal), 1939, (10), 31-35.

Short description of the method and statement of its advantages. (L).

Immediate source clipping

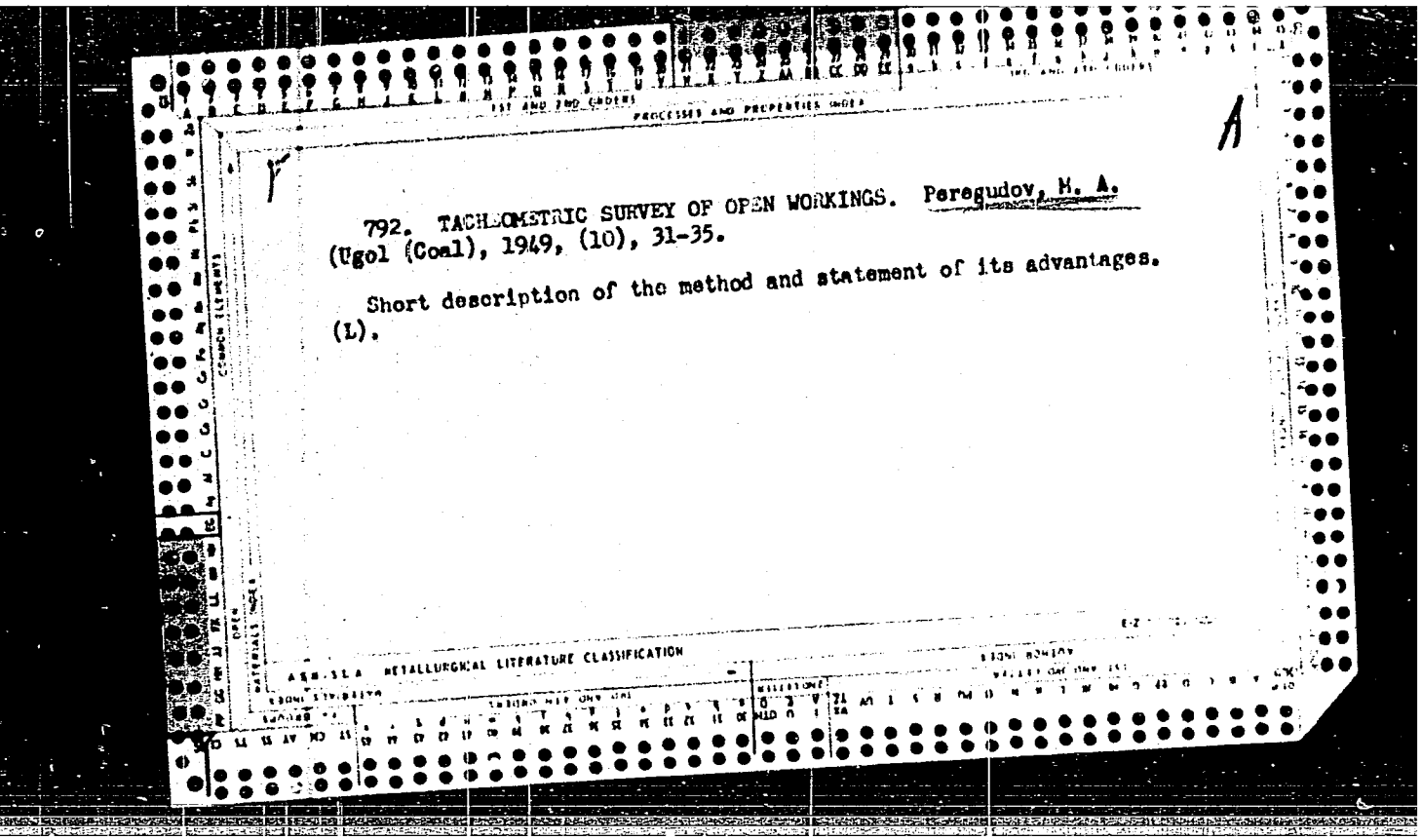
BUGAYETS, Yevgeniy Andreyevich; PEREGUDOV, M.A., dotsent kand. tekhn. nauk, otv. red.; GONCHAROVA, I.V., red. izd-va; SAGITULLINA, R.I., tekhn. red.

[Theory of aerial and terrestrial stereophotogrammetric methods for making topographic maps; second lecture for students of the Mining Department specializing in mine surveying]Teoriia stereofotogrammetricheskogo vozdushnogo i nazemnogo metodov sozdaniia topograficheskikh kart; lektsiia 2-ia dlia studentov gornogo fakul'teta spetsial'nosti "Marksheiderskoe delo." Moskva, Vses. zaochnyi politekhn. in-t, 1960. 65 p. (MIRA 15:9)
(Photographic surveying)

BUGAYETS, Yevgeniy Andreyevich; PEREGUDOV, M.A., kand. tekhn. nauk, dots., otv. red.; GONCHAROVA, I.V., red. izd-va; SAGITULLINA, R.I., tekhn. red.

[Theory of combined outline method for making a topographic map; lecture 1 for students of the Mining Department specializing in mine surveying]Teoriia konturno-kombinirovannogo metoda sozdaniia topograficheskoi karty; lektsiia 1 dlia studentov gornogo fakul'teta spetsial'nosti "Marksheiderskoe delo." Moskva, Vses. zaochnyi politekhn. in-t, 1960. 46 p. (MIRA 15:9)

(Aerial photogrammetry)



792. TACHEOMETRIC SURVEY OF OPEN WORKINGS. Peregudov, M. A.
(Ugol (Coal), 1949, (10), 31-35.

Short description of the method and statement of its advantages.
(L).

USSR/Cultivated Plants. Cereals. M

Abs Jour: Ref Zhur-Biol., No 17, 1958, 77645.

Author : Peregudov, N.I.
Inst
Title : Valuable Variety of Chinese Sugar Cane.

Orig Pub: Selektsiya i semenovodstvo, 1957, No 1, 42-44.

Abstract: The Stavropol'skoye 98 variety was bred on the Stavropol Selection Station by means of hybridization, selection and training, and at present it is divided into districts in Stavropol Kraey. The variety exceeds Yantar' early Dnepropetrovsk in harvest of green mass by 31%, in sugar content of the juice of the stems - by 6.7%, and is resistant to damage by aphids. -- G. N. Chernov.

Card : 1/1

PEREGUDOV, N. I.

6800. Pereguddv, N. I. Len maslichnyy na Stavropol'ye stavropol', Kn. izd., 1954. 24 s. s. ill. 20 sm. 2.000 ekz. 25 k. - (55-1799) P 633.854.54 (47.911)

SO: Knizhnaya Letopis' No. 6, 1955

PEREGUDOV, N.P.; BRODSKIY, I.U.

Automatic switching to three lines of a hot-rolling mill. Biul.tekh.-ekon.inform.Gos.nauch.-issl.inst.nauch. i tekh.inform. no.4:7-9 '62.
(MIRA 15:7)

(Rolling Mills)

PEREGUDOV, N. P.

Translation from: Referativnyy zhurnal. Metallurgiya, 1959, Nr 2, p 248 (USSR) SOV/137-59-2-4054

AUTHORS: Grezin, P. L., Babikova, Yu. F., Borisov, Ye. V., Zemskiy, S. V., Peregudov, N. P., Polikarpov, Yu. A., Tirkina, A. N., Fedorov, G. B., Shumilov, M. A.

TITLE: Study of the Mobility of Carbon Atoms in Steel and Alloys Using C^{14} Isotope (Izucheniye podvizhnosti atomov ugleroda v stali i splavakh pri pomoshchi izotopa C^{14})

PERIODICAL: Sb. tr. In-t metalloved. i fiz. metallov Tsentr. n.-i. in-ta chernoy metallurgii. 1958, Vol 5, pp 327-365

ABSTRACT: The authors examine methods for investigating the diffusion, electrolytic transfer, and distribution of C in Fe, Ni, and some of their alloys. Data were obtained by the direct (autoradiographic) method on the effect of Cr, Ni, Mo, and Si on the diffusion of C in ferrite: Ni and Si have appreciably less effect on the diffusion of C than the carbide-forming Cr and Mo. It was established that the diffusion-mobility level changes very little when the Fe and Ni are highly alloyed; it is displaced only when another base is used, as it happens in Fe-Cr, and under these conditions the mobility level of C approaches that of the

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alloying elements. It was experimentally verified that the C in Fe and Ni is in the cation state. It was established that the cation charge can change depending upon the character of the alloying element. Bibliography: 27 references.

M. G.

Card 2/2

GRUZIN, P.L., doktor fiz.-mat.nauk; BABIKOVA, Yu.F.; BORISOV, Ye.V; ZEMSKIY, S.V.; PEREGUDOV, N.P.; POLIKARPOV, Yu.A.; TIRKINA, A.N.; FEDOROV, G.B., kand. tekhn.nauk; SHUMILOV, M.A., kand.tekhn.nauk

Studying the migration of carbon atoms in steels and alloys by means of the isotope C14. Probl. metalloved. i fiz. met. no.5:327-365 '58. (Steel--Metallography) (Carbon--Isotopes) (MIRA 11:4) (Diffusion)

PEREGUDOV, N. P.,

"An Investigation of the Mobility of Carbon Atoms in Steel and Alloys with the Use of the Isotope C^{14}," with Gruzin, P. L., Dr. Phys. and Math. Sci.; Babikova, Ye. F.; Borisov, Ye. V.; Zemskiy, S. V.; Polikarpov, Yu. A.; Tirkina, A. N.; Fedorov, G. B., Cand. Tech. Sci.; Shumilov, M. A. Cand. Tech. Sci., page 327.

In book Problems of Physical Metallurgy, Moscow, Metallurgizdat, 1958, 603p. (Its: Sbornik trudov, v. 5)

The articles in the book present results of investigations conducted by the issuing body, Inst. of Physical Metallurgy, a part of the Cent. Sci. Res. Inst. of Ferrous Metallurgy, located in Dnepropetrovsk. The investigations were concerned with phase transformations in alloys, strengthening and softening processes, diffusion processes (studied with the aid of radioactive isotopes), and certain other questions.

SADYKOV, B.Kh.; PEREGUDOV, S.M.

Milk productivity of she-camels. Izv. AN Kazakh.SSR. Ser.biol. no.6:19-26 '51. (MLRA 9:5)

(KAZAKHSTAN--CAMELS)

PEREGRUDOV, V., kand tekhn. nauk

New wall material made of clay. Strei. mat. 2 no.10:20-22 O '56. (MIRA 12:3)
(Building blocks) (Clay)

PEREGUDOV, Vladimir Nikitich; PRIVEZENTSEVA, A.G., red.

[Method of least squares and its use in research] Metod naimen'shikh kvadratov i ego primenenie v issledovaniiakh. Moskva, Statistika, 1965. 339 p. (MIRA 18:6)

PEREGUDOV, V.V., dots., kand.tekhn.nauk

Air-entrained ceramics is the new efficient wall material.
Nauch.dokl.vys.shkoly; stroi. no.2:193-196 '58.
(MIRA 12:1)

(Ceramics)

SOV/2-59-5-4/10

30(5)

AUTHOR: Peregudov, V.

TITLE: A Comparison of Regional Qualitative Indices

PERIODICAL: Vestnik statistiki, 1959, Nr 5, pp 45-55 (USSR)

ABSTRACT: The author refers to the two categories of economic indices: dynamic or temporal and territorial or spatial. In the first case, the data of the initial moment (a calendar year) is taken as a basic index to which all the following data of the temporal order (subsequent years) are referred to. In the second case, the problem of fixing basic index becomes far more complicated because no particular area to which other areas can be referred to, can be taken as basic. The author suggests a possible way out of the difficulty by fixing a combined or an average index for the totality of all areas under observation, and use it as basic index for each area in

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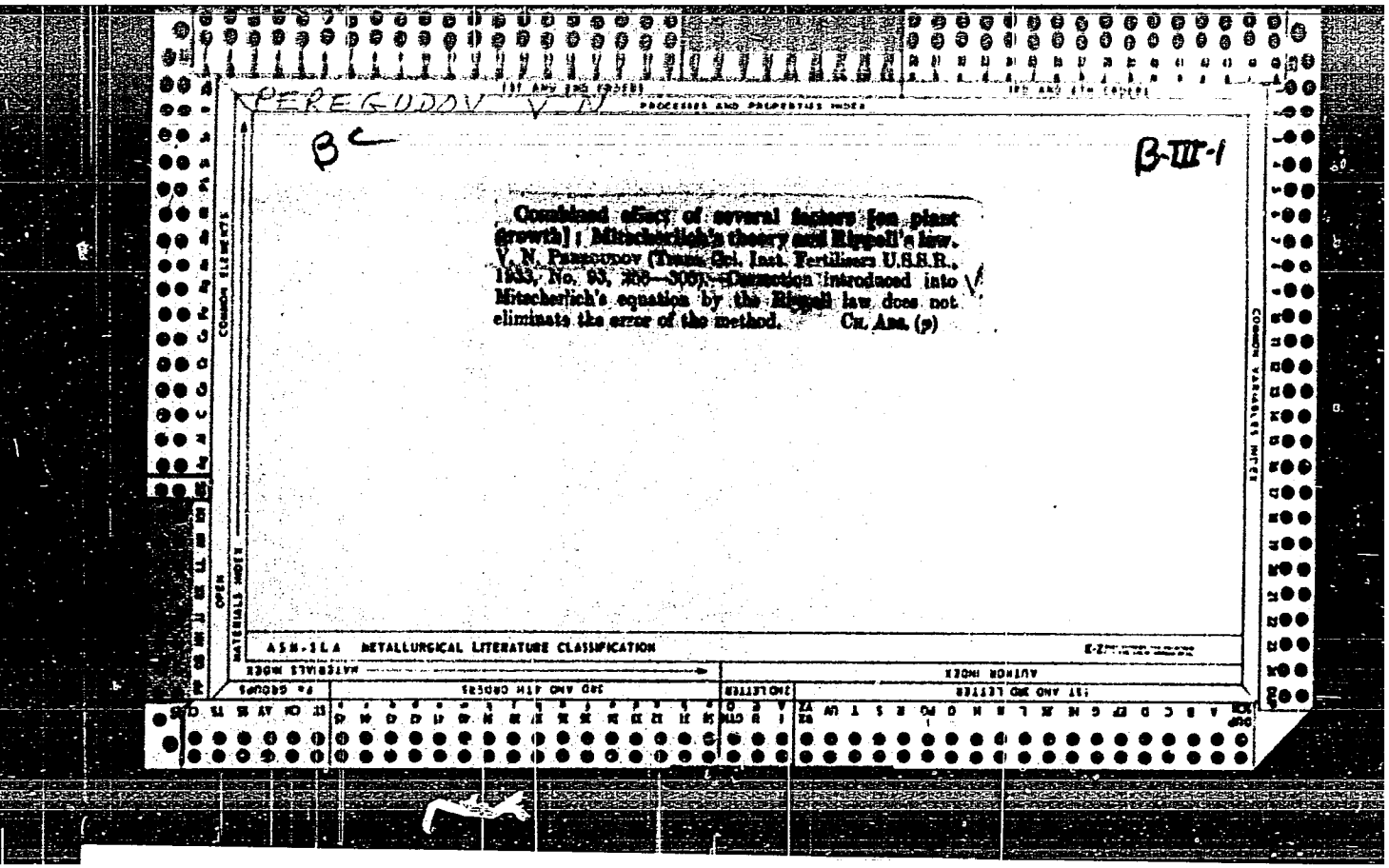
A Comparison of Regional Qualitative Indices

particular. In working this system out, the author arrives at a territorial index similar to that suggested by Irving Fisher. There are 5 tables and 2 Soviet references.

PTREGUDOV, V., kandidat tekhnicheskikh nauk.

Producing "keramzit" (clay filler for cement) and "Keramzit" blocks. Stroi.mat.,izdel.i konstr. 2 no.6:32-33 Je '56.(MLRA 9:8)
(United States--Concrete blocks)



USSR / Cultivated Plants. Experimental Methods. M-2

Abs Jour: Ref Zhur-Biol., 1958, No 16, 72857.

Author : Peregudov, V. N.
Inst : Not given.
Title : Instructions for Mathematical Processing of Results of Field Experiments.

Orig Pub: Byul. geogr. seti opytov s udobreniyami, 1957, No 1, 14-25.

Abstract: Brief instructions - example of computing the standard deviation of the experiment. A table of squares is appended.

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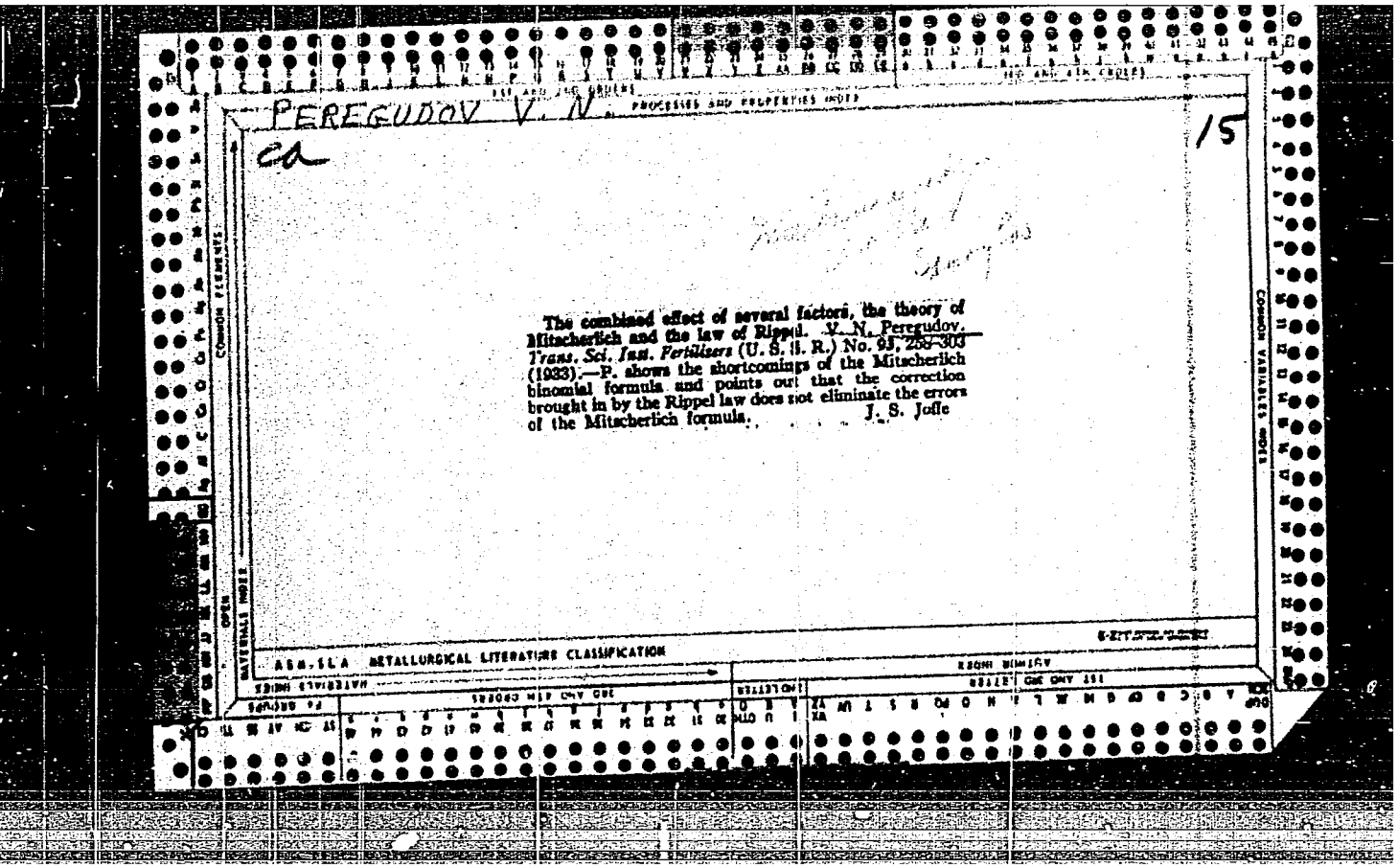
PEREGUDOV V. N.

15

The combined effect of several factors, the theory of Mitscherlich and the law of Rippel. V. N. Peregudov. *Trans. Sci. Inst. Fertilizers* (U. S. S. R.) No. 93, 253–303 (1933).—P. shows the shortcomings of the Mitscherlich binomial formula and points out that the correction brought in by the Rippel law does not eliminate the errors of the Mitscherlich formula. J. S. Joffe

PEREGUDOV, V. N.

"Problems of Index Number Analysis."

Paper submitted at 31st International Statistical Institute, Brussels, 2-8 Sep '58.

PEREGUDOV, V. N.

Peregudov, V. N. - "A statistical evaluation of the level of differentiation and generalisation of the data of experimental and other investigations", Doklady (Mosk. s.-kh. akad. im. Timiryazeva), Issue 8, 1948, (In index: 1949), p. 19-20.

SO: U-411, 17 July 53, (Letopis 'Zhurnal 'nykh Statey, No. 20, 1949).

PEREGUDOV, V.N.

The theory of the index methods. Uch.zap.po stat. 1:84-124 '55.
(Statistics) (MLRA 9:11)

TOMAKOV, Andrey Aleksandrovich; DRUZHININ, V.V., kand. tekhn. nauk, retsenzent; PEREGUDOV, V.N., inzh., retsenzent; YEGOROV, S.A., nauchn. red.; OSVENSKAYA, A.A., red.

[Submarine transport boats] Podvodnye transportnye suda. Leningrad, Sudostroenie, 1965. 266 p. (MIRA 18:3)

PEREGUDOV, V. N.

LEVYATOV, D. S., PEREGUDOV, V. N., VLADIMIROV, G. M.

Podshipniki kacheniia sovetskikh avtomobilei (kratkii spravochnik) / Antifriction bearings of Soviet automobiles (short reference book). Moskva, Izd-vo, NKKH RSFSR, 1953. 248 p.

SO: Monthly List of Russian Accessions, Vol. 6 No. 9 December 1953

S/144/61/000/001/004/004
E194/E484

AUTHOR: Peregudov, V.V.

TITLE: The Prospects and Possibilities of Using Aluminium in Electrical Machines

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Elektromekhanika, 1961, No.1, pp.121-124

TEXT: Considerable advantages are claimed for aluminium as a substitute for copper in electrical machines. Although aluminium is widely available it is difficult to refine unless cheap electric power is available. However, the cheap power from the Krasnoyarsk and Bratsk-Hydro-Electric Stations will be delivered to the Krasnoyarsk Aluminium Works. Already aluminium conductors are 5 to 7% cheaper than copper and the new works will deliver still cheaper aluminium. The main physical properties of aluminium and copper are then compared and it is concluded that to maintain the same current losses in windings the aluminium section must be 60% greater than that of copper, though the weight is halved. When using an aluminium winding it is not always desirable to increase the section compared with copper but it is sometimes advantageous to shorten the machine. With aluminium

The Prospects and ...

by using anodized oxide layers and insulation [illegible]he disadvantage of poor filling factor of slots [illegible]th copper can be largely overcome. The use of aluminium in various kinds of machines is then considered starting with armature windings of induction and synchronous machines. Aluminium winding wires should be made of 60% greater section than copper, if the same insulation is used the slot space must be increased by 60% and this usually leads to increased induction in the tooth zone which means an armature of larger diameter. Since an aluminium oxide film of 0.03 mm has a breakdown voltage of 100 V and a film of 0.04 mm, a breakdown voltage of 250 V, it is possible to avoid the use of inter-turn insulation which gives considerable economy of insulating material and improves the space factor. If the wire is anodized or lacquered, or both, it is often possible to avoid the use of main insulation and machines for voltages of up to 380 V are already being made of bare aluminium wire without structural alterations. No difficulty is expected from the low mechanical strength of aluminium. Field windings of alternators are then considered. The German firm "AEG" made turbo-alternators of up to 60 MW with aluminium field windings. The

The Prospects and ...

rotor diameter was 12% greater than with copper. One such machine worked at Stalingrad for about thirty years without major overhaul of the rotor winding. Aluminium field windings are particularly valuable in salient pole machines, especially in hydro-alternators. In these machines the weight of copper may be very great. The use of aluminium in the pole and armature windings of d.c. machines was considered in detail in an article by N.A.Panfilov (Ref.3: Vestnik elektropromyshlennosti, No.8, 1959). In addition it should be noted that an aluminium armature winding requires a commutator of aluminium or of an aluminium alloy. Aluminium is a very poor material for commutator bars because it is soft and easily worn and aluminium dust becomes spread around. Accordingly, the commutator should be made of duralumin. Aluminium is promising for transformers and the construction of transformers of from 20 to 5600 kVA with voltages from 10 to 35 kV has been described. The new series, however, retains the same insulation as for copper and this can possibly be reduced in the future. Transformers with windings of anodized aluminium foil are also of interest, the windings are compact and their manufacture is

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simple. It is concluded that the use of aluminium to replace other non-ferrous metals is of great importance. The use of aluminium in electrical machines is not particularly difficult in respect of design and manufacture. The output of aluminium wire for the requirements of the electrical industry should be considerably increased and further research work is required on the insulation of aluminium conductors. There are 4 Soviet references.

ASSOCIATION: Kafedra elektricheskikh mashin i apparatov
Novosibirskiy politekhnicheskiy institut
(Department of Electrical Machines and Apparatus
Novosibirsk Polytechnical Institute)

SUBMITTED: July 27, 1960

PEREGUDOV, Valentin Vasil'yevich, starshiy prepodavatel'

Mechanical characteristics of an asynchronous three-phase motor with a capacitor in the rotor circuit (series connection). Izv. vys.ucheb.zav.; elektromekh. 8 no.3:332-335 '65.

(MIRA 18:5)

1. Kafedra tekhniki vysokikh napryazheniy Novosibirskogo elektrotekhnicheskogo instituta.

PEREGUDOV, V.V., kapitan 2-go ranga; SMIRNOV, A.I., kapitan 2-go ranga

Special training of crews for American nuclear, rocket-equipped, submarines (from materials in foreign journals). Mor. sbor. 46 no.1:80-84 Ja '63. (MIRA 16:1)
(United States—Atomic submarines) (Nautical training schools)

PHASE I BOOK EXPLOITATION SOV/6076

Peregud, Yeva Abramovna, Mariya Solomonovna Bykhovskaya, and Yelena Vladimirovna Gernet

Bystryye metody opredeleniya vrednykh veshchestv v vozdukhe (Rapid Methods for Detecting [the Presence of] Harmful Substances in the Air). Moscow, Goskhimizdat, 1962. 272 p. Errata slip inserted. 10,000 copies printed.

Ed. (Title page): I. M. Korenman, Doctor of Chemical Sciences, Professor; Ed.: L. N. Oderberg; Tech. Ed.: V. V. Kogan.

PURPOSE: This book is intended for chemists in scientific research institutes, factory laboratories, sanitary-epidemiological stations, and poison-gas treatment stations.

COVERAGE: The book deals with rapid methods for the detection of harmful substances in the atmosphere in factories, wells, tanks, chemical apparatus, and ventilation ducts. A detailed description is given of apparatus for collecting

Card 1/6 2

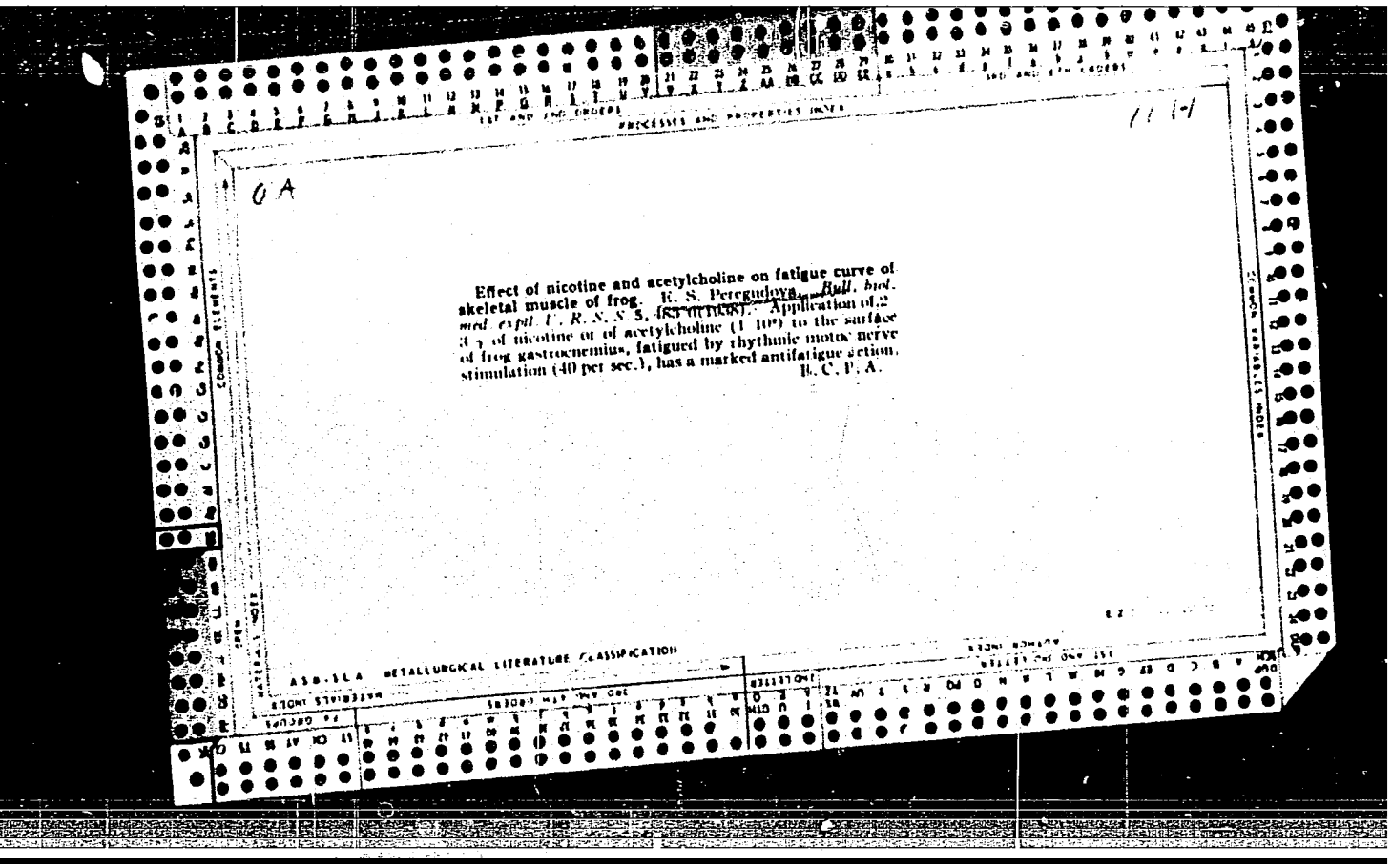
BROVKO, Aleksey Petrovich; VORONTSOV, V.G., retsenzent; YEGOROV, V.Ye., retsenzent; ZAKHAROV, A.P., retsenzent; KROPACHEV, V.P., retsenzent; PASTUKHOV, N.V., retsenzent; PEREGUDOV, V.V., retsenzent; PONOMAREV, V.A., retsenzent; RUDEV, A.M., retsenzent; KHROPUNSKIY, Ye.A., retsenzent; SMIRNOV, A.A., inzh., retsenzent

[Contact networks in strip mines] Kontaktnaia set' na kar'erakh. Moskva, Nedra, 1964. 207 p. (MIRA 18:2)

1. Inzhenerno-tekhnicheskiye rabotniki Korkinskogo tresta ugol'nykh predpriyatiy (for all except Brovko).

PEREGUDOV, V.V., kapitan 2-go ranga; SMIRNOV, A.I., kapitan 2-go ranga

The "Polaris" ballistic rocket. Mor. sbor. 46 no.10:81-88 O '63. (MIRA 18:12)



0 A

Effect of nicotine and acetylcholine on fatigue curve of skeletal muscle of frog. E. S. Peregudova. *Bull. biol. med. exptl. U. R. S. S.* 5, [illegible]. Application of 2 γ of nicotine or of acetylcholine (1:10⁹) to the surface of frog gastrocnemius, fatigued by rhythmic motor nerve stimulation (40 per sec.), has a marked antifatigue action. B. C. P. A.

ASB-ELA METALLURGICAL LITERATURE CLASSIFICATION

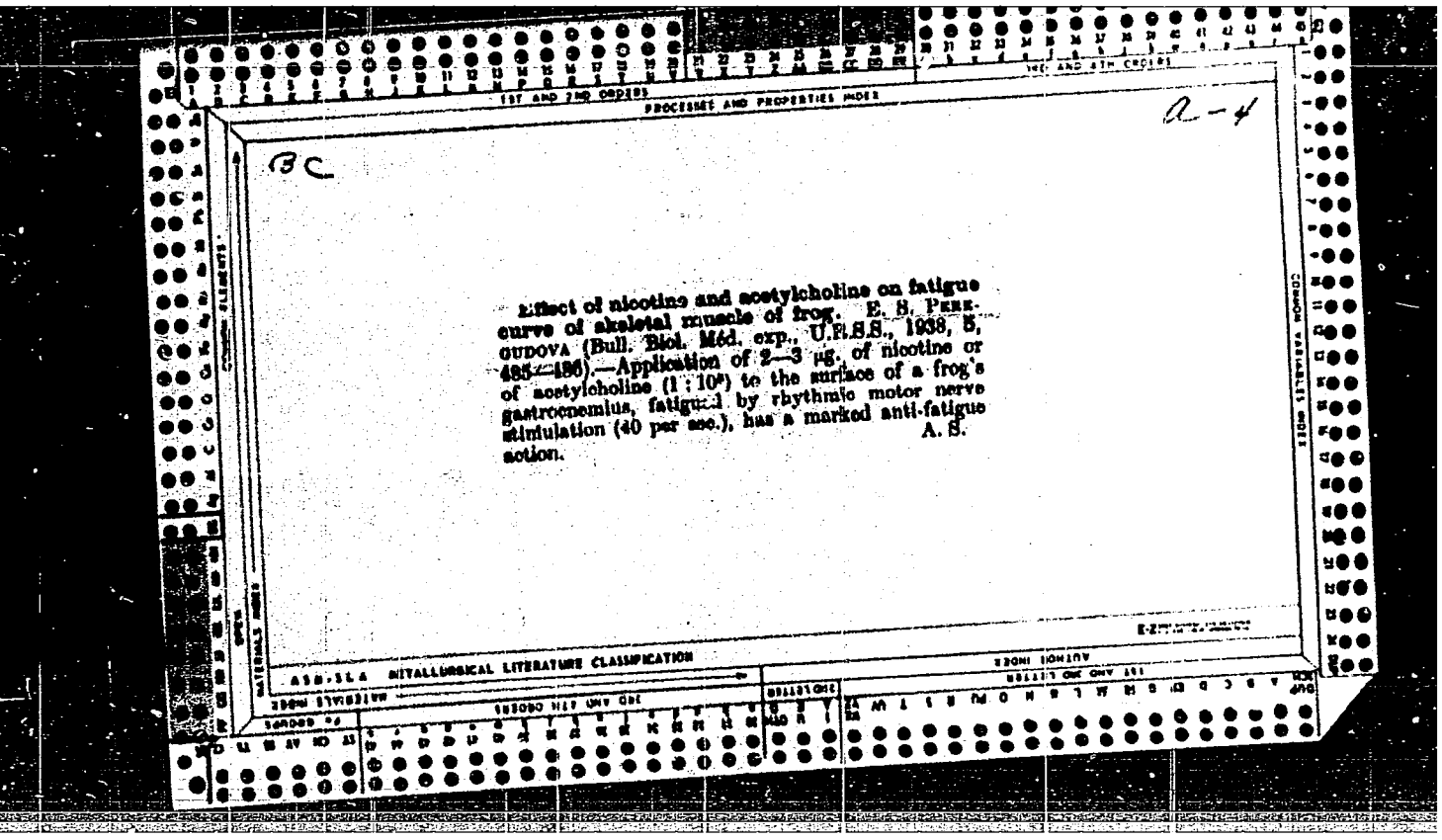
Peregudova, A.A.

AKOPYAN, Ya.Ye.; PEREGUDOVA, A.A. (Nal'chik)

Result of using extrapleural pneumonolysis in the treatment of pulmonary tuberculosis. Probl.tub.34 no.6 supplement:23-24 N-D '56. (MLRA 10:2)

1. Iz respublikanskogo protivotuberkuleznogo dispansera Kabardinskoy ASSR.

(COLLAPSE THERAPY,
pneumonolysis, extrapleural (Rus))



BC

A-4

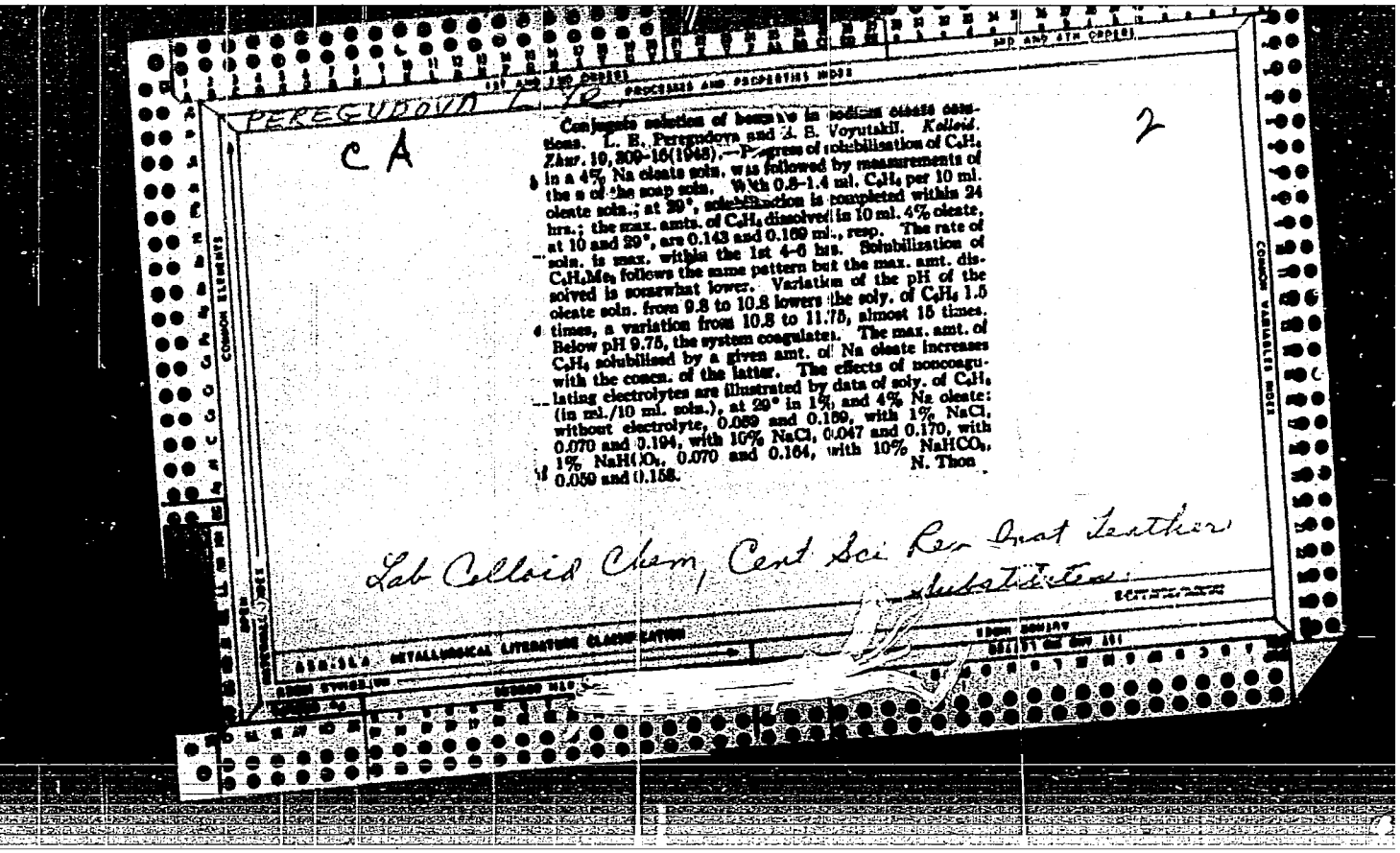
Effect of nicotine and acetylcholine on fatigue curve of skeletal muscle of frog. E. S. PERE-GUDOVA (Bull. Biol. Méd. exp., U.R.S.S., 1938, 5, 485–486).—Application of 2—3 µg. of nicotine or of acetylcholine (1 : 10^5) to the surface of a frog's gastrocnemius, fatigued by rhythmic motor nerve stimulation (40 per sec.), has a marked anti-fatigue action. A. S.

PEREGUDOVA, L.Ye.

BARTENEV, G.M.; PEREGUDOVA, L.Ye.

Effect of skidding speed on the friction of rubber with and without lubrication. Dokl.AN SSSR 96 no.2:277-279 My '54. (MLRA 7:5)

1. Nauchno-issledovatel'skiy institut rezinovoy promyshlennosti. Predstavleno akademikom P.A.Rebinderom. (Rubber) (Friction)



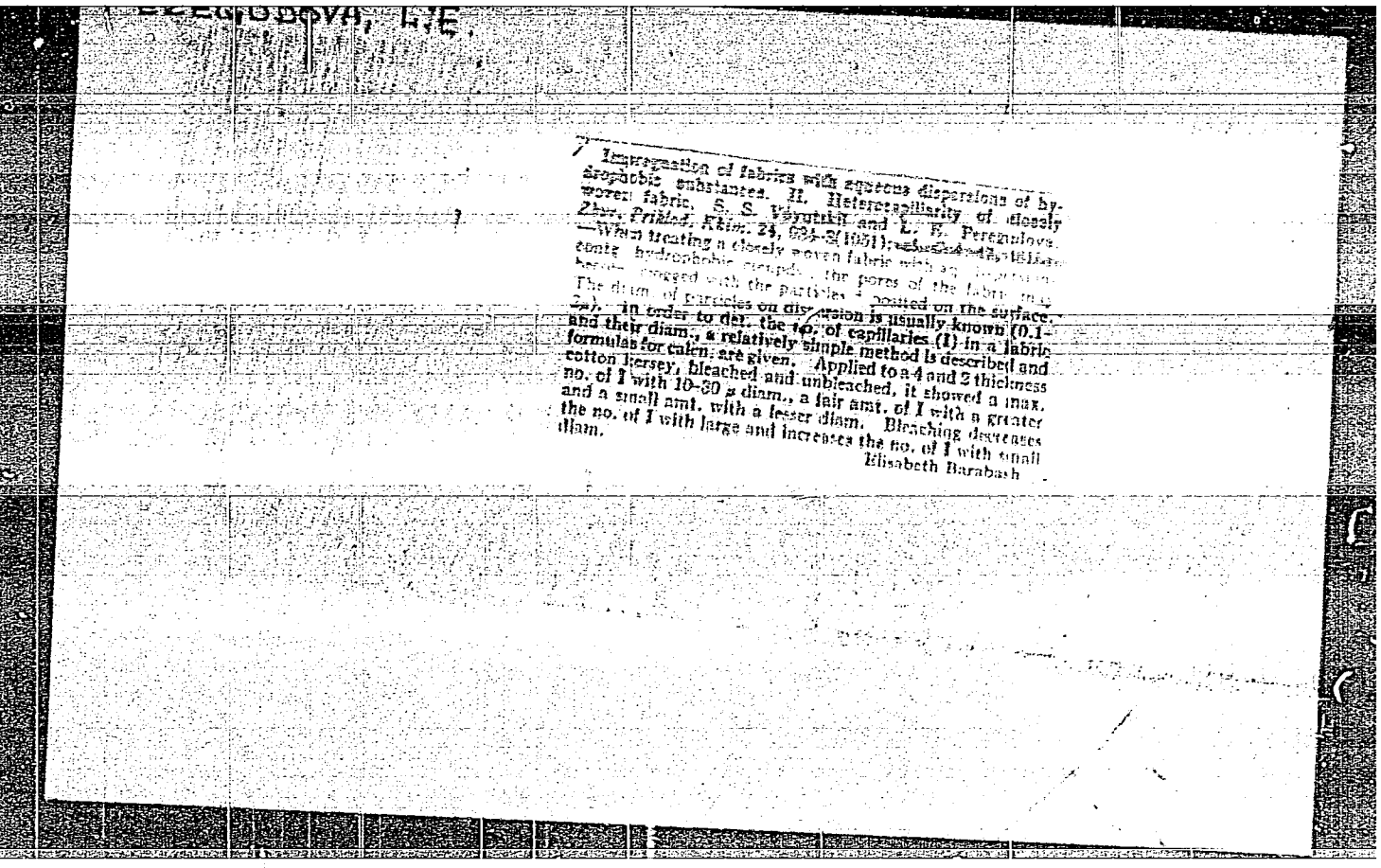
PEREGUDOVA L. P.

CA

2

Conjugate solution of benzene in sodium oleate solutions. L. B. Peregudova and Z. B. Voyutskii. *Kolloid. Zhur.* 10, 309-16(1948).—Progress of solubilization of C_6H_6 in a 4% Na oleate soln. was followed by measurements of the n of the soap soln. With 0.8–1.4 ml. C_6H_6 per 10 ml. oleate soln., at 30°, solubilization is completed within 24 hrs.; the max. amts. of C_6H_6 dissolved in 10 ml. 4% oleate, at 10 and 29°, are 0.143 and 0.169 ml., resp. The rate of soln. is max. within the 1st 4–6 hrs. Solubilization of C_6H_5Me follows the same pattern but the max. amt. dissolved is somewhat lower. Variation of the pH of the oleate soln. from 9.8 to 10.8 lowers the soly. of C_6H_6 1.5 times, a variation from 10.8 to 11.75, almost 15 times. Below pH 9.75, the system coagulates. The max. amt. of C_6H_6 solubilized by a given amt. of Na oleate increases with the concn. of the latter. The effects of noncoagulating electrolytes are illustrated by data of soly. of C_6H_6 (in ml./10 ml. soln.), at 29° in 1% and 4% Na oleate: without electrolyte, 0.059 and 0.169, with 1% NaCl, 0.070 and 0.194, with 10% NaCl, 0.047 and 0.170, with 1% $NaHCO_3$, 0.070 and 0.164, with 10% $NaHCO_3$, 0.059 and 0.158. N. Thon

Lab Colloid Chem, Cent Sci Res Inst Leather Industries



Impregnation of fabrics with aqueous dispersions of hydrophobic substances. II. Heterocapillarity of closely woven fabric. S. S. Voyutskii and L. F. Pereguloya. *Zhur. Prikhl. Khim.* 24, 693-8 (1951).—When treating a closely woven fabric with an emuln. contg. hydrophobic particles, the pores of the fabric become impregnated with the particles deposited on the surface. The diam. of particles on dispersion is usually known (0.1-2 μ), in order to det. the no. of capillaries (I) in a fabric and their diam., a relatively simple method is described and formulas for calcn. are given. Applied to a 4 and 2 thickness cotton jersey, bleached and unbleached, it showed a max. no. of I with 10-30 μ diam., a fair amt. of I with a greater and a small amt. with a lesser diam. Bleaching decreases the no. of I with large and increases the no. of I with small diam.

Elisabeth Barabash

PEREGUDOVA, L. E.

USSR/Technical Physics

Card 1/1

Authors : Bartenev, G. M., and Peregudova, L. E.

Title : Rate of sliding and its effect on the friction of rubber with and without lubrication

Periodical : Dokl. AN SSSR, 96, Ed. 2., 277 - 279, May 1954

Abstract : Authors describe the results derived in studying the effect of the rate of sliding on the coefficient of friction of rubber over metals (steel and aluminum) with and without lubrication. The investigated rubber (polybutadiene rubber) had a Shore hardness of about 90. It is evident from the path of the curves that the friction coefficient of the tested rubber increases with the increase in rate of sliding and that its value depends upon the nature of the solid surface. Eleven references; 5 USSR since 1939. Graphs.

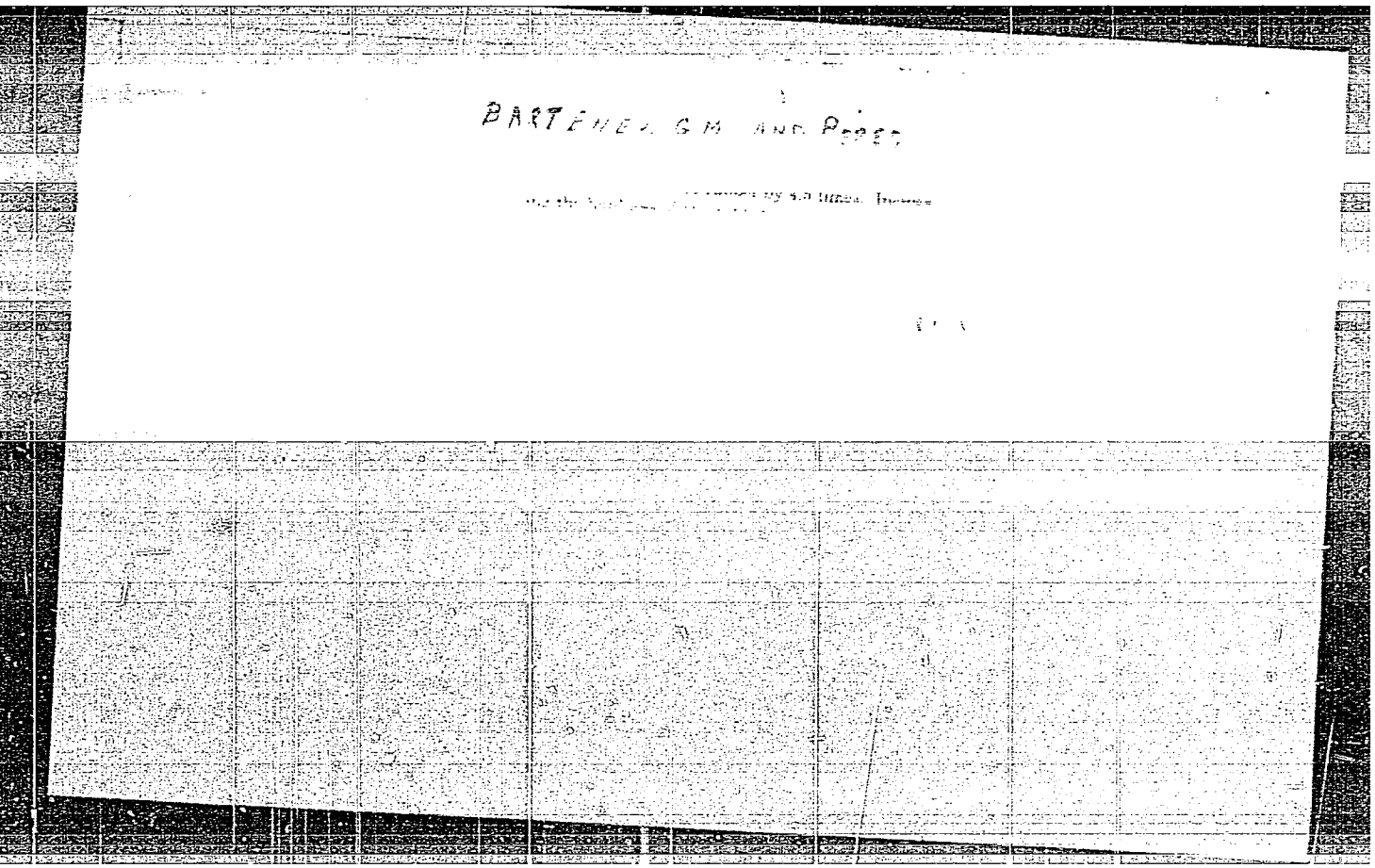
Institution : Scientific-Research Institute of the Rubber Industry

Presented by : Academician P. S. Rebinder, March 25, 1954.

425. Mechanism of flattening and calculation of rubber

An experimental set-up, the authors studied the flattening of the washers as a function of degree of

and 20% compression, with washers in service the degree of compression is usually higher, and consequently, the flattening of the washers is governed by the volumetric properties of the rubber, and not by the surface condition and quality. For calculating the diffusion flow of gas which does not react chemically with the rubber within the washer, the following relation is derived theoretically and confirmed by experiment: $Q=2\pi fkd_0P(1-\epsilon)^n\Delta p\beta_0$, where f is the gas permeability of the rubber, R the average radius of the washer, and d_0 and l_0 the



DANILOV, Konstantin Borisovich; PANFILOV, N., red.; PEREGUDOVA, M., tekhn. red.

[The "KN-12" motion-picture projection unit] Kinoustanovka KN-12. Moskva, Iskusstvo, 1963. 180 p. (MIRA 16:12)
(Motion-picture projectors)

ZAKHAROVA, K., rabotnitsa; PEREGUDOVA, M., rabotnitsa; BARANOVSKAYA, A., rabotnitsa; KAMENSKIY, M.

Subsidiary work should be mechanized too. Rabotnitsa 36 no.5:25 My '58. (MIRA 11:5)

1.Voronezhskiy shinnyy zavod (for Zakharova, Peregudova, Baranovskaya).
2.Tekhnicheskiy inspector Voronezhskogo oblastnogo soveta profsoyuzov (for Kamenskiy).

(Tire, Rubber)
(Efficiency, Industrial)

PEREGUDOVA, Ye.V., gornyy inzhener

New shaped bit for drilling with the SVB-2 rig. Vzryv. delo no.47/4:136-139 '61. (MIRA 15:2)

1. Trest Soyuzvzryvprom.

(Boring machinery)

KHEYFITS, L.A., kand.khim.nauk; SIMANOVSKAYA, E.A.; PEREGUDOVA, Zh.A.; BELOV, V.N.; SHAPIRO, Ye.S., inzh.; KORETSKAYA, P.Z., inzh.

Industrial process for making musteron (isobornyl-2-methylcyclohexanone). Masl.-zhir.prom. 25 no.11:30-32 '59. (MIRA 13:3)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskikh i natural'nykh dushistykh veshchestv (for Kheyfits, Simanovskaya, Peregudova, Belov). 2. Moskovskiy sinteticheskiy zavod (for Shapiro, Koretskaya).
(Odorous substances) (Cyclohexanone)

MOLDOVANSKAYA, G.I.; KHEYFITS, L.A.; PEREGUDOVA, Zh.A.; IL'INA, G.P.

Odorous substances from alkyl phenols. Report No.4: Synthesis of 2-tert-butylcyclohexanol and 2-tert-butylcyclohexanone, odorous substances with the odor of mint. Trudy VNIISNDV no.6:29-31 '63. (MIRA 17:4)

KOLOGRIVOVA, N.Ye.; GERASIMOVICH, T.B.; PEREGUDOVA, Zh.A.; KHEYFITS, L.A.

Hydrogenation of the condensation product of m-cresol with acetone. Trudy VNIINNDV no.5:3-6 '61. (MIRA 14:10)
(Acetone)
(Phenol condensation products)

PEREGUDT, M. F.: Master Agric Sci (diss) -- "Improving the varieties and raising seed of local types of onions". Khar'kov, 1959. 15 pp (Min Agric USSR, Khar'kov Order of Labor Red Banner Agric Inst im V. V. Dokuchayev), 150 copies (KL, No 16, 1959, 109)