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S/O35/61/000/005/031/042
A001/A101

3,2100

AUTHOR: Nikoleyev, P. V.

TITLE: A photoelectric system for automatic guiding of telescopes

PERIODICAL: Referativnyy zhurnal. Astronomiya i Geodeziya, no. 5, 1961, 76-77, abstract 5A518 ("Sb. robot po voopr. elektromekhan. In-t elektromekhan, AN SSSR", 1960, no. 4, 189 - 201)

TEXT: The proposed system of photoelectric guiding consists of an optical guide receiving the light flux from a star, a modulating device where the light flux then proceeds, and a photomultiplier. The voltage obtained from the latter is amplified and supplied to a phase-sensitive rectifier; two reference voltages of sinusoidal shape, phase-shifted through 90°, from a modulating device are also supplied to the rectifier. As a result of comparing the phases of the signal and reference voltages, two d.-c. voltages are worked out at the output of the rectifier; they are signals of error for two axes of the telescope. Each of the signals is amplified by a d.-c. amplifier, an electromechanical amplifier, and proceeds to the armature of a servomotor which, through a reducer, is connected with the axis of the telescope. The modulating device performing the function of a

X

Card 1/2

S/194/61/000/009/026/053
D209/D302

3,1200

AUTHORS:

Sabinin, Yu. A. and Nikolayev, P.V.

TITLE:

System of automatic guiding of telescopes with a semidisc light-beam modulator

PERIODICAL:

Referativnyy zhurnal. Avtomatika i radioelektronika, no. 9, 1961, 45, abstract 9 V360 (Izv. Krymsk. astrofiz. observ. 1960, 24, 203-219)

TEXT:

A photoelectric tracking system with a semidisc light-beam modulator designed for automatic guiding of telescopes is described. The application of a similar system totally excludes visual guiding, since it provides an accuracy sufficient for obtaining good photographs of sections of the sky with several hours exposure. The photoguide is being tested on a 1220 mm reflector. [Abstracter's note: Complete translation.]

B

Card 1/1

13.2720
3,1220 (1051,1057,1114)

11021
8/573/61/000/005/013/023
D201/D305

AUTHOR: Nikolayev, P.V.

TITLE: Automatic slope control of photoelectric tracking systems

SOURCE: Akademiya nauk SSSR. Institut elektromekhaniki. Sbornik rabot po voprosam elektromekhaniki. no. 5, Moscow, 1961. Avtomatizatsiya, telemekhanizatsiya i priborostroyeniye, 149 - 161

+

TEXT: Systems of automatic star tracking normally work with a modulated light beam. A change in the slope of the measuring device unavoidably results in a change of the slope of the whole tracking system. In the series produced 63Y-17 (FEU-17) photomultiplier with a threshold sensitivity $\theta_t \leq 10^{-10}$ lum, S/N ratio $\rho = 10$ and $\Delta f = 20$ c/s and using the optical aperture with $D = 150$ mm and $K_0 = 0.8$, the light beam may vary by a fact of 2291 for stars with effective temperatures of 3000°K. In the present article, the author considers means, by which the changes in the tracking system slope could

Card 1/4

Automatic slope control of ...

31021
S/573/61/000/005/013/023
D201/D305

1225 mm, at the Crimean Astrophysical Observatory, AS USSR and has operated successfully for the past two years, providing for normal photo-guiding operation with stars from the sixth to minus two magnitudes. Fig. 5 shows the calculated (solid lines) and experimentally taken curves (crosses) of $i_{ay} = f(\theta)$ for a type FEU-17 photomultiplier having parameters: $\gamma = 36 \mu\text{A/lum}$, $\gamma_{01} = 10 \text{ a/lum}$ (with 47 V supply per stage), $\gamma_{02} = 1000 \text{ a/lum}$ (with 78 V supply per stage). 4

Curve 1 shows the operation of automatic slope control with a.c. supply for the first photo-multiplier stage. Curve 2 relates to the carrier applied by means of a slotted disc. It is stated in conclusion that the above system of automatic slope control of photo-electric circuits of automatic star tracking permits a reliable operation, without any manual adjustment, with the brightness of the object changing thousands of times. Supplying the first stage with a higher frequency alternating voltage, makes it possible to introduce the carrier into the amplifying circuit without the additional complication of a slotted disc modulator. Varying the slope by varying the supply voltages reduces practically to zero the effect of "fatigue" of a photo-multiplier, because the latter opera-
Card 3/4

31450
S/119/62/000/001/010/011
D201/D302

13.2720 (1051, 1060)

AUTHORS: Nikolayev, P.V., and Sabinin, Yu.A.
TITLE: An electric light beam modulating machine
PERIODICAL: Priborostroyeniye, no. 1, 1962, 27-29

TEXT: A short description is given of the electrical machine for light modulation designed by the authors at Institut elektromekhaniki AN SSSR (Institute of Electromechanics of the AS USSR). It has a hollow rotor and is designed to be used in the photoelectric automatic guidance systems for telescopes. It consists of a combination of a two-phase synchronous inductive reaction motor and of a two-phase synchronous generator with a permanent magnet excitation. The windings of both motor and generator are placed in common grooves of the stator. The ratio of the number of motor to generator poles is a multiple of two in order to avoid the coupling between the currents of the primary circuit of the motor and the generator voltage. The rotor consists of the rotor of the synchronous motor, with a squirrel cage s.c. starting winding and of permanent magnet,

Card 1/2

ACCESSION NR: AT3008539

8/2984/63/000/000/0028/0036

AUTHORS: Sabinin, Yu. A.; Nikolayev, P. V.

TITLE: A system for automatic sighting and guidance of an azimuthal telescope

SOURCE: Novaya tekhnika v astronomii; materialy soveshch. Komissii priborostroyen. pri Astronom. soвете AN SSSR, Moskva, 18-20 apr. 1961 g. Moscow, Izd vo AN SSSR, 1963, 28-36

TOPIC TAGS: telescope, altazimuth mounting, equatorial mounting, VT transformer, photoelectric guide, following system, electronic amplifier FEU 17, motor SL 361, tachogenerator SI 161

ABSTRACT: The authors point out that with the development of large telescopes designers are turning to an azimuthal system for supporting the tube because of several advantages over the equatorial mounting. Some of these advantages are: greater simplicity of construction, possible securing of tube rigidity in only a vertical plane (thus diminishing the weight), convenience of using hydrostatic bearings for both rotating axes, and good working conditions for the mirror (which rotates only about a horizontal axis and may thus have a more reliable system of

Card 1/2

SABININ, Yu.A.; NIKOLAEV, P.V.

System for the automatic control of a star interferometer. 3bor. rab.
po vop. elektromekh. no.9:161-175 '63. (MIRA 17:2)

NIKOLAYEV, P.V.

Analysis of the operation of a photoelectric transducer using half-disc modulator in automatic telescope control systems. Sbor. rab. po vop. elektromekh. no.9:175-189 '63. (MIRA 17:2)

ACCESSION NR: AT3008512

8/2984/63/000/000/0080/0091

AUTHORS: Gereva, G. I.; Sabinin, Ya. A.; Nikolayev, P. V.; Shumakher, A. N.

TITLE: Automatic compensation of curvature in stellar telescopes

SOURCE: Novaya tekhnika v astronomii; materialy soveshch. Komissii priborostroyen. pri Astronom. sovete AN SSSR, Moskva, 18-20 aprilya 1961 g. Moscow, Izd-vo AN SSSR, 1963, 80-91

TOPIC TAGS: Cassegrain telescope, photoelectric following system, AP 250 Cassegrain telescope, automatic control equipment, BTM 4 transformer, ETSh 2.6 meter telescope

ABSTRACT: The problem of building apparatus to compensate for deformation (bending) of the telescope tube has arisen in recent years because of construction of large, extensively automatic, astronomical instruments. Since all telescopes, besides having a meridian circle and a transit, are built on an equatorial mounting, compensation of directional error because of bending must be made by proper correction of both the declination axis and the hour axis. From geometrical considerations, the authors have found expressions to determine what the corrections for zenith and hour angles must be. The corrections are then made automatically by

Card 1/3

S/0271/64/000/005/A011/A011

ACCESSION NR: AR4041524

SOURCE: Ref. zh. Avtomatika, telemekhanika i vy'chislitel'naya tekhnika. Svodny'y tom, Abs. 5A71

AUTHOR: Nikolayev, P. V.

CITED SOURCE: Sb. rabot po voopr. elektromekhan. In-t elektromekhan. Gos. kom-ty Sov. Min. SSSR po avtomatiz. i mashinostr., vy'p. 9, 1963, 175-189

TOPIC TAGS: phototransducer, automatic telescope guidance, modulator, luminous flux

TRANSLATION: The phototransducer in the automatic telescope guidance system serves for detection and measurement of image displacement of a star from the optic axis. At the output of the phototransducer an alternating voltage is produced, the amplitude of which depends on the displacement magnitude. We consider different cases of operation of a phototransducer during the tracking of stars. 1. General case: when the image of an infinite source (star) in the focal plane has a spectral power density of radiation. 2. During tracking of infinite monochromatic sources of light. 3. The case when a luminous flux of complex spectral composition is distributed evenly over the entire area of the image of an object in the focal plane. As a

Card 1/2

ACCESSION NR: AR4041527

S/0271/64/000/005/A076/A077

SOURCE: Ref. zh. Avtomatika, telemekhanika i vy*chislitel'naya tekhnika.
Svodny*y tom, Abs. 5A430

AUTHOR: Sabinin, Yu. A.; Nikolayev, P. V.

TITLE: System of automatic control of stellar interferometer

CITED SOURCE: Sb. rabot po vopr. elektromekhan. In-t elektromekhan. Gos.
kom-ta Sov. Min. SSSR po avtomatiz. i mashinostr., vy*p. 9, 1963, 161-175

TOPIC TAGS: interferometer, stellar interferometer, automatic control,
automatic control system

TRANSLATION: The system of automatic control of a stellar interferometer developed
by the Institute of Electromechanics consists of devices for automatic guidance of
instrument to a given point of the celestial sphere, rough guidance of it after
the object of observation, and devices of automatic guidance. The first

Card 1/2

NIKOLAYEV, P.V.

Representation of equations by nomograms of the second genus.
Dokl. AN SSSR 157 no.6:1293-1296 Ag '64. (MIRA 17:9)

1. Sverdlovskiy gosudarstvennyy pedagogicheskiy institut. Predstavleno akademikom A.N. Kolmogorovym.

SABININ, Yu.A., otv. red.; NIKOLAYEV, P.V., red.; RUDAKOV, V.V.,
red.; MYASHNIKOV, V.A., red.; KULIKOV, S.H., red.

[Automated electric drives; servo systems, control, and
converter devices] Avtomatizirovannyi elektroprivod; sle-
diashchie sistemy, upravlenie i preobrazovatel'nye ustroistva.
Moskva, Nauka, 1965. 172 p. (MIRA 18:5)

1. Leningrad. Institut elektromekhaniki.

ACC-TRE NI 5021835

UR/0000/05/000/000/0000/0000

AUTHOR: Nikolayev, P. V. ; Rozhnova, I. P. ; Sabinin, Yu. A.

TITLE: The possible utilization of the method of accumulation of weak electric signals in photoelectric slave systems for automatic telescope guidance

SOURCE: AN SSSR. Institut elektromekhaniki. Avtomatizirovannyy elektroprivod; sledyashchiye sistemy, upravleniye i preobrazovatel'nyye ustroystva (Automated electric drive; tracking systems, control and converter devices). Moscow, Izd-vo Nauka, 1965, 46, 87

TOPIC TAGS: astronomic telescope, astrotracker, photoelectric method, photomultiplier, guidance system, servosystem

ABSTRACT: The existing photoelectric telescope guidance systems developed in the SSSR and abroad cannot fully satisfy the demands for weak astronomical object tracking. An analysis of the sensitivity of various instruments in operation shows that the automation of medium sized telescopes with optical guides having 150--200 mm apertures demands a reduction in sensitivity threshold of photoguides by 2 to 3 stellar magnitudes. This may be achieved either by developing more sensitive photomultipliers or by applying the method of accumulation of weak electric signals in photosensors. At the Krymskaya astrofizicheskaya observatoriya (Crimean Astrophysical Observatory) the personnel of the Institut elektromekhaniki (Institute of Electromechanics) carried out in 1963 an experimental study of the operation of an FEU-64 photomultiplier under conditions close to those found in automatic guide photosensors using half-disk modulators of light flux. The telescope controlled was an AZT-7 device with a 200 mm

Card 1/2

I. 4258-66 FWT(1)/T/FPA(h) IJP(c) AT/GS/GW
ACC NR. AT 5621837 UR/0000/63/000/000/0090/0100

AUTHOR: Karabash, Ye. D.; Loparev, R. N.; Nikolayev, P. V.; Popov, O. V.;
Sabinin, Xu. A.

45
1371

TITLE: Photoelectric slave systems for telescope control made of semiconductor and magnetic components

SOURCE: AN BSSR. Institut elektromekhaniki. Avtomatizirovanny elektropriwod; sledyashchiye sistemy, upravleniye i preobrazovatel'nyye ustroystva (Automated electric drive; tracking systems, control and converter devices). Moscow, Izd-vo Nauka, 1965, 90-100.

TOPIC TAGS: servosystem, telescope, telescopic equipment, semiconductor device, magnetic circuit

ABSTRACT: After a brief description of photoelectric automatic telescope guidance systems which modulate the light flux by means of half-disk modulators, the authors present the functional diagram, the circuit diagram, and detailed description of the operation of an experimental photoelectric slave system made of semiconductors and magnetic components and used for telescope control. The selection of optimal operating parameters are discussed, the transient processes requiring a correcting loop for stabilization are analyzed, and theoretical estimates of the accuracy of the system are given. The fast determination of the correcting circuit parameters needed for a stable operation of the system is accomplished by electronic modeling. Orig. art. has: 37 formulas and 4 figures.

Card 1/2

L 1258-66

ACC NR: AT 5021837

ASSOCIATION: None

SUBMITTED: 12Apr65

ENCL: 00

SUB CODE: AA, IE

NO REF SOV: 004

OTHER: 000

Card

2/2 DP

L 5070-66 EWT(m)/LWA(h) DM
ACC NR: AP5022644

UR/0089/65/019/002/0199/0200
551.577.7

AUTHORS: Izrael', Yu. A.; Nekozyrev, A. F.; Nikolayev, P. V.;
Stukin, Ye. D. 39

TITLE: Artificial model for studying gamma ray spectra of
radioactive fallouts. //

SOURCE: Atomnaya energiya, v. 19, no. 2, 1965, 199-200

TOPIC TAGS: gamma radiation, radiation simulation, air pollution

ABSTRACT: The measurements of gamma radiations above the earth surface contaminated by Co-60 isotopes are described. For simulating radioactive fallouts, one hundred of Co-60 sources of 96 mc Ra- equivalent units were used. Each source was placed in the centre of a 40 x 40 m square at a height of 10-15 cm over the ground. The surface density was about 3.8×10^{-2} mcurie/sq m ($3.5 \cdot 10^{-2}$ Mev/sq cm sec). The dose rate at one-meter level was 1.75 mr/hr while at the altitude of 200 m this rate was about 0.12 mr/hr. The radiation spectrum was measured from a helicopter flying at 20-200 m with a speed of 50-60 km/hr. The measurement time was 30 sec for three crossing flights. A 100 x 100 mm NaI(Tl) crystal was used for the spectrometer arranged on the basis of AI-100

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ACC NR: AP5022644

analyzer. The resolution was 12.5%. The results of measurements are shown in Fig. 1 of the Enclosure where the aspect of gamma spectrum above the Co-60 contaminated area is presented by five curves plotted for five altitudes. Comparing their experimental results with calculations the authors conclude that their data coincided well with those obtained theoretically. This coincidence is illustrated in two graphs. Orig. art. has: 3 graphs.

ASSOCIATION: None

SUBMITTED: 20Oct64

ENCL: 01

SUB CODE: NP

NO REF SOV: 003

OTHER: 003

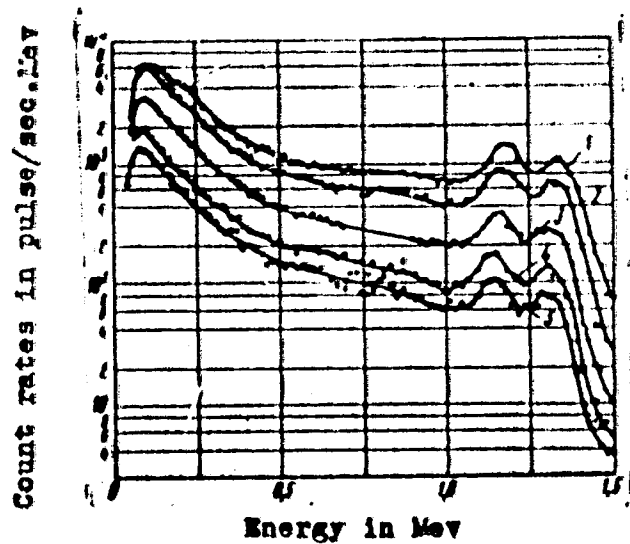
Card 2/3

L 5070-56

ACC NR: AP5022644

ENCLOSURE: 01

0



Curve 1:	at	20	n
" 2:	"	50	"
" 3:	"	110	"
" 4:	"	150	"
" 5:	"	200	"

Fig. 1

Card 3/5 *W.C.*

T 14485-66 INT(1)

ACC NR: AT6003720

SOURCE CODE: Uii/0000/65/000/000/0150/0152

AUTHOR: Nikolayev, P. V.ORG: Astronomical Committee, AN SSSR (Astronomicheskiy sovet AN SSSR)TITLE: Characteristics of tremor of star images and calculation of a system for automatic guidance of telescopes
12-5'

SOURCE: AN SSSR. Astronomicheskiy sovet. Opticheskaya nestabil'nost' zemnoy atmosfery (Optical instability of the earth's atmosphere). Moscow, Izd-vo Nauka, 1965, 150-162

TOPIC TAGS: stellar astronomy, atmospheric refraction, astronomic telescope, linear automatic control system, photoelectric method

ABSTRACT: To secure high-precision guidance of telescopes, it is necessary to provide compensation not only of systematic errors but also of random displacements of the image from the sight line because of anomalous refraction or substantial amplitude variations. Before planning a photoelectric following system for automatic guidance, it is important to select a system of circuits that will meet all these requirements and will guarantee continued operation within acceptable limits of error. Systematic errors in operating an equatorially mounted telescope arise from variations in atmospheric refraction and from flexing of the telescope tube. The author finds expressions to correct for each of these factors, and graphs are prepared to illus-

Card 1/2

L 14483-65
ACC NR: AT6003720

trate the necessary corrections for systematic errors, adjusting the hour angle and the declination as this depends on the hour angle. Expressions are then found for a linear following system to express deviation in refraction angle and in amplitude. The author concludes that satisfactory automatic guidance requires either amplitude-frequency characteristics of the variations in brightness and position, or it requires statistical characteristics of these variations in the form of spectral densities or correlation functions expressed in absolute values. Noise of the photomultiplier has not been examined in this paper (because of lack of space), but it should be considered. More work is needed to determine what other factors affect the quality of the star image. Orig. art. has: 6 figures and 26 formulas.

SUB CODE: 03/ SUBM DATE: 15May65/ ORIG REF: 005

PC
Card 2/2

L 00776-67 - FWT(1)/T. UR(6) - GW

ACC NR: AR6004662

SOURCE CODE: UR/0269/65/000/010/0015/0015

35
B

AUTHORS: Nikolayev, P. V.; Rozhnova, I. P.; Sabinin, Yu. A.

TITLE: Prospects for the utilization of photon counting in photoelectric follower systems used in astronomy

SOURCE: Ref. zh. Astronomiya, Abs. 10.51.132

REF SOURCE: Izv. Krymsk. astrofis. observ., v. 32, 1964, 173-185

TOPIC TAGS: photoelectric tracking, astronomic telescope / AZT-7 astronomic telescope

ABSTRACT: The possibility of increasing the detector sensitivity in photoelectric follower systems used in astronomy is reported. The use of the method of photon counting allows an increase of photoguide sensitivity by $2^{m.5-3^m}$ for an accumulation time of 4 sec. Observations were carried out on the AZT-7 telescope. It is shown that utilization of this method allows a complete solution of the problem of automatically guiding instruments of average size. V. Ye. [translation of abstract]

SUB CODE: 03

Card 1/1

UDC: 522.617

ACC NR: AP6034885

demodulator for attenuating the quadratic component of the error signal, 4) a modulator, 5) preamplifier and basic power amplifier. A detailed description of the electronic circuit is presented. Orig. art. has: 6 figures.

SUB CODE: 03,09,12/

SUBM DATE: 21Apr64/

ORIG REF: 003

Card 2/2

16(1)

AUTHOR:

Nikolayev, P. V.

SOV/140-59-1-14/25

TITLE:

On Solvable Systems of an Equation With an Anamorphosis (O razreshayushchikh sistemakh uravneniya s anamorfozoy)

PERIODICAL:

Izvestiya vysshikh uchebnykh zavedeniy. Matematika, 1959, Nr 1, pp 145-155 (USSR)

ABSTRACT:

Let (1) $F(t) = F(t_1, t_2, t_3) = 0$ be an equation analytic in \mathcal{G} and $\Phi(t) = \Psi_1(t_2, t_3) \Psi_2(t_3, t_1) \Psi_3(t_1, t_2) F(t) = |f_{11}(t_1); f_{12}(t_1); f_{13}(t_1)|$ be its anamorphosis. If the functions Ψ_1, Ψ_2 in the A-factor $\Psi = \Psi_1 \Psi_2 \Psi_3$ would be known and if in the nomogram there would exist three not colinear points $t_3 = t_{3k}$, then according to [Ref 2] the unknown elements f_{1k} could be determined from the identities $\sum_{k=1}^3 P^{(ook)} \Psi_1^{(ok)} \Psi_2^{(ko)} f_{1k} = 0$.

The elimination of $\Psi_2^{(ko)} f_{1k}$ leads to the determinant $|P^{(o11)} \Psi_1^{(11)}; P^{(o12)} \Psi_1^{(12)}; P^{(o13)} \Psi_1^{(13)}| = 0$. The

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16(1)

AUTHOR: Nikolayev, P.V.

SOV/140 59- 16 10

TITLE: Anamorphose of Equations Which Admit an A-Factor (Anamorfioznoe uravneniy, dopuskayushchikh A-prozhitel)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Matematika, 1958, Nr 2, pp 167-175 (USSR)

ABSTRACT: The results of the present paper are already contained in numerous publications of the author (compare [Ref. 1, 2, 3, 4, 5]). The author considers an analytic equation $F(t) = F(t_1, t_2, t_3) = 0$ and the conditions which have to be satisfied by it in order to be a representation

$$\Phi(t) = \Psi_1(t_2, t_3) \Psi_2(t_3, t_1) \Psi_3(t_1, t_2) \cdot F(t) = |f_{11}(t_1); f_{12}(t_1); f_{13}(t_1)|$$

is possible. For equations with an A-factor the author proposes an effective method for the construction of the anamorphose. There are 6 references, 5 of which are Soviet, and 1 French.

ASSOCIATION: Ural'skiy politekhnicheskiy institut imeni S.M.Kirova (Ural Polytechnical Institute imeni S.M.Kirov)

SUBMITTED: March 12, 1958
Card 1/1

NIKOLAYEV, P.V.

Sulfitation. Sakh.prom. 28 no.1:47 '54.

(MLRA 7:3)

1. Glavnyy inzhener Orekhovskogo sakharnogo zavoda. (Sugar industry)

OLEBOV, Yu.P.; NIKOLAYEV, R.A.

Force of contact friction in pressing aluminum and certain
aluminum-base alloys. TSvet. met. 34 no. 4:48-50 Ap '60.
(MIRA 14:4)

(Aluminum) (Friction)

89492

8/136/61/000/004/004/006
E193/E183

1.1200A

AUTHORS: Glebov, Yu.P., and Nikolayev, R.A.

TITLE: Stresses Due to Contact Friction During Extrusion of Aluminium and Some Aluminium-Base Alloys

PERIODICAL: Tsvetnyye metally, 1961, No. 4, pp. 48-50

TEXT: The accuracy of analytical determination of extrusion pressure depends to a large extent on the accuracy of data on contact friction, used in the calculations. Although several formulae for contact friction have been derived (Refs.1,2,6) they all contain parameters which are difficult to determine either analytically or experimentally. Consequently it is easier to determine the magnitude of contact friction experimentally. The contact friction phenomena during extrusion of aluminium or aluminium alloys have certain specific features, owing to the fact that these materials tend to stick to the container wall and form on it a lining, so that friction takes place not between steel and the extrusion material, but between the welded-on lining and the extrusion billet. When the temperature of the container is near to that of the billet, welding may readily occur between the lining

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E193/E183

Stresses Due to Contact Friction During Extrusion of Aluminium and Some Aluminium-Base Alloys

and the billet, in which case friction is replaced by plastic shear. When different alloys are extruded from one container, the situation is complicated by the fact that the chemical composition (and, consequently, the properties) of the container lining changes continuously, being often different from that of the extruded alloy. For this reason the only reliable data can be obtained from experiments carried out under industrial conditions, and since data on contact friction during extrusion of aluminium are scarce, the present investigation was undertaken. The stresses due to contact friction were determined during extrusion on 10, 1500, 2000, and 5000 t presses with the aid of a method due to I.L. Perlin (Ref.4) which consisted in the following. The extrusion pressure (P , kg/cm²), as indicated by the manometer, was plotted against the distance (L , mm) travelled by the extrusion ram. Two points were then chosen on the linear portion of the $P(L)$ curve, and the difference in pressure, ΔP , and the corresponding distance ΔL travelled by the extrusion ram between these two points, were

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S/136/61/000/004/004/006
E193/E183**Stresses Due to Contact Friction During Extrusion of Aluminium and Some Aluminium-Base Alloys**

measured. The change in the magnitude of the friction area, F_{tp} , was calculated from the formula:

$$F_{tp} = \pi D_K \Delta L, \quad (3)$$

where D_K is the container diameter (mm). The friction stress, τ_{kp} , in the plane of the container wall was then calculated from:

$$\tau_{kp} = \frac{\Delta P \cdot F_{n\lambda}}{F_{tp}} \quad (4)$$

where $F_{n\lambda}$ is the cross-section area of the extrusion ram. Data, obtained during 200 tests carried out under various conditions of temperature (t), extrusion speed (v), and elongation (μ), were analyzed. Typical results are reproduced in Fig.2, where τ_{kp} (kg/mm^2) is plotted against the extrusion temperature (t , $^{\circ}\text{C}$). Curves 1-6 in Fig.2 relate to the following conditions: (1) aluminium, extruded at $v = 31-52$ mm/sec, $\mu = 21$; (2) aluminium, Card 3/5

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E193/E183

Stresses Due to Contact Friction During Extrusion of Aluminium and Some Aluminium-Base Alloys

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$v = 4-5$ mm/sec, $\mu = 4.5$; (3) alloy AK6 (AK6), $v = 0.5-1.5$ mm/sec, $\mu = 19$; (4) alloy 895 (V95), $v = 0.2-0.6$ mm/sec, $\mu = 13-33$; (5) alloy AB (AV), $v = 11-18$ mm/sec, $\mu = 15-35$; (6) alloy AMГ5B (AMG5B), $v = 0.8-1.0$ mm/sec, $\mu = 22$. The following conclusions were reached. (1) At a constant extrusion temperature the stress due to contact friction during extrusion of aluminium alloys varies within wide limits, depending on the extrusion speed and on the elongation, the former parameter having a more pronounced effect. (2) Above a certain critical value of the elongation (μ) which amounts to 13-15, further increase in μ has practically no effect on τ_{kp} . (3) The results quoted in the course of the present investigation were obtained under conditions most frequently met in industrial practice and can be used for calculating the extrusion pressure for the alloys studied. There are 4 figures and 6 Soviet references.

Card 4/5

NIKOLAYEV, R.L.

Using turbine transformers on single-diesel engine cranes. [Isi.]
LONITOMASH 52:159-170 '59. (MIRA 12:12)
(Oil hydraulic machinery) (Cranes, derricks, etc.)

NIKOLAYEV, R. L.

Cand Tech Sci - (diss) "Study of the drive of freight elevator mechanism in construction cranes using turbo-transformers." Moscow, 1961. 23 pp with diagrams; (Ministry of Higher and Secondary Specialist Education RSFSR, Moscow Order of Labor Red Banner Construction Engineering Inst imeni V. V. Kuybyshev); 180 copies; price not given; (KL, 6-61 sup, 222)

NIKOLAYEV, R.L., inzh.

Analysis of the exterior characteristics of a hydraulic torque
converter when selecting it for construction and road machines.
Stroi. i dor. mash. 6 no.3:24-27 Mr '61. (MIRA 14:4)
(Power transmissions)

POSPÉLOV, G.N., inzh.; NIKOLAYEV, R.L., inzh.

Motor car with hydromechanical transmission. Torf. prom.
38 no.6:15-17 '61. (MIRA 14:9)

1. Torfopredpriyatiye imeni Klassona (for Pospelov).
2. Vsesoyuznyy mashino-issledovatel'skiy institut stroitel'nogo i dorozhnogo mashinostroyeniya (for Nikolayev).
(Railroad motor cars)

051111
SOV/120-59-3-15/46

AUTHORS: Kharchenko, I. P., Nikolayev, R. M., Nekrashevich, A.M.,
and Zeydlits, P. M.

TITLE: A Computer for Studying the Motion of Particles in a
Linear Electron Accelerator (Schetno-reshayushcheye
ustroystvo dlya issledovaniya dvizheniya chastits
v lineynom elektronnom uskoritele)

PERIODICAL: Pribery i tekhnika eksperimenta, 1959, Nr 3,
pp 71-76 (USSR)

ABSTRACT: This mechanical analyzer is supplied with the parameters
of the accelerating system and indicates the parameters
of the output beam (energy spectrum, phase width of
bunch, mean current); it is also used to examine the
phase motion of the particle. The z axis lies along
the waveguide; ϕ is the phase of a particle relative
to the accelerating field, U_0 is the initial energy
of that particle, and c is the speed of light; $\beta = z/c$.
Eq (1) is simply the kinetic equation; Eq (2) gives
the change in phase occurring in a time d and λ is the
wavelength in the guide. Eq (3) is the integral of (2)
and (4) is found by combining (3) with (1). Eq (5)

Card 1/2

KHARCHENKO, I.F.; FAYBERG, Ya.B.; NIKOLAYEV, R.M.; KORNILOV, Ye.A.;
LUTSENKO, Ye.A.; FEDENKO, N.S.

Investigating the interaction between an electron beam and
plasma. Zhur.eksp.i teor.fiz. 38 no.3:685-692 Nr '60.
(NIRA 13:7)

1. Fiziko-tekhnicheskij institut Akademii nauk Ukrainской
SSR.

(Electron beams) (Plasma (Ionised gases))

9.3130 (1163, 1533, 1141)
24.6716

25021
S/057/6:031/007/001/021
B108/B209

AUTHORS: Kharchenko, I. F., Paynberg, Ya. B., Nikolayev, R. M.,
Kornilov, Ye. A., Lutsenko, Ye. I., and Pedenko, N. S.

TITLE: Interaction of an electron beam with a plasma in a magnetic
field

PERIODICAL: Zhurnal tekhnicheskoy fiziki, v. 51, no. 7, 1961, 761-765

TEXT: The interaction between a beam of charged particles and a plasma has great physical and technical significance and is therefore subject to the present study. In a plasma in a magnetic field, an electron beam may interact with both E and H waves. Moreover, parameter resonance may occur since the arising waves lead to a change of the parameters which is periodical in space and time. When the frequency of the plasma particles stands in a certain ratio to the frequency of the electromagnetic field forming by self-modulation of the electron beam when moving through a plasma, parameter resonance is possible. This ratio between the frequency of the longitudinal waves, due to the interaction between beam and

Card 1/3

25021

Interaction of an electron beam ...

S/057/61/031/007/001/021
B108/B209

plasma, and the cyclotron frequency ω_H is given by $\omega = \frac{2\omega_H}{p}$ or by

$\frac{2\pi v_0}{L} = \frac{2\omega_H}{p}$ where L is the periodicity of the wave in the beam, v_0 the velocity of the beam ($p=1,2,\dots$). However, also other instabilities may arise when an electron beam interacts with a plasma. The experimental arrangement for the present studies provided a 50-ma electron beam (5 keV) to interact with a plasma in a vacuum of $10^{-2} - 10^{-3}$ mm Hg. The magnetic field strength during the experiment was 2000 gauss. The results showed that at certain magnetic field strengths the electron beam becomes unstable, which leads to a widening of the glowing plasma (from 3 to 30 mm) and a decrease in the beam energy. When the electron beam was pre-modulated on a frequency f_m , instability occurred at four magnetic field strengths corresponding to the electron-cyclotron frequencies of $\frac{1}{2}f_m$, f_m , $\frac{3}{2}f_m$, and $2f_m$. The width of these unstable ranges was only a few per cent of the cyclotron frequency. The h. f. oscillations generated in the unstable zone

Card 2/3

1. 1966-66 ENT(1)/BPS(N)-2/5-2011
 ACC NR: AP6008748

TOPIC AT
 SOURCE CODE: UR/0386/66/003/006/0243/0247

AUTHOR: Burchenko, P. YA.; Vasilenko, B. T.; Volkov, YE. D.; Nikolayev, R. M.;
Potapenko, V. A.; Tolok, V. T.

ORG: Physicotechnical Institute, Academy of Sciences, USSR (Fiziko-tehnicheskiy
 Institute Akademii nauk USSR)

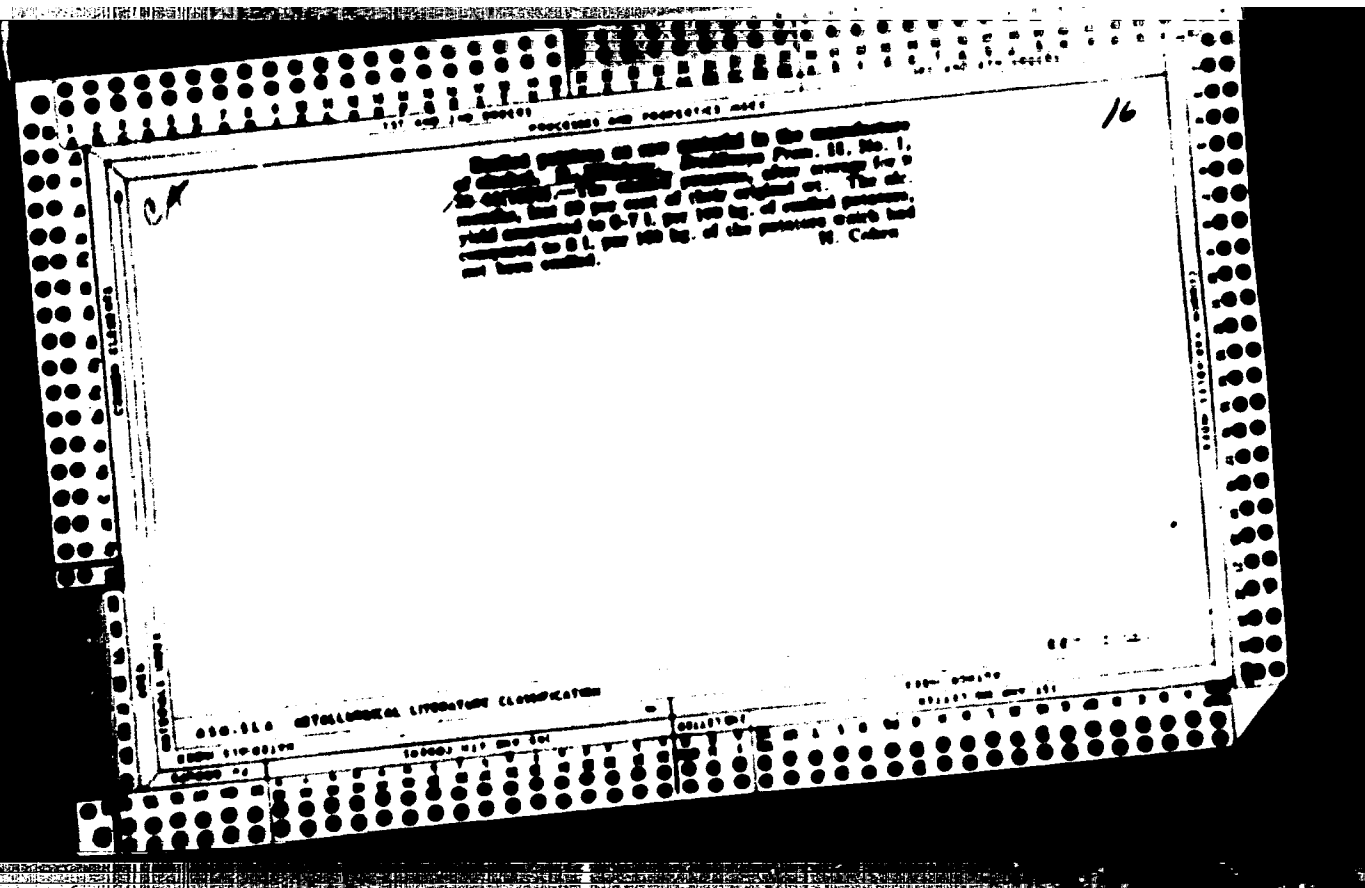
TITLE: Excitation and thermalization of plasma oscillations in a stellarator

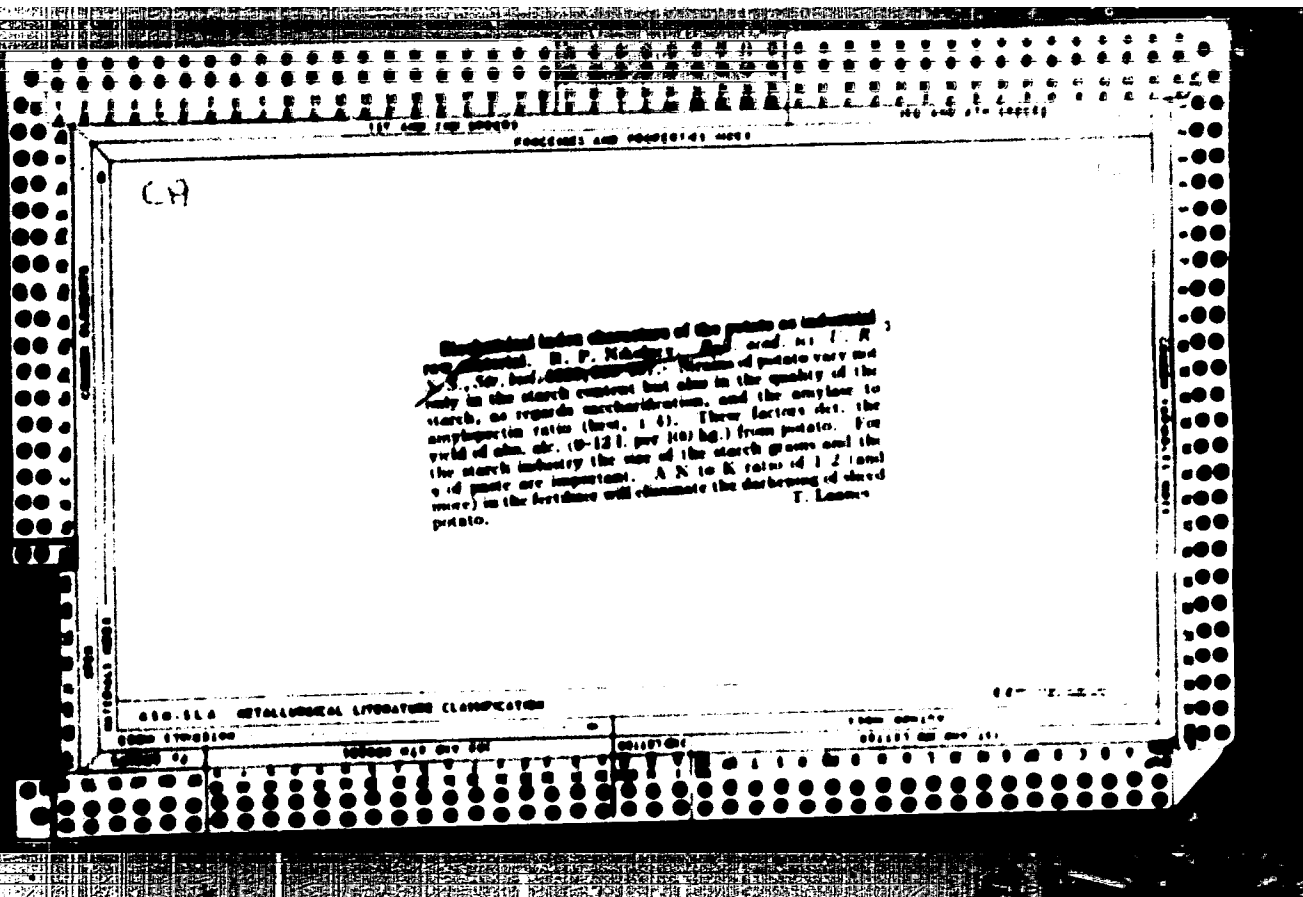
SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki. Pis'ma v redaktsiyu.
 Prilozheniye, v. 3, no. 6, 1966, 243-247

TOPIC TAGS: controlled thermonuclear reaction, plasma confinement, plasma electron
 oscillation, plasma electron temperature, Sirius magnetic trap, electric field

ABSTRACT: The authors studied the influence of collective processes on the behavior
 of a plasma in a closed stellarator-type magnetic trap (Sirius), comprising a race-
 track with two trifilar helical windings placed on the toroidal sections. The stel-
 lator had a vacuum chamber with axial length 600 cm and minor diameter 10 cm, a
 maximum retaining field $H_0 = 2 \times 10^6$ oer, and $\beta_0 = 6 \text{ kGt}/H_0^2 = 7.5 \times 10^{-4}$. To excite
 intense collective oscillations, a longitudinal electric field of large amplitude
 ($E \geq E_k = 1.58 \times 10^{-8} \text{ n/T}_e$), was applied to a plasma produced in the stellarator cham-
 ber by a pre-ionization generator. All the experiments were made at initial neutral-
 helium pressures $5 \times 10^{-5} \text{ -- } 8 \times 10^{-4}$ mm Hg. The experiments consisted of measuring
 the plasma current and the loop voltage in the chamber, the plasma density, the x-
 radiation from the diaphragm limiting the plasma pinch and from the chamber walls, the

Card 1/2





SECRET

Prepared as raw material for the production of
 esters. H. P. Nikitov, E. I. Bokovchik, G. I. Babits-
 kre, and A. M. Pavlov. *Trudy Vsesoyuzn. Akad.-
 Nauk SSSR, Ser. Khim. Nauk* 1965, 11:117-120. The starting
 amount of raw ash was 100 g. Part of the
 system was ground into a pulp and part into pieces
 of size 0.5 x 0.5 cm. The pulp was placed in glass jars (1)
 mixed with (1) 2% NaCl, (2) with 1% NaCl, and (3) without
 NaCl. Into an identical set of glass jars in different layers of
 pulp and pieces were placed with the addition of 2% NaCl.
 The jars were covered with paper and then with tin foil.
 To simulate practical conditions of storage, they were
 stored. The unacidified jars were kept in the lab. at 44°
 during January, at 6-12° during February, at 0-12° in
 March, at 11-20° in April, at 17-19° in May. Several
 lots of each type of sample were prepared so that
 analysis could be made at given time intervals without the
 need of weighing and reweighing the jars. The sample
 which was analyzed first was used, which normally con-
 tained 0.88% of sugar, a factor favoring the formation of
 esters of high quality. In the early stage of storage the
 water content was reduced rapidly, reducing the original pH
 from 6.0 to 4.4-4.6, thereby serving as an important factor
 in ester formation. The reduced water content was
 due to losing the high quality of the esters. The latter
 retained a gel-like consistency, had a pleasant color, and
 appetizing odor formation. After 2-6 months, the
 sugar lost 2-5% of its original weight. The best quality
 sample was obtained with the pulp. After 2 months
 of preservation the unsalted pulp showed 14.1% gain in
 esters on the original wt. base. The salted pulp had a
 15.4% esters gain, the 2% NaCl pulp yielding
 higher results. At the end of 4 months only a slight loss in
 esters occurred in the unsalted pulp, while a 12.0% loss
 occurred in the 2% NaCl pulp. In the sample consisting of
 the constant layers of pulp and pieces of amount 2% of
 NaCl at the end of 6 months there was a 10.4-21.7% loss
 of esters.

USSR

The vitamin C content of some fruits and vegetables. V. V. Puzosova and N. P. Sokolova. *Izv. Vsesoyuzn. Nauch.-Issledovatel'sk. Inst. 4* (1962) (1963). Pp. 1-10. 11 refs. (Eng. transl.) Moscow: Izdat. Meditsina, 1962. 11 pp. In vitro. USSR. Vitamin C. Vitamin C content (during the winter months, there occurs a drastic fall in the vitamins of food). In fresh young potato vitamin C is 10.4 mg/100 g. It drops during storage to 1.8 mg/100 g. In white cabbage the vitamin C content is 14.4. In cauliflower 88. In lettuce 45. In tomato 20.5. In parsley 44 C. In blackberry 21.6. In lettuce 121.0. In asparagus 42.4. In lettuce 22.0. In onions 18.0. In cabbage, turnips, lettuce and parley the vitamin C will be maintained during storage. The loss of vitamin C in winter vegetables may be as high as 100%. Liked lettuce lose much, while frozen blackberry retain most of their original vitamin C. R. S. Lester

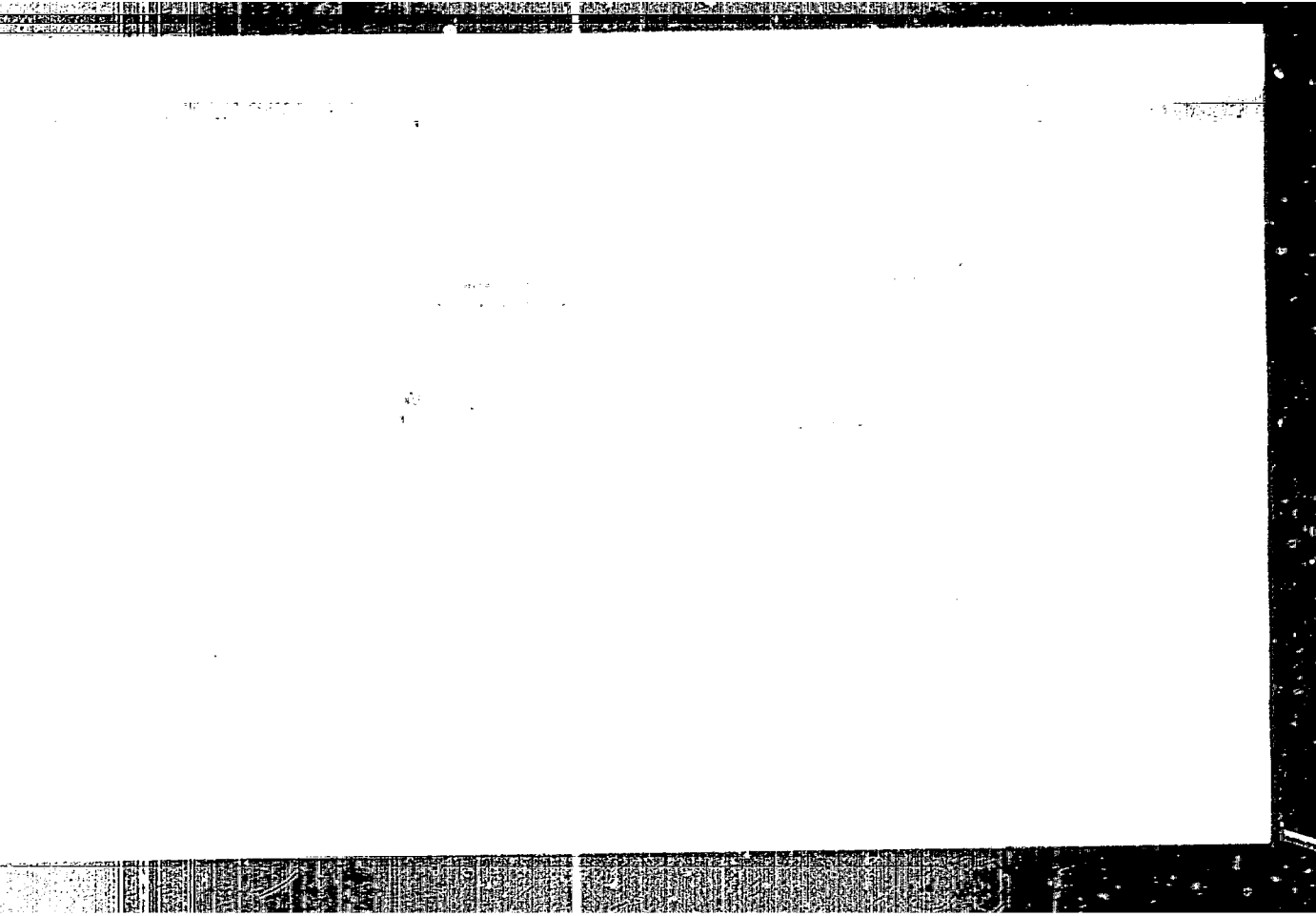
NIKOLAYEV, N.P.; POVOLOTSEAYA, K.L.; VODOLAZSKAYA, N.A.

Biological value of different concentrates and preparations of vitamin
C. *Biokhimiya* 18, 169-74 '53. (MIRA 6:4)
(CA 47 no.17:8855 '53)

1. Vitamina Inst., Moscow.

"APPROVED FOR RELEASE: 08/23/2000

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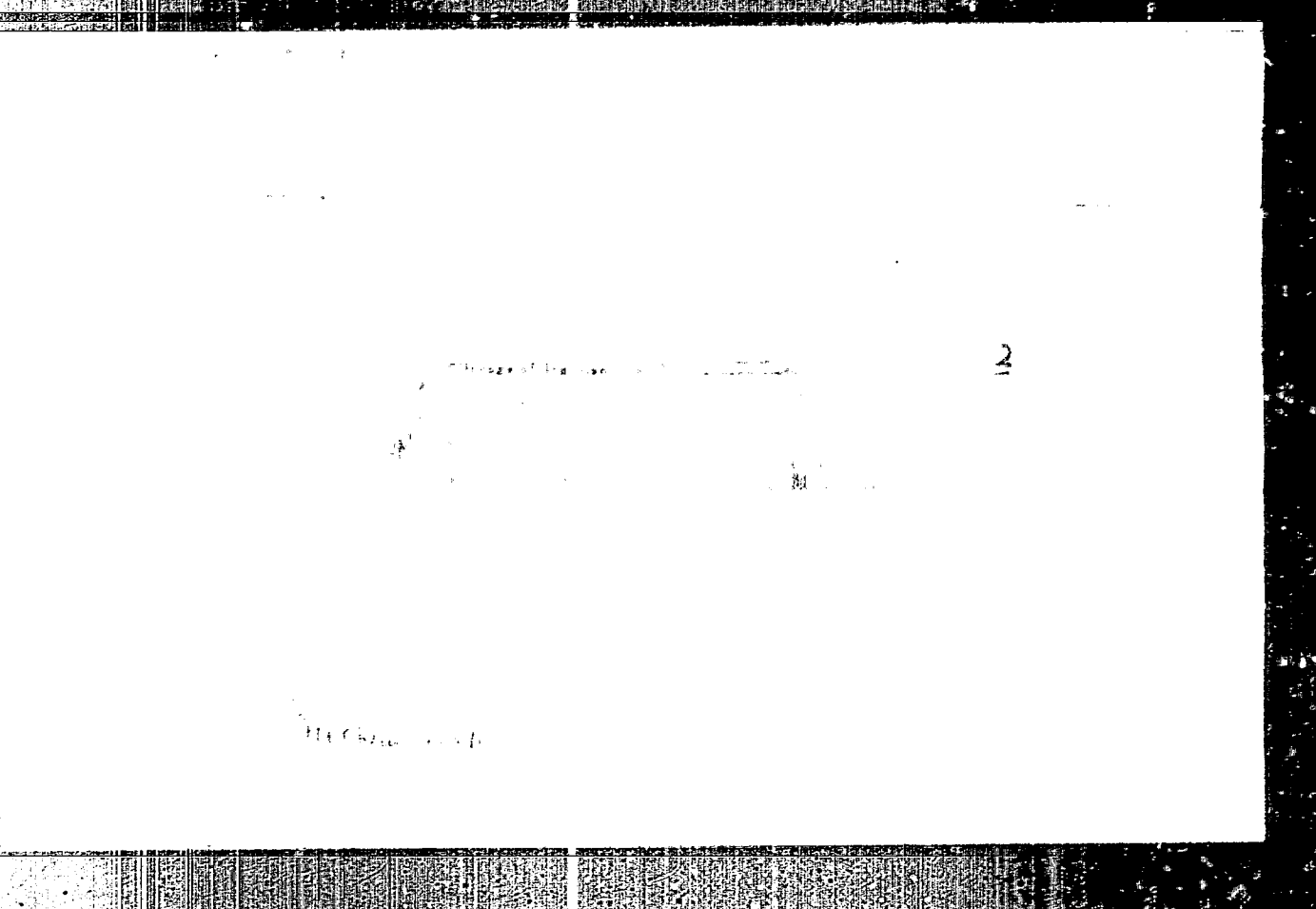
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NIKOLAYEV, R.P.; BABICHEVA, O.I.

**Vitamin P content of dried dog rose fruit as affected by storage
in different containers. Annotation. Trudy VNIPI 5:126-127 '54.
(MLRA 9:3)**

- 1. Biokhicheskaya laboratoriya.
(VITAMINS - P)(MATERIA MEDICA, VEGETABLE - STORAGE)**

NIKOLAYEV, R.P.; ROMANOVA, A.F. (Moskva)

Dry stable vitamin A preparations [with summary in English]. Vop.
pit. 16 no.2:53-56 Mr-Apr '57. (MIRA 10:10)

1. Iz biokhicheskoy laboratorii (sav. - kandidat biologicheskikh
nauk R.P.Nikolayev) Vsesoyuznogo nauchno-issledovatel'skogo vitamin-
nogo instituta, Moskva.

(VITAMIN A, prep.
dry stable prep. (Bus))

NIKOLAYEV, B.B.; ROMANOVA, A.F.

Stabilising action of various antioxidants on vitamin A concentrates and the preparation of vitamin A emulsions for use in animal husbandry. Trudy VNIIV 6:118-122 '99. (NIRA 13:7)

1. Vsesoyuzny nauchno-issledovatel'skiy vitaminsyy institut.
Mekhinicheskaya laboratoriya. (ANTIOXIDANTS) (VITAMIN--A)

NIKOLAYEV, R.F.; ZAKHAROVA, M.F.; ROMANOVA, A.F.

**New preparations of vitamins A, D, and B₁₂ for feeding purposes.
Trudy VNIIV 6:137-144 '99. (MIRA 13:7)**

**1. Vsesoyuznyy nauchno-issledovatel'skiy vitaminnyy institut.
Biotekhnicheskaya laboratoriya.
(VITAMINS)**

NIKOLAYEV, R.F.; ZAKHAROVA, M.P.; ROMANOVA, A.F.

Dry, highly dispersed, stable preparations of fat-soluble vitamins for prophylactic and therapeutic purposes. Trudy VNIIV 6:144-147 '99. (NIRA 13:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy vitaminnyy institut. Biokhimicheskaya laboratoriya. (VITAMINS)

NIKOLAYEV, R.P.; ROMANOVA, A.P.; KONOVALOV, F.V.; ZHIDKOVA, A.V.

Influence of sulfurous anhydride on the preservation of ascorbic acid in dry dog rose. Trudy VNIIV 6/161-164 '59. (MIRA 13:7)

1. Biokhimiicheskaya laboratoriya Vsesoyuznogo nauchno-issledovatel'skogo vitaminnogo instituta i Shchelkovskiy vitaminnyy zavod.

(ASCORBIC ACID)

(SULFUR DIOXIDE)

^c
NIKILAYEV, R.P.; ROMANOVA, A.F.

Change in the amount of ascorbic acid and its derivatives in
the fruit of the dog rose and in products prepared from it.
Trudy VNIIV 6:164-172 '59. (MIRA 13:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy vitaminnyy institut.
Biokhimiicheskaya laboratoriya.
(ASCORBIC ACID)

NIKOLAYEV, R.P.; ROMANOVA, A.F.

**Influence of substances related to vitamin P on the stability of
ascorbic acid. Trudy VNIIV 6:172-176 '59. (NINA 13:7)**

**1. Vsesoyuznyy nauchno-issledovatel'skiy vitaminsiy institut.
Biokhimicheskaya laboratoriya.
(VITAMINS--P) (ASCORBIC ACID)**

NIKOLAYEV, R.P.; TARUTIN, P.P.; ROMANOVA, A.F.

Powdered stabilized vitamin A concentrate for feeding purposes. Vit. res. i ikh isp. no.6:145-155 '63.

(MIRA 17:1)

**1. Vsesoyuznyy nauchno-issledovatel'skiy vitaminnyy institut
i Vsesoyuznyy nauchno-issledovatel'skiy institut serma i
produktov yego pererabotki.**

SAMOKHVALOV, G.I.; BUDAGYANTS, M.I.; SHAKHOVA, M.K.; SHOLINA, S.I.;
KRUGLYAKOVA, K.Ye.; NIKOLAYEV, R.P.; ROMANOVA, A.F.

7-Alkyl derivatives of quercetin and their antioxidizing
effectiveness. Izv. AN SSSR. Ser.khim. no.9:1617-1621 9 '63.
(MIRA 16:9)

1. Institut khimicheskoy fiziki AN SSSR i Vsesoyuznyy nauchno-
issledovatel'skiy vitaminnyy institut.
(Quercetin) (Antioxidants)

(A) L 11522-11

ACC NR: AP6000316

SOURCE CODE: UR/0286/65/000/021/0011/0011

AUTHORS: Nikolayev, R. P.; Tarutin, P. P.; Romanova, A. F.; Brzhesina, L. K.

ORG: none

TITLE: Method for manufacturing a vitaminized animal fodder preparation. Class 30, No. 176043

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 21, 1965. 41

TOPIC TAGS: food technology, commercial animal, vitamin, calcium compound, nicotinic acid

ABSTRACT: This Author Certificate presents a method for manufacturing a vitaminized animal fodder preparation containing vitamin A, molasses, and soybean meal. To insure complete vitaminization of the preparation, riboflavin (B₂), nicotinic acid (PP), and calcium pantothenate are dissolved in the molasses. Next, stabilized vitamin D is emulsified in the molasses, and vitamin B₁₂ and soybean meal are added to the mixture. The mixture is thoroughly mixed, crushed, and bagged.

SUB CODES: 02/
13/

SUBM DATE: 17Aug63

HW
Card 1/1

UDC: 636.085:636.087.3:577.161.164

21153

15.8500 1436, 2209, 1581

S/032/61/027/004/007/028
B110/B215

AUTHOR: Nikolayev, R. S.

TITLE: Study of polymers with a polarization microscope

PERIODICAL: Zavodskaya laboratoriya, v. 27, no. 4, 1961, 420-422

TEXT: An MП-7 (MP-7) polarization microscope was used to study polymers in transmitted and reflected light. A ~3-5 mm thick, approximately square specimen (~10 mm · 10 mm) was first filed down to 1-2 mm, then ground with electrocarborundum no. 180 and no. 20. Less solid polymers such as Getinaks and phenoplast were first saturated with molten colophony and a 10% addition of xylene. Polymers with fillers (glass Textolites, Getinaks, laminated plastics, and other phenoplasts and aminoplasts) can also be studied with reflected light. The ground faces of the preparations are then glued free of air to the slide by means of pine balsam. They are again ground with electrocarborundum 180 and 20 down to the required thickness in parallel to the surface of the slide. The finished specimen of 0.01 - 0.02 mm thickness is examined under an MSP-1 (MSR-1) microscope, and an MП-7 (MP-7) microscope in transmitted light, with 40 to 500-fold

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Study of polymers with...

S/032/61/027/004/007/028

B110/B215

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magnification. Thus, the individual fillers (wood fiber, wood dust, glass- and asbestos fibers, etc.) are clearly visible. In polarized light, wood- and asbestos fibers show polarization effects. Glass fibers with binding resin do not cause birefringence, and remain dark under crossed nicols. Their examination, therefore, requires reflected light. In transmitted, polarized light, examinations require 40 - 100-fold magnification. The stage with the preparation is turned through 360° during the examination of structural components, and their coloring during flashing and extinction is observed. However, no light must be reflected. Amorphous polymers which remain dark when the stage is turned, and crystalline polymers of strong or weak birefringence can thus be distinguished. Quartz plate and interference light of the first order are best suited for the examination of weak birefringence; violet coloring of the preparation changes immediately. Amorphous polymers show no interference when convergent polarizatic: light is used and the stage is turned. Crystals of quadratic and hexagonal systems show a dark cross, those of orthorhombic, monoclinic and triclinic systems show two hyperbolas. In polarized light, interference colors of the first order appeared in some zones of flat, dumbbell-shaped polyethylene specimens

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S/032/61/027/004/007/028
B110/B215

Study of polymers with...

with steady transition from the narrow to the wide part during their expansion at an angle of 45° (with respect to the polarization planes of nicols). They were followed by neck formations and local deformations. Even with hundredfold magnification, the expansion of grains into long, thin threads could be observed. The polarization colors showed transitions to higher orders, even to white. When the neck formation reached the widened part of the specimen, break occurred. Deformations within the neck were indicated by interference rings. Before break, intensive flow of deformed fibers into the zone of break took place. In the examination of terylene and polytetrafluoro ethylene, hardly any deformations showed, and break occurred suddenly over the whole cross section. The method of examination under the polarisation microscope is suited for additional control of the production and processing of polymers, and examination of their deformations. [Abstracter's note: Three figures cannot be reproduced]. Structural examination of polymers in polarized light. Group A: phenol formaldehyde resin (novolak and resol resins), polymethyl methacrylate, polyvinyl chloride, copolymer of styrene with nitrile rubber (CHM) (SNP). Group B: copolymer of styrene with acrylonitrilic acid CM-20 (SN-20), cast polystyrene (birefringence in this case may be ex-

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S/032/61/027/004/007/028
B110/B215

Study of polymers with...

plained by internal stress). Group C: polytetrafluoro ethylene, polyamide, polyethylene (two hyperbolas occur in convergent polarized light).

Conditions of examination	Absence of birefringence	Weak birefringence	Strong birefringence
in parallel, polarised light (with crossed nicols)	polymers group A completely darkened field of vision when turning the stage through 360°; uniform violet coloring due to quartz plate	polymers group B slight brightening and darkening of some parts of preparations or the total field of vision occurring four times when the stage is turned; partial or complete change in violet coloring due to quartz plate	polymers group C intensive brightening and darkening of some parts of preparations or total field of vision occurring four times; sudden, complete change in violet coloring due to quartz plate

Card 4/5

21153

S/032/61/027/004/007/028

B110/B215

Study of polymers with...

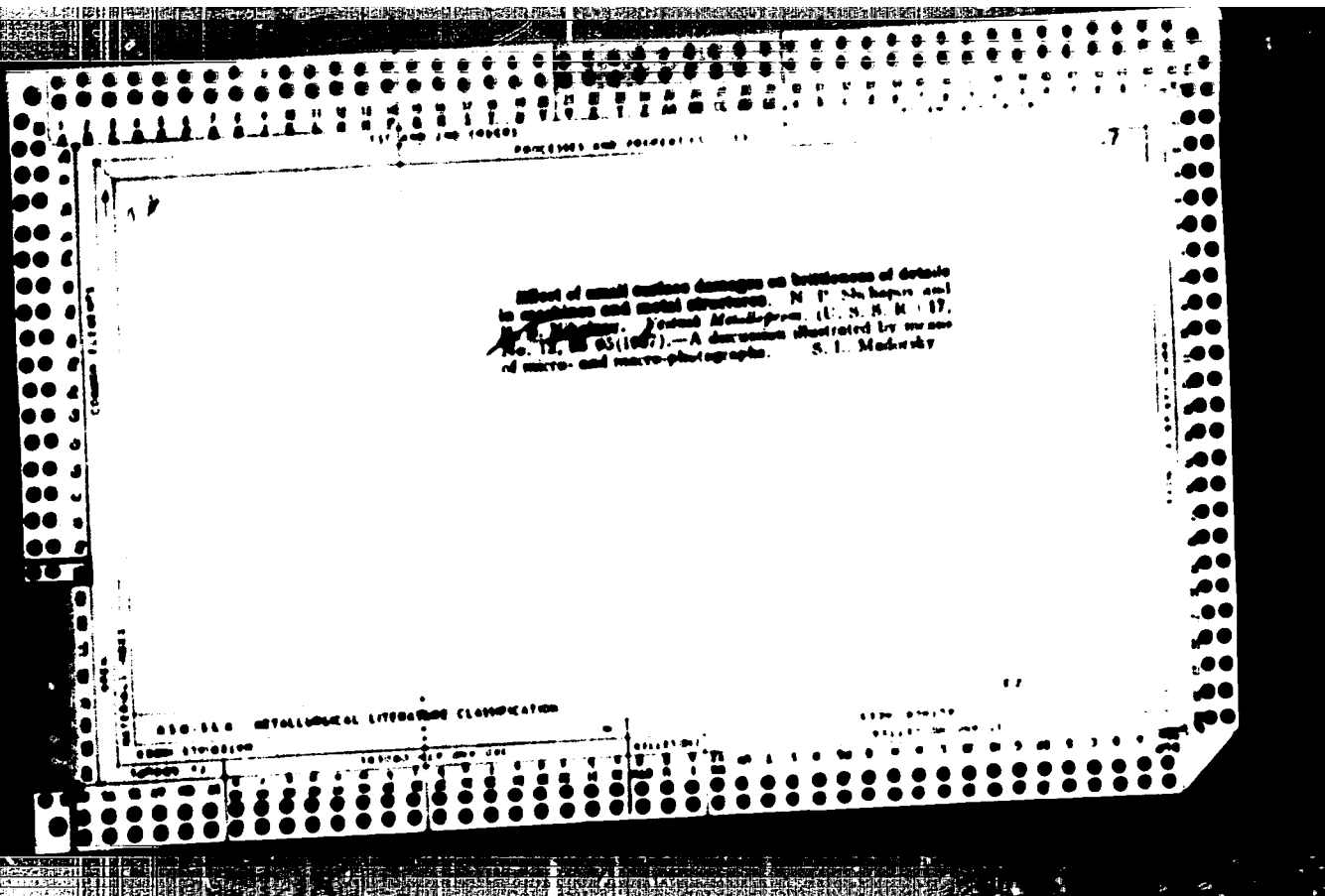
Continuation of the table

in convergent, polarized light	no interference patterns	slight darkening and brightening; signs of passing of branches of interference patterns	passing of branches of interference patterns; interference crosses (uniaxial crystals) or hyper- bolas (biaxial crystals)
--------------------------------------	-----------------------------	--	---

There are 3 figures and 1 table.

X

Card 5/5



NIKOLAYEV, R. S.

7

Effect of surface contamination upon the brittleness of low carbon steel. N. P. Starogov and R. C. Nikolayev. *Izv. Akad. Nauk SSSR, Ser. Metalloved.* 1964, No. 6, 1011-1021. (USSR).

Contg. (1) C 0.10, Mn 0.64, Si 0.022, P 0.0025, S 0.0015, Cu 0.017, Ni 0.018 and Mn 0.002%; (2) C 0.13, Mn 0.65, Si 0.02, P 0.0025 and S 0.0015%. The grain size in steels (1) and (2) were, resp., No. 1 and No. 2 (A.S.T.M.). Contamination was conducted by the H_2O_2 - HNO_3 method and also with alkali-sulfate character + 3% $NaCl$. The contaminated objects were subjected to various forms of heat-treatment. The results show that a brittle layer produced by contamination may cause brittle destruction of tough material. Brittle destruction was produced in most cases by ordinary contamination without any thermal treatment.

B. E. Kosik

000 010 METALLURGICAL LITERATURE CLASSIFICATION

SKAKOV, A. I., kandidat tekhnicheskikh nauk; NIKOLAYEV, R. S., kandidat tekhnicheskikh nauk

Strengthening rail feet during the rolling process. Tekh. shel. dor.
6 no. 12:10-12 D'47. (MIRA 8:12)

(Railroads--Rails)

NIKOLAYEV, R.S., kandidat tekhnicheskikh nauk; MIKHAYKO, Ye.F., kandidat
tekhnicheskikh nauk

Causes for short service and breakdowns in railroad traction gearing.
Tekhnichesk. dor. 7 no.1:19-21 Ja '48. (MLRA 8:11)
(Gearing)

USSR/Physics

Doc 88

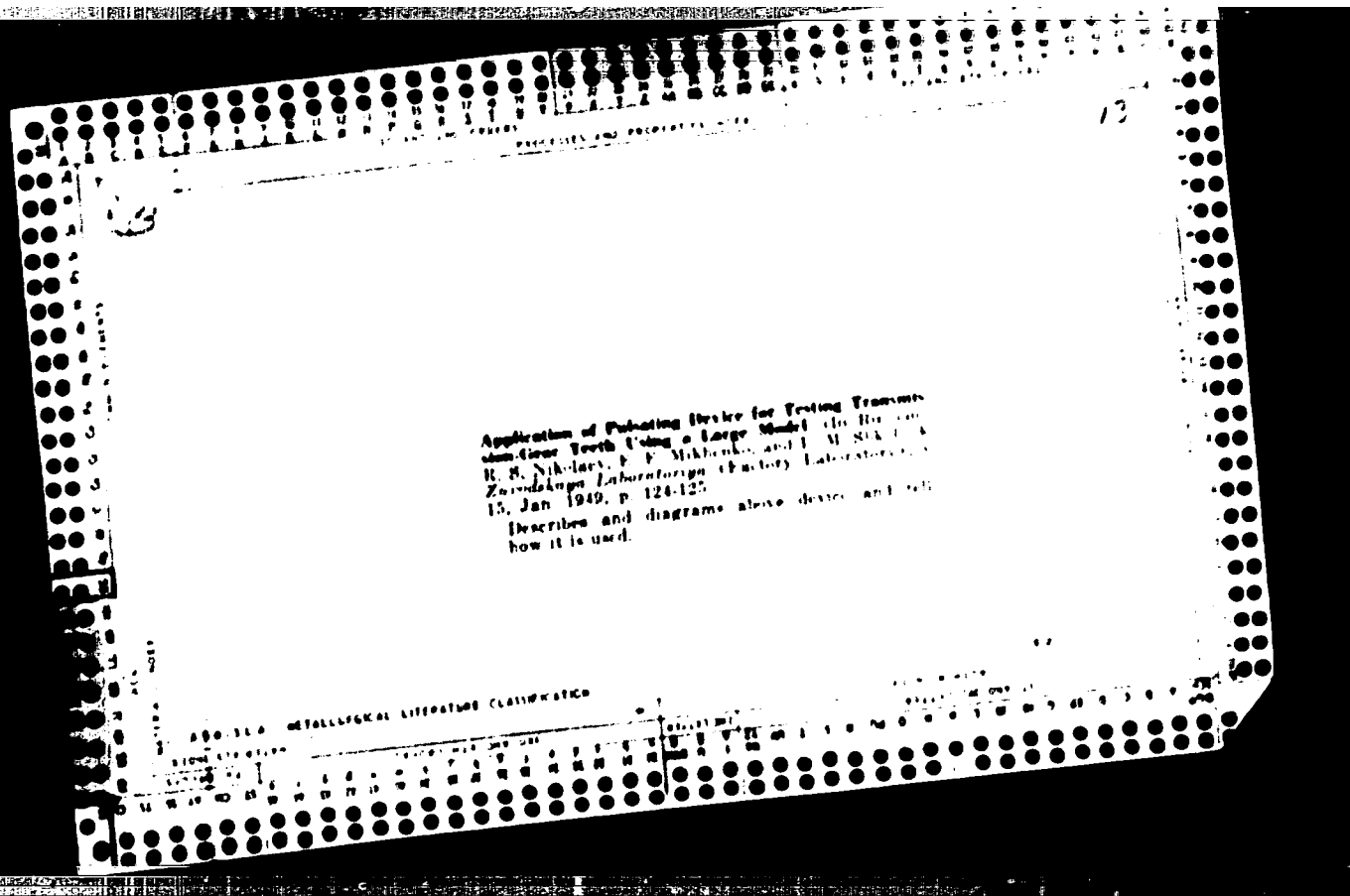
Elastic Limit

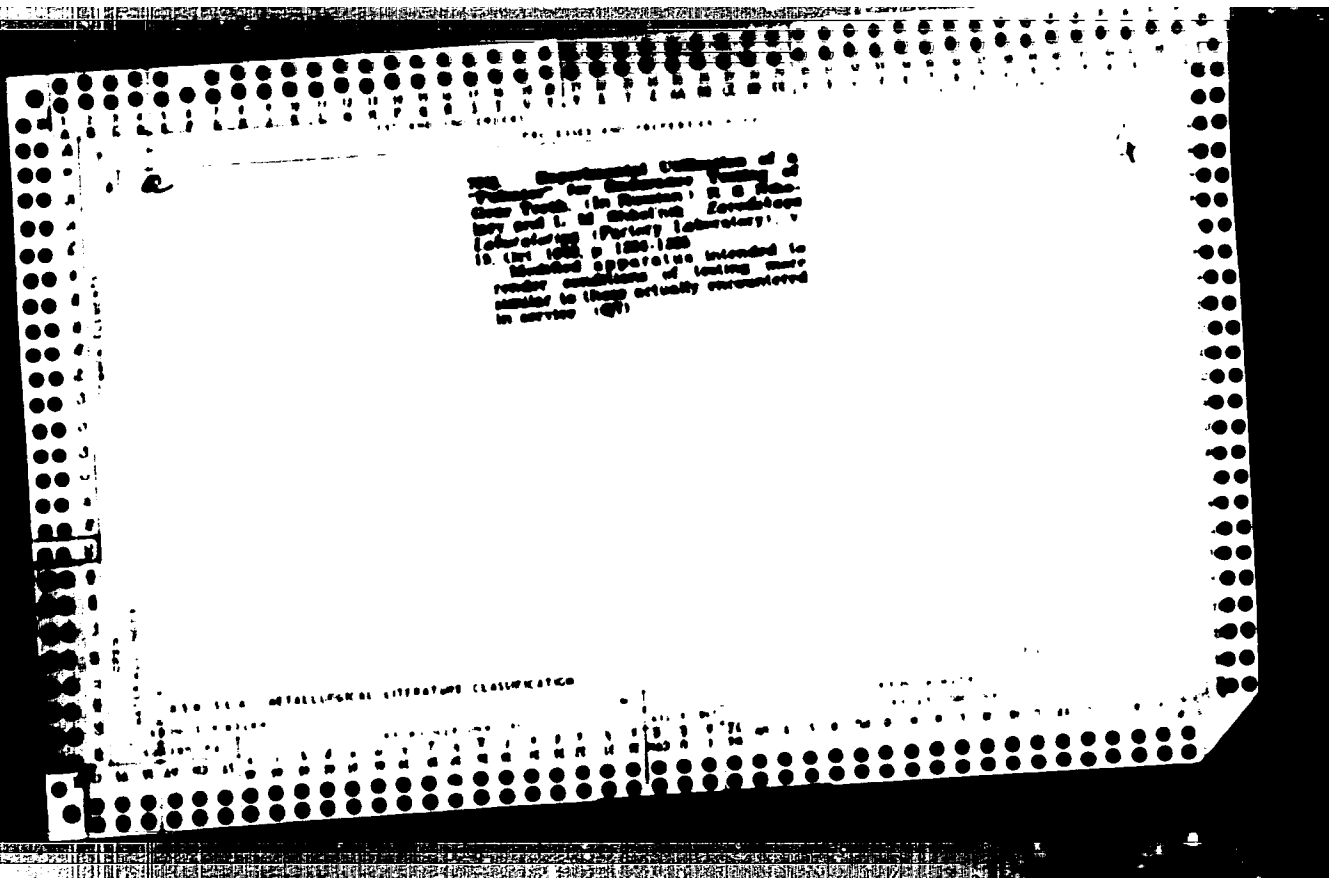
**"The Symbol for the Elastic Limit," N. S. Nikolayev,
Soviet Tech Sci, Sci Res Inst of ~~USSR~~ Transport, 5 p**

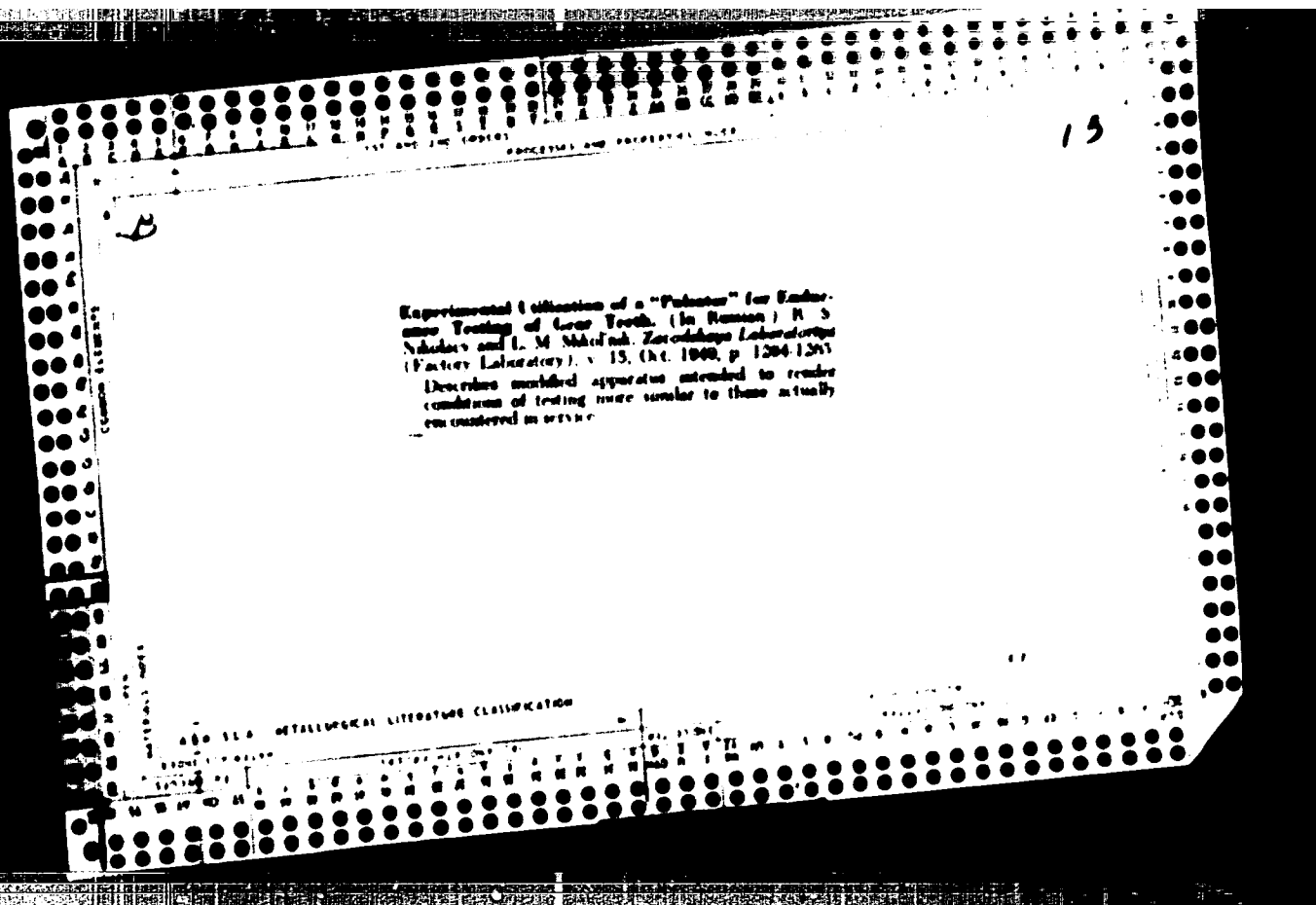
"Soviet Lab" Vol XIV, No 12

**Advocates changes in the symbolical designation of
the elastic limit for the sake of greater clarity.**

12/1971







NIKOLAYEV, N. S.

"Analiz Kharaktera Islomov Rel'sov i Detalei Podvikhznogo Sostava," (Analysis of the Type of Breaks of Rails and Details in Moving Parts), 88 p., State Railway Transportation Publ., Moscow, 1951.

NIKOLAYEV, R. S.; MIKHENKO, YE. F.

Gearing

New technique in making toothed traction gears. Vest. mash., 32, No. 1, 1952.

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

NIKOLAYEV

NIKOLAYEV, Roman Sergeevich, kandidat tekhnicheskikh nauk, dotsent;
LENTINOV, I.A., inzhener, redaktor; YUNOV, D.M., tekhnicheskij
redaktor.

[Causes of breakage in rolling stock parts and rails] Prichiny po-
lomk detalей podvishnogo sostava i rol'sov. Moskva, Gos. transp.
shel-dor. izd-vo, 1954. 195 p. (MIRA 7:12)
(Metals--Fatigue) (Railroads--Rails) (Railroads--Rolling
stock)

NIKOLAYEV, R.S.

**Evaluation of gray spots in fractures of steel specimens. Izv.
lab.21 no.10:1201-1203 '55. (NLBA 9:1)**

**1.Vsesoyuznyy nauchno-issledovatel'skiy institut shtampirov.
(Steel--Metallography)**

- NIKOLAYEV, R.S.

Method for reproducing fatigue failures in rails. Zav.lab. 22
no.6:721-724 '56. (MLBA 9:8)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut zheleznodorozh-
nogo transporta.
(Railroads--Rails--Testing)

NIKOLAYEV, R. S. *Doo Tech Sci* -- (diss) "Morphological studies of the breaking of parts of railroad equipment as a ^{method} ~~means~~ ^{discovery} ~~of establishing~~ the causes of breakage." Mos, 1957. 25 pp (Min of Railways USSR. Mos Order of Lenin and Order of Labor Red Banner Inst of Engineers of Railroad Transport in I. V. Stalin), 120 copies (KL, 43-57, 88)

~~NIKOLAYEV, R.S.~~, kandidat tekhnicheskikh nauk.

Keep tracks free from impacts. Pat' 1 pat khos. no.3:7-8 Nr '57.
(Railroads--Track) (NLRA 10:5)

NIKOLAYEV, R.S., kandidat tekhnicheskikh nauk.

Rail defects, their nature and classification. Zhel.dor.transp.
39 no.6:44-49 Jo '57. (MIRA 10:7)

(Railroads--Rails)

NIKOLAYEV, R.S., dots., kand. tekhn. nauk.

Investigating causes of breaking in rails of present-day manufacture.
Trudy TSNII MPS no.154:30-73 '58. (MIRA 12:1)
(Railroads--Rails--Testing)

28 (5)

AUTHORS:

Nikolayev, N. S., Kolosov, I. Ye.

SOV/32-25-8-30/44

TITLE:

Analysis of Fracture Surfaces of Fatigue of Cracked Tempered Tool-steels

PERIODICAL:

Zavodskaya laboratoriya, 1959, Vol 25, Nr 8, pp 990-991 (USSR)

ABSTRACT:

It has been observed that strongly tempered tool and ballbearing steels have bubble-shape brittle fracture surfaces (F) when they are destroyed by fatigue. These fatigue fracture surfaces (FF) differ from other fracture surfaces by not having a concurrent zone of primary cracks. At the fatigue tests (FT) of tempered tool steels (T) for example of brand U10, KhVG, 9KhS of a hardness of $R_s = 60 \pm 1$ usually no fatigue cracks (FC) have been observed. The fracture occurs very rapidly without a successive development of (FC) (Ref 3). In the present case it was observed that at a thorough investigation of numerous (F) very fine (FC) were found at the beginning of the plastic fracture (Fig 1 on steel 9KhS). The primary (FC) in tempered (T) are often round and develop near the test surface (Fig 2). These (FC) are of a radial shape and are located immediately underneath the test surface. The reason of this occurrence is not yet known. (FC) of this type also occur at (FT) on samples which were cemented

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**Analysis of Fracture Surfaces of Fatigue of Cracked
Tempered Tool-Steels**

SOV/32-25-8-30/44

or nitrated (Ref 4). In such cases the lower stress limit of the metal beneath the tempered layer seems to be the cause of the developed (FC). The (FT) of tempered (T) proved that a large part of the samples had primary (FC) of the last-mentioned shape. This kind of (FC) can be well observed with a microscope MBS-2. There are 2 figures and 4 Soviet references.

ASSOCIATION: **Wangany nauchno-issledovatel'skiy institut shelesnodorozhnogo transporta i Leningradskiy politekhnicheskiy institut (All-Union Scientific Research Institute of Railroad Transportation and the Leningrad Polytechnic Institute)**

Card 2/2

KHIRNYI, N.I., inzhener-podpolkonik; NIKOLAYEV, S.A., inzhener-mayor

Mechanization to replace manual labor. Vest.Vozd.Fl. no.3:61-68
Nr '61. (MIRA 14:6)

(Airplane—Equipment and supplies)

NIKOLAEV, S. A.

USSR/ Geology

Card : 1/1 Pub. 46 - 14/16

Authors : Nikolaev, S. A.

Title : Certain laws on the formation of shrinkage cracks

Periodical : Izv. AN SSSR. Ser. geol. 4, Page 134, July - August 1954

Abstract : Letter to the editor offering a critique of the report by P. E. Offman and A. S. Novikov entitled "Laws governing the Formation of Shrinkage Cracks on the Surface of the Earth".

Institution :

Submitted : August 24, 1953

NIKOLAEV S. A., kand.tekhn.nauk

Map notation for certain patterns in the geographic distribution
of rivers. Sbor.st.po kart. no.4:21-27 '53. (MIRA 10:12)
(Map printing) (Rivers)

NIKOLAYEV, S.A., kand.tekhn.nauk

Quantitative characteristics of meandering shore lines. Sbor.
st.po kart. no.8:29-36 '55. (MIRA 10:12)
(Shore lines)

Mathematical and Statistical (Cont.)

741

to various map elements, thus providing a mathematical basis for the analysis of cartographic data and for their more exact use in map making. Articles 1-6,8, and 10-19 were written by S. A. Nikolayev and articles 7 and 21-31 by M. K. Bocharov. Article 9 was jointly written by the above-mentioned authors. The authors thank reviewers M. M. Volkov, Yu. V. Kennits and editor V. I. Sukhov for their help in preparing the book. There are 121 Soviet references (including 3 translations).

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1. Possibilities of visual analysis of a map and modern requirements	5
2. Basic problems of statistical analysis of cartographic representation	7

Card 2/5

L 10600-66 EMI(c)/EMI(s)/EWP(v)/EWP(j)/EWP(k)/EWP(h)/EWP(l) 13M

ACC NR: AP5028746

UR/0096/65/000/012/0026/0032

AUTHOR: Lanin, N.D. (Candidate of Tech. Sci.); Nikolayev, S.A. (Engineer)

ORG: Central Research Institute for Complex Automation (Tsentral'nyy nauchno-issledovatel'skiy institut kompleksnoy avtomatizatsii)

TITLE: Use of pneumatic means in automation systems for thermochemical processes

SOURCE: Teploenergetika, no. 12, 1965, 26-32

TOPIC TAGS: automatic control system, pneumatic control system, ~~thermodynamic process~~, water purification, *thermochemistry*, *thermoelectric power plant*

ABSTRACT: The article presents a detailed description of a pneumatic system for the control of the water treatment installation of a thermo-electric plant. Complete flow diagrams are shown for the operating pneumatic units as well as for the calculating circuits. The "Parus" system described here is built on the module-block principle. The modules are constructed on separate base plates, and commutation between the modules is effected by polyvinyl chloride tubing. Widely separated blocks are connected by pneumatic cable. It is stated that one of these systems has been installed in one of the thermoelectric plants of the Moscow power system and it is concluded that this system

Card 1/2

UDC: 621.187.12:65.011.56

Card 2/2

NIKOLAYEV, S.; LENTINA, M., red.

[Vladivostok; a guidebook] Vladivostok; putevoditel'.
[Vladivostok] Dal'isdat, 1965. 125 p. (MIRA 18:11)

NIKOLAYEV, S. A.

Rukovodstvo k laboratornoy rabote po elektricheskoy mashine / Laboratory manual for work on electric machinery. Moskva, Goseneroizdat, 1951. 101 p.

See: Monthly List of Russian Acquisitions, Vol. 7 No. 1, 2 May 1951.

NIKOLAYEV S.A.

POPOV, V.S.; MANSUROV, N.M.; NIKOLAYEV, S.A.; ANTIK, I.V., redaktor;
FRINKIN, A.M., tekhnicheskiy redaktor

[Electrical engineering] Elektrotehnika. Izd. 3., stereotipnoe.
Moskva, Gos. energ. izd-vo, 1954. 528 p. (MLRA 7:10)
(Electric engineering)

POPOV, Viktor Stepanovich; MANSUROV, Nikolay Nikolayevich; NIKOLAYEV,
Sergey Alexandrovich; SOHRANIKIY, S.T., redaktor; LARIONOV,
G. Ye., Tekhnicheskii redaktor.

[Electric engineering] Elektrotehnika. Izd. 4-oe, perer. Moskva,
Gos.energ. izd-vo, 1955. 408 p. (MLRA 8:12)
(Electric engineering)

POPOV, Viktor Stepanovich; MANSUROV, Nikolay Nikolayevich; NIKOLAYEV, Sergey
Aleksandrovich; USHENIN, V.A., redaktor; KONYASHINA, A.D., tekhnicheskiy
redaktor

[Electric engineering] Elektrotehnika. Izd. 5-oe, 1spr. Moskva, Gos.
izd-vo, 1956. 350 p. (MLRA 9:11)
(Electric engineering)

POPOV, Viktor Stepanovich; MANSUROV, Nikolay Nikolayevich
[deceased]; ~~NIKOLAYEV, Sergey Aleksandrovich;~~
ZHUKHOVITSKIY, B.Ya., dots., kand. tekhn.nauk, red.;
VORONIN, K.P., tekhn. red.

[Electric engineering] Elektrotehnika. Izd.7., perer. 1
dop. Moskva, Gosenergoisdat, 1962. 543 p. (MIRA 16:8)
(Electric engineering)

POPOV, Viktor Stepanovich; MAMUROV, Nikolay Nikolayevich [deceased];
NIKOLAYEV, Sergy Alexandrovich; SEMKHOVITSKIY, B.Ye., detent.
Inad. tekhn. nauk, red.; VORONIN, K.P., tekhn. red.

[Electrical engineering] Elektrotehnika. Izd. 7., perer. i dop.
Moskva, Gos.energ.izd-vo, 1960. 543 p. (MIRA 14:3)

(Electrical engineering)

ACC NR: AP6036719

elements did not permit conducting a thorough investigation. Tests in "yes-no" circuits were conducted at frequencies up to 2.5 cps (some up to 10 cps), at 25C and 40-70% humidity; the elements were regarded as nonrepairable equipment; supply pressure, 1-4 kg/cm²; twelve different types of elements were tested. The values of the mean time to failure are tabulated. It was found that:

(1) Relay-type elements have a least reliability in the 2.5-5-cps range; (2) The mean time to failure for diaphragm- and shutter-type elements has the same order of magnitude and is practically independent of their circuits; (3) The use of a supply pressure of 1 kg/cm², instead of 1.4 kg/cm², increases the reliability of the elements tenfold; (4) Generally, the failures were caused by wear, and their distribution seems to obey the normal law. Details of tests and hints for modernization are discussed. Orig. art. has: 4 figures, 4 formulas, and 1 table.

SUB CODE: 13 / SUBM DATE: none / ORIG REF: 002

Card 2/2

AUTHORS: Bydin, L. N., Nikolayev, S. S. 50-58-5-12/20

TITLE: Experience Organizing Hydrometeorological Services During the Construction of the Stalingrad Electric Power Plant (Opyt organizatsii gidrometeorologicheskogo obsluzhivaniya stroitel'stva Stalingradskoy gidroelektrostantsii)

PERIODICAL: Meteorologiya i Gidrologiya, 1958, Nr 5, pp 48-50 (USSR)

ABSTRACT: Seven years passed since the beginning of construction of the largest power plant on the Volga. At the outskirts of the new town Volzhskiy, at the high Akhtuba bank, the buildings of the Stalingrad Hydrometeorological Observatory (gidrometeorologicheskaya observatoriya) rise. The meteorologists and hydrologists came here since the beginning of construction. During the time of organization of the building their work was restricted to simple information as on the current weather and water level, forecasts for the next day and long-term forecasts of the TsIP (Tsentral'nyy institut prognozov). In the course of time the superintendents of construction made higher demands. Not only an extension of information, but above all a more concrete and specialized information were required. A specialized Hydro-Meteo-Bureau (Gidrometeobyuro) of IV-th degree and a me-

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**Experience Organising Hydrometeorological Services During the
Construction of the Stalingrad Hydroelectric Power Plant**

50-58-5-12/20

a conveyor belt (1500 m in length) was laid across the ice which considerably accelerated the transport of building materials. The belt was dismantled only 2 hours before the breaking of the ice. An outlook and conclusions are given.

1. Construction--Meteorological factors
2. Scientific personnel
- Performance
3. Hydrology

Card 3/3