"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

Palastin, L.M.

PALASTIN, L.M., kand. tekhn. nauk.

Determining additional losses in autonomously operating synchronous machines. Vest. elektroprom. 28 no.10:49-52 O '57. (MIRA 10:12)

1. Nauchno-issledovatel'skiy institut elektrotekhnicheskoy promyshlennosti.
(Electric motors, Induction)

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110-10-10/18

AUTHOR: Palastin, L.M., Candidate of Technical Sciences.

TITLE: The Determination of Stray Losses in Synchronous Machines Operating Alone. (Opredeleniye doba vochnykh poter' v avtonomno rabotayushchikh sinkhronnykh mashinakh)

PERIODICAL: Vestnik Elektropromyshlennosti, 1957, Vol.28, No.10, pp. 49 -52

ABSTRACT: Methods of determining stray losses in synchronous machines are not well developed. Stray losses are usually determined by Rüdenberg's method from the results of a short-circuit test. However, the current wave shapes are different on normal load and under short-circuit and so the losses determined on short circuit may be appreciably greater than on load. This effect is most marked in single-phase synchronous machines and also in asymmetrically-loaded three-phase machines.

This article suggests a method for the experimental determination of stray losses for any load condition on single and three-phase synchronous machines operating alone.

In order to determine the stray losses of a single-phase synchronous machine two operating conditions must be considered: short circuit and no-load. The recommended procedure is as follows: A single-phase generator with short-circuited field winding is driven up to its rated speed by an auxiliary motor

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The Determination of Stray Losses in Synchronous Machines Operating Alone.

after which the armature winding is connected to an alternating current supply through a resistance equal to the total resistance of the load. After synchronisation the generator operates as a reactive single-phase synchronous motor. The auxiliary motor is disconnected while running and the no-load conditions are obtained for the synchronous machine. The voltage applied to the armature is such that the appropriate load current flows through the winding and the associated series resistance. Because of the presence of the external resistance all the current harmonics in the generator winding are practically the same as on normal load. This is confirmed by the oscillograms, Figs. 3 and 4. Therefore, the field harmonics for a single-phase synchronous motor operating, in this case, on no-load have the same influence on the generator windings as under actual load conditions. A slight difference in the saturation of the magnetic field may be neglected. A formula is given for the determination of the stray losses as the difference between the total losses and the sum of the mechanical iron and copper losses. Methods of determining these three types of loss are then described. Experimental data for stray losses

Card 2/3 in a single-phase synchronous generator operating under

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reactive no-load conditions, on short-circuit are compared with calculated values in a table and the superiority of the new method of test is demonstrated.

Stray losses in three-phase machines can be determined by an analogous method provided that an appropriate impedance is connected to each phase of the machine. In this case there is no need for an auxiliary motor.

There are 5 figures and 4 references, of which 3 are Slavic.

ASSOCIATION: NII EP

SUBMITTED: November 14, 1956.

AVAILABLE: Library of Congress

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88173

S/110/60/000/012/002/004
E194/E455

16.9500 (1024, 1131, 1132)

AUTHORS Palastin, L M Candidate of Technical Sciences
Putsykin, G G Candidate of Technical Sciences
Chesnokov, A I, Engineer and Panferov, Yu B Engineer

TITLE Controlled-Output D C Machines With Permanent-Magnet Field Systems

PERIODICAL Vestnik elektropromyshlennosti, 1960, No 12, pp 42-48

TEXT Ordinary d c machines with permanent-magnet fields do not permit of direct control of field flux in the air gap It is accordingly of practical importance to develop a simple and economic design of d c machine with permanent-magnet field in which the voltage can be controlled A way of doing this which has been proposed by the present authors combines two methods of excitation electromagnetic and permanent magnet The armature commutator and brush gear are just the same as in an ordinary d c machine Each field pole has two permanent magnet parts and between them is a magnetic shunt of magnetically soft steel Under normal operating conditions the machine is excited jointly by the permanent magnet and the compensation winding which surrounds

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Controlled-Output D C Machines With Permanent-Magnet Field Systems

the pole as a whole The permanent magnet flux passes through the air gap into the armature and is partially shunted increasing the permanent-magnet leakage flux Current is passed through the compensating winding in such a direction that its magnetic flux in the air gap coincides in direction with that due to the permanent magnets Then the flux set up in the shunt by the compensation winding opposes the leakage flux of the permanent magnet which closes through the shunt Any necessary increase in the working flux is developed by the compensating winding by displacing the leakage flux of the permanent magnet from the shunt into the air gap In a conventionally excited machine the field winding should be capable of setting up an mmf that will cause all the flux to pass round the magnetic circuit and will also compensate armature reaction and voltage drop in the armature circuit By comparison the machines with permanent magnets that are under consideration require much less mmf from the compensation winding Most of the flux in the air gap is provided by the permanent magnets If suitably designed the machine with permanent magnet can have appreciable advantages over an ordinary machine A number of

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Controlled-Output D C Machines With Permanent-Magnet Field Systems

machines are compared in the article, all fulfilling the same requirements and having the same rated data. Results are given for the case of including a compensating winding (the magnetic fluxes of the permanent magnet and the compensating winding coincide in direction in the air gap). The following machines are compared with conventional excitation; with permanent magnets with orientated crystallization; with magnico permanent magnets, and with permanent magnets of high coercive force. Two frame sizes of d c motor are compared, firstly in respect of no-load characteristics. Very similar no-load characteristics can be obtained with and without permanent magnets, but with permanent magnets the field winding power is much reduced. Moreover, in motors with permanent magnets, the rated voltage may be exceeded by 25 to 30% which cannot be allowed with normal methods of excitation because of saturation of the magnetic circuit. The comparison shows that the alloy with orientated crystallization requires the least field power. The use of permanent magnets with high coercive force in four-pole machines has less to

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Controlled-Output D C. Machines With Permanent-Magnet Field Systems

recommend it For self-excitation and starting, a d c. machine must have a relatively high residual flux and in this respect machines with partial permanent-magnet excitation are much superior to normal machines Motors of this kind can be started against rated load without special starting windings. It is shown that motors with permanent magnets made of alloys with orientated crystallization and magnico have a starting voltage which is 2 5 to 3 5 times less than in normal machines Alloys with high coercive force require a higher starting voltage which is 70 to 80% of the corresponding value for normal methods of excitation. D C motors operated with speed controllers are often required to be of great reliability because of the high runaway speeds that could result from field failure Here motors with permanent magnets are particularly reliable because even if the compensation winding fails the excitation is sufficiently maintained. The field winding time-constants of machines with permanent-magnet excitation are much smaller than those of normal machines and accordingly, transient process time is greatly reduced In the

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Controlled-Output D C Machines With Permanent-Magnet Field Systems

ordinary way alloys of high coercivity cannot be magnetized in the assembled machines. However, in the machines described here this is possible because the compensating winding is wound directly on the permanent magnets and its full flux passes through the magnets along the axis of magnetization. The permanent magnet can accordingly be magnetized by passing through the coils a high value of direct current for a short time. The risk of de-magnetization by transient currents and short-circuit currents is considered and dismissed because the total flux of the magnet remains constant in such circumstances and the flux is redistributed between the air gap and the magnetic shunt. Commutation is practically the same in machines with permanent magnets and in normal machines. There are 7 figures 2 tables and 6 references: 5 Soviet and 1 English

SUBMITTED March 2 1960

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PALASTROV, V.F., kand.voyenno-morskikh nauk, kapitan 1 ranga

Increasing the accuracy of the chronometer on a submarine. Mor. sbor. 44 no.1:59-63 Ja '61. (MIRA 14:3)
(Submarine boats) (Chronometer)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012388

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POLAND

PALASZ, Maria, Fourth Department of Internal Diseases (IV Zakład Chorób Wewnetrznych), Physicians' Post-Graduate Program (Studium Doskonalenia Lekarzy), AM [Akademia Medyczna, Medical Academy] in Warsaw (Director: Prof. Dr. med.sci. Witold ORŁOWSKI)

"'Alcoholic Pain' in Malignant Lympho-granulomatosis."

Warsaw, Polski Tygodnik Lekarski, Vol 18, No 31, 29 Jul 63, pp 1159-1161

Abstract: Review of the literature on the appearance and induction of "alcohol pain" in people with malignant granulomatosis, other malignancies, and other diseases. Although findings are not consistent, and cannot be used as a diagnostic test, the author believes that it could be utilized as a test for the progress of the treatment and aid in prediction of further possible foci of malignancy. There are 21 references: 2 German, 3 French, and the others in English.

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PALASZEWSKI, T.

AGRICULTURE

Periodicals: BUDOWNICTWO WIEJSKIE. Vol. 10, no. 10, Oct. 1958

PALASZEWSKI, T. Farm building made of typical prefabricated elements for an experimental state farm in Mierus,niki. p. 22.

Monthly List of East European Accessions (EEAI) LC, Vol. 8, No. 2, February 1959, Unclass.

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012388

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

PALASZEWSKI, T.

PALASZEWSKI, T. Problems of the organization of operation and mechanization in residential and municipal constructions in Great Britain. p. 366

Vol. 28, no. 9, Sept. 1956
PRZEGLAD BUDOWLANY
TECHNOLOGY
Warszawa, Poland

So: East European Accession, Vol. 6, no. 2, Feb. 1957

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PAŁASZEWSKI T.

Projektowanie organizacji i mechanizacji robót budowlanych (Planning of the organization and mechanization of building works.) by T. Pałaszewski. Reported in New Books (Nowe Ksiaski.) February 15, 1956. No. 4.

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

PALAT, K.; CELADNIK, M.

"α-aminoaklylation" by H. Hellmann and G. Optiz. Reviewed by K. Palat and M. Celadnik. Chem. zvesti 16 no.8:643 Ag '62.

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CZECHOSLOVAKIA / Organic Chemistry. Synthetic Organic Chemistry. G

Abs Jour: Ref Zhur-Khimiya, No 18, 1958, 60921.

Author : Karel Palat, Ales Dekera, Cenek Vrba.
Inst : -
Title : Study of Local Anesthetics. X. Basic Complex Esters of Diphenylcarbamic Acids.

Orig Pub: Chem listy, 1957, 51, No 3, 563-567; Sb. chekhosl. khim. rabot, 1957, 22, No 3, 825-830.

Abstract: m-Iodophenylbutyl ester, yield 64%, boiling point 131 to 132°/7 mm, and n-iodophenylbutyl ester, yield 76%, boiling point 104 to 106°/0.5 mm, were synthetized of corresponding amines. n-Bromophenetole, boiling point 91 to 93°/5mm, was synthetized

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CZECHOSLOVAKIA / Organic Chemistry. Synthetic Organic G
Chemistry.

Abs Jour: Ref Zhur-Khimiya, No 18, 1958, 60921.

Abstract: of the aromatic halogen derivative with 0.15 mole of alkoxyaniline in the presence of 1g of active Cu in the duration of 3 to 6 hours to from 200 to 210° at a periodical addition of fresh catalyst; 2/ by alkylating 0.1 mole of oxy- or dioxydiphenylamine with 0.11 or 0.22 mole of diethylsulfate in the presence of 20%-ual KOH; 3/ by adding the Na salt (prepared by aging Na-alcoholate with 0.1 mole of the corresponding oxydiphenylamine in alcohol solution for 12 hours) to 0.11 mole of butyl iodide and boiling it 3 hours. The R-s and R's constituting the I, the yields by the methods 1, 2, and 3,

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CZECHOSLOVAKIA / Organic Chemistry. Synthetic Organic Chemistry. G

Abs Jour: Ref Zhur-Khimiya, No 18, 1958, 60721.

Abstract: point; acid chlorides of substituted diphenylcarbamic acids $RC_6H_4N(C_6H_4R')COCl$ are produced; the R-s and R'-s, the yield in %% and the melting points in °C (from alcohol) are presented in the following: 4-C_2H_5O, H, 87, 126 to 127; 4-C_4H_9O, H, 86, 62; 4-C_2H_5O, 4-C_2H_5O, 76, 101; 4-C_4H_9O, 4-C_4H_9O, 76, 78. $RC_6H_4N(C_6H_4R')COCH_2CH_2N(C_2H_5)_2$-s (II) were prepared by boiling (1 hour) Na-diethylaminoethylate with the corresponding acid chloride. The R-s and R'-s, the yield in %%, the boiling points in °C/mm, and the melting points of the

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CZECHOSLOVAKIA / Organic Chemistry. Synthetic Organic Chemistry. G

Abs Jour: Ref Zhur-Khimiya, No 18, 1958, 60921.

Abstract: hydrochlorides in °C (from mixed petroleum ether and toluene) are presented in the following: 4-C_2H_5O, H, 63, 185 to 189/3; 146 to 147 (from toluene); 4-C_4H_9O, H (IIa), 64, 197 to 204/1.5, 106 to 107; 3-C_4H_9O, H (IIb), 54, 135/0.02, 116 to 119; 2-C_4H_9O, H, 59, 150/0.03, 136; 4-C_2H_5O, 4-C_2H_5O, 55 180/0.3, 134 to 136; 4-C_4H_9O, 4-C_4H_9O, 74, -, 109 to 115; 3-C_4H_9O, 3-C_4H_9O, 57, -, 97 to 98. All the prepared complex esters and their hydrochlorides possess high anesthetic properties. The most active one is IIa, which is approximately 76 times more active than cocaine (III), when used for surface anesthesia and approx-

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PALAT, K.; VRBA, C.; CELADNIK, M.

Local anesthetics from the group of basic propiophenones. In German. p. 51.

ACTA FACULTATIS PHARMACEUTICAE BRUNENSIS ET BRATISLAVENSIS. Brno, Czechoslovakia. Vol. 1, 1958.

Monthly list of East European Accessions (EEAI) LC, Vol. 9, no. 1, January 1960.

Uncl.

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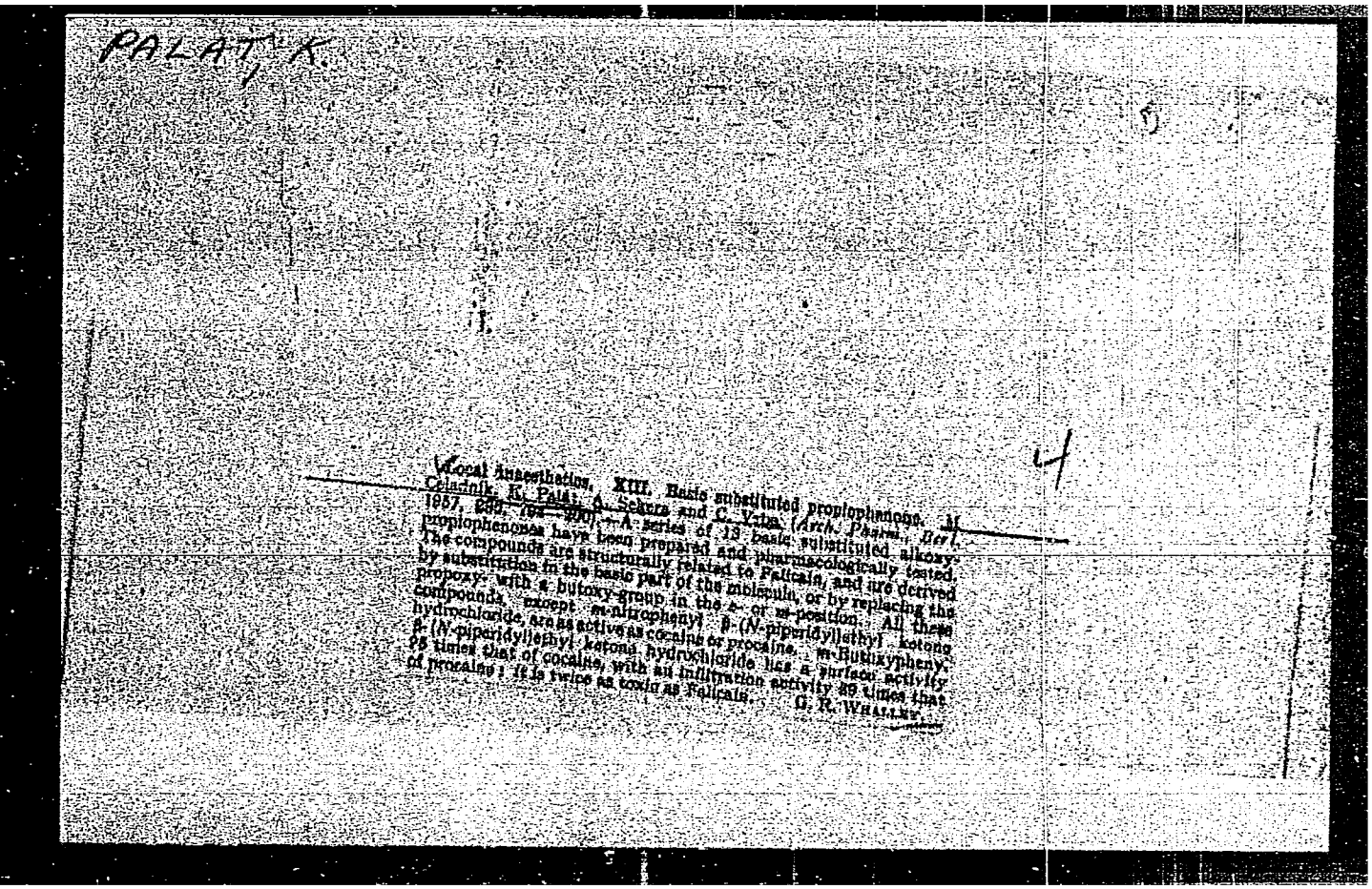

PALAT, K.

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Local anaesthetics. XIII. Basic substituted propiophenone. M. Celadnik, K. Palat, A. Sekera and C. Vrba (*Arch. Pharm., Berl.*, 1957, 290, 794—800).—A series of 13 basic substituted alkoxypropiophenones have been prepared and pharmacologically tested. The compounds are structurally related to Falicain, and are derived by substitution in the basic part of the molecule, or by replacing the propoxy- with a butoxy-group in the *o*- or *m*-position. All these compounds, except *m*-nitrophenyl β-(*N*-piperidyl)ethyl ketone hydrochloride, are as active as cocaine or procaine. *m*-Butoxyphenyl β-(*N*-piperidyl)ethyl ketone hydrochloride has a surface activity 25 times that of cocaine, with an infiltration activity 29 times that of procaine; it is twice as toxic as Falicain. G. R. WHALLEY.

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

PALAT, K.; SEYE A, A; VRBA, C.

"Study of local anesthetics. X. Basic esters of diphenyl carbamic acid. In German."

p. 825 (Collection of Czechoslovakia Chemical Communications, Sbornik Chekhoslovatskikh Khimicheskikh Rabot) Vol. 22, no. 3, June 1957
Prague, Czechoslovakia

SO: Monthly Index of East European Accessions (EEAI) LC. Vol. 7, no. 4, April 1958

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

NOVACEK, L.; PALAT, K.; CELADNIK, M.; MATUSKOVA, E.

Antitubercular agents. III. Preparation of some derivatives in the nucleus of substituted isonicotinic acid. Cesk. farm. 11 no.2:76-79 F '62.

1. Katedra anorganicke a organicke chemie farmaceuticke fakulty, Bratislava a Ustav tuberkulozy, Bratislava.
(ISONIAZID rel cpds)

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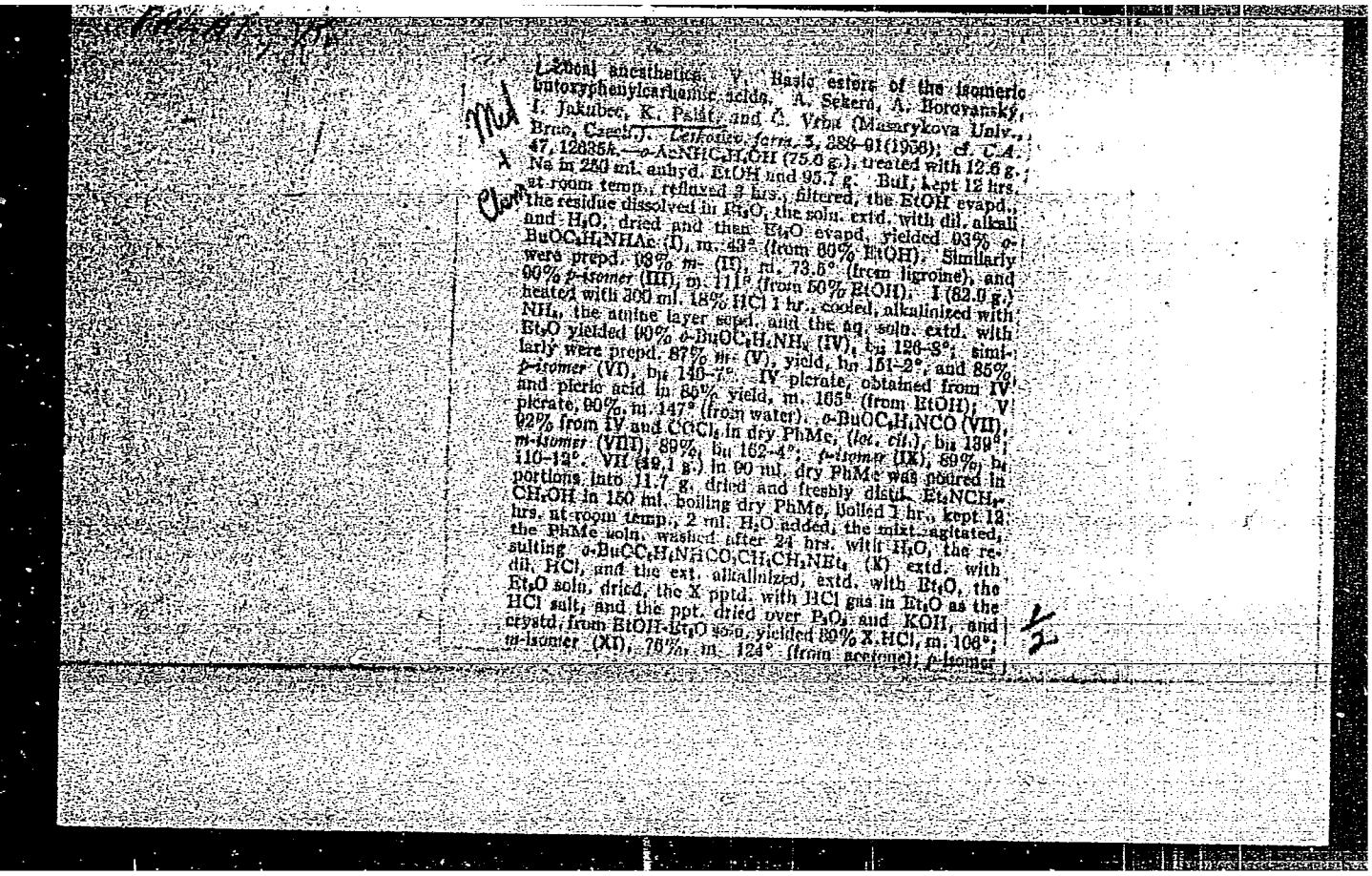

Local anesthetics. V. Basic esters of the isomeric butoxyphenylcarbamic acids. A. Sekera, A. Borovansky, I. Jakubec, K. Palát, and C. Vrba (Masarykova Univ., Brno, Czech.). *Českoslov. farm.* 3, 388–91 (1954); cf. *C.A.* 47, 12035h.—*o*-AcNHC$_6$H$_4$OH (75.6 g.), treated with 12.6 g. Na in 250 ml. anhyd. EtOH and 95.7 g. BuI, kept 12 hrs. at room temp., refluxed 3 hrs., filtered, the EtOH evapd., the residue dissolved in Et$_2$O, the soln. extd. with dil. alkali and H$_2$O, dried and then Et$_2$O evapd. yielded 93% *o*-BuOC$_6$H$_4$NHAc (I), m. 83° (from 60% EtOH). Similarly were prepd. 98% *m*- (II), m. 73.5° (from ligroine), and 90% *p*-*isomer* (III), m. 111° (from 50% EtOH). I (82.0 g.) heated with 300 ml. 18% HCl 1 hr., cooled, alkalinized with NH$_4$, the amine layer sepd., and the aq. soln. extd. with Et$_2$O yielded 90% *o*-BuOC$_6$H$_4$NH$_2$ (IV), b$_{15}$ 126–8°; similarly were prepd. 87% *m*- (V), yield, b$_{10}$ 151–2°, and 85% *p*-*isomer* (VI), b$_{12}$ 140–7°. IV picrate, obtained from IV and picric acid in 86% yield, m. 165° (from EtOH); V picrate, 90%, m. 147° (from water). *o*-BuOC$_6$H$_4$NCO (VII), 92% from IV and COCl$_2$ in dry PhMe, (*loc. cit.*), b$_{12}$ 139°; *m*-*isomer* (VIII), 89%, b$_{12}$ 162–4°; *p*-*isomer* (IX), 89%, b$_{12}$ 110–12°. VII (42.1 g.) in 90 ml. dry PhMe was poured in portions into 11.7 g. dried and freshly distd. Et$_2$NCH$_2$CH$_2$OH in 150 ml. boiling dry PhMe, boiled 1 hr., kept 12 hrs. at room temp., 2 ml. H$_2$O added, the mixt. agitated, the PhMe soln. washed after 24 hrs. with H$_2$O, the resulting *o*-BuOC$_6$H$_4$NHCO$_2$CH$_2$CH$_2$NEt$_2$ (X) extd. with dil. HCl, and the ext. alkalinized, extd. with Et$_2$O, the Et$_2$O soln. dried, the X pptd. with HCl gas in Et$_2$O as the HCl salt, and the ppt. dried over P$_2$O$_5$ and KOH, and crystd. from EtOH-Et$_2$O soln. yielded 89% X.HCl, m. 109°; *m*-*isomer* (XI), 76%, m. 124° (from acetone); *p*-*isomer*

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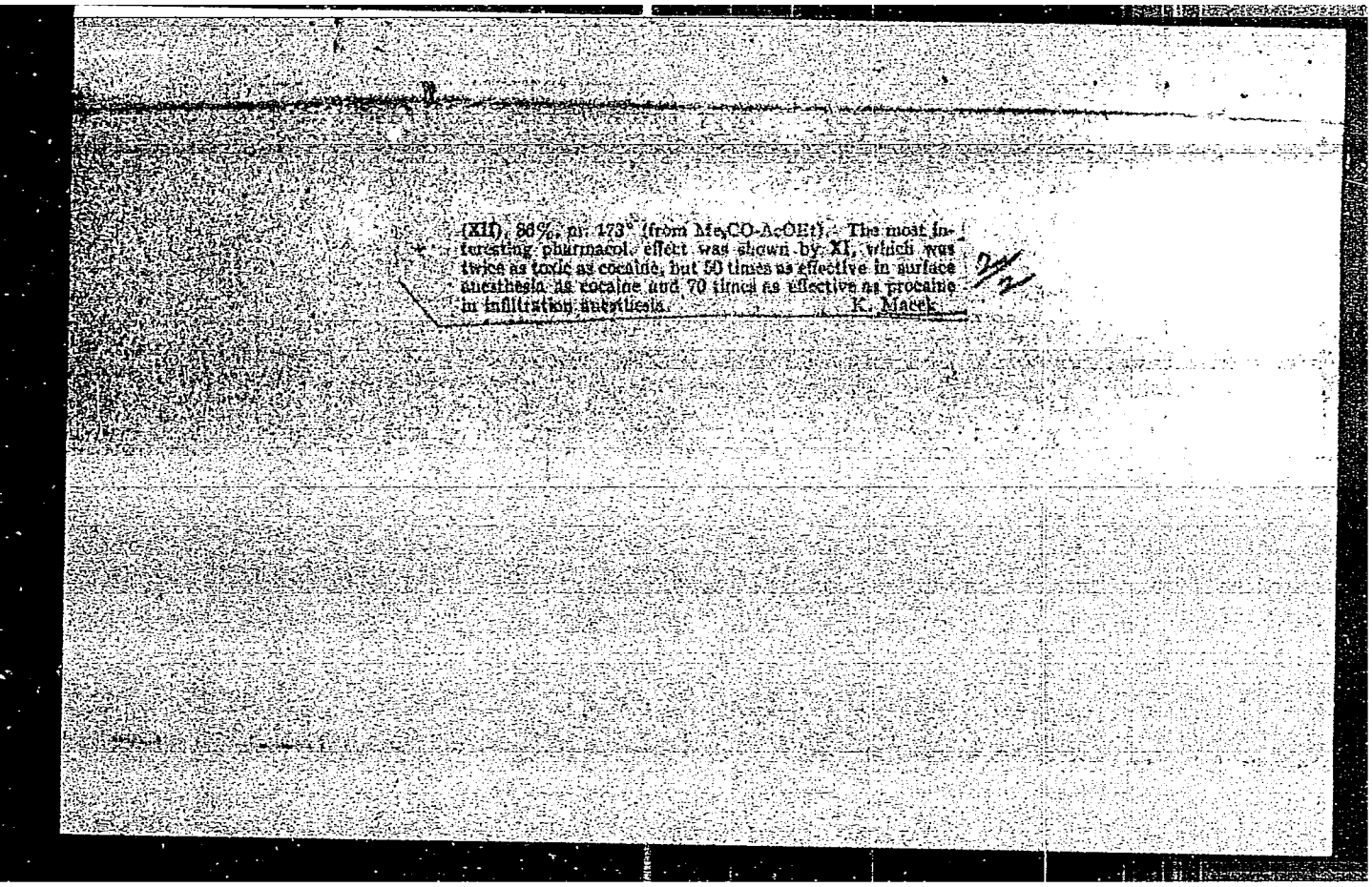

(XII), 86%, m. 173° (from Me_2CO-AcOEt). The most interesting pharmacol. effect was shown by XI, which was twice as toxic as cocaine, but 50 times as effective in surface anesthesia as cocaine and 70 times as effective as procaine in infiltration anesthesia. K. Macek

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PALAT, K.

A new group of highly active local anesthetics. K. Palát, V. Sekera, and C. Vrba (Masaryk Univ., Brno, Czech.). *Experientia* 12, 273-4(1956)(In German).—The following were synthesized and tested for local and infiltration anesthesia: 2-diethylaminoethyl α-(4-ethoxyphenyl)phenylacetate-HCl, m. 188°; 2-diethylaminoethyl α-(4-butoxyphenyl)phenylacetate-HCl, m. 146–7°; 2-diethylaminoethyl α-(3-butoxyphenyl)phenylacetate-HCl (I), m. 116–19°; 2-diethylaminoethyl α-(2-butoxyphenyl)phenylacetate-HCl, m. 136°; 2-diethylaminoethyl bis(4-ethoxyphenyl)acetate-HCl, m. 134–6°; 2-diethylaminoethyl bis(4-butoxyphenyl)-acetate-HCl, m. 109–15°; 2-diethylaminoethyl bis(3-butoxyphenyl)acetate-HCl, m. 97–8°. All were superior as anesthetics to cocaine and procaine. I was particularly effective. D. S. Farner

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RADA, B.; BLASKOVIC, D.; PALAT, K.; CELADNIK, M.

Screening of antimetabolites inhibiting virus multiplication.
IV. Failure of basic propiophenones to inhibit virus multiplication.
Acta virol. 7 no.3:277-278 My '63.

1. Institute of Virology, Czechoslovak Academy of Sciences, Bratislava and Department of Anorganic and Organic Chemistry, Pharmaceutical Faculty, Bratislava.
(ANTIMETABOLITES) (VACCINIA VIRUS) (ENCEPHALITIS VIRUSES)
(NEWCASTLE DISEASE VIRUS) (PROPIOPHENONES) (ANTIVIRAL AGENTS)

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CELADNIK, M., doc. Dr. Mr. CSc.,(Kalinciakova 8, Bratislava); PALAT, K.; NOVACEK, L.; MATUSKOVA, E.; KUBALA, E.; PAVLAS, M.

Antitubercular agents. Part 4. Cesk. farm. 14 no.6:393-397 Ag '65.

1. Katedra anorganicke a organicke chemie farmaceuticke fakulty Univerzity Komenskeho, Bratislava, Lecebna tuberkulosy, Kostelec n. Cernymi Lesy, Lecebna tuberkulosy, Janov u Mirosova a Vyzkumny ustav veterinarniho lekarstvi, Brno. Submitted November 3, 1964.

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

NOVACEK, Lubor; PALAT, Karel; CELADNIK, Milan

Pyrazine chemistry. Chem listy 57 no.3:298-328 Mr '63.

1. Katedra anorganicke a organicke chemie, Farmaceuticka fakulta, Universita Komenskeho, Bratislava.

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

ACC NR: AP7000592 SOURCE CODE: CZ/0024/66/000/01../0270/0274

AUTHOR: Palata, Miroslav (Engineer)

ORG: Department of Special Geodesy, FS, ČVUT, Prague (Katedra speciální geodezie. FS CVUT)

TITLE: Modern leveling instruments and possibilities of faster surveying

SOURCE: Geodeticky a kartograficky obzor, no. 10, 1966, 270-274

TOPIC TAGS: surveying instrument, surveying equipment, geodetic survey

ABSTRACT: Surveyors leveling instruments are first classified in two groups: bubble levels and those with automatic adjustment to the line of sight. Four grades of accuracy are listed, as standardized in the Czechoslovak leveling instructions of 1950. Typical differences in design are described, including a fixed telescope attached to the bubble level and with an elevating screw, ocular observation facilitated by an optical micrometer in the form of a plane-parallel plate either in the telescope or before the objective. Improvements include focusing screws, vibration absorbers, and prismatic or reflector plummets. Levels produced by different manufacturers vary chiefly as to accuracy of adjustment, also as to weight and protection from effects of heat. Tables list such variations among levels produced by chief manufacturers in England, France, Hungary, Germany, Soviet Union, Switzerland, Italy, Czechoslovakia, Austria and Japan. Future improvements in geodetic equipment are briefly listed as:

Card 1/2 UDC: 528.541.2

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ACC NR: AP7000592

a) use of lasers, with a computer to read their horizontal beam on an improved leveling rod and give the height directly; b) photographic registration of coded gradations on level rod (as with a coded theodolite); c) designing a leveling instrument with both forward and back fields of vision. A rotating telescope with two objectives, prismatic comparison of gradations on two rods, and an optical coincidence micrometer will be manufactured by the MOM firm in Budapest. Another means of speeding surveyors data is the use in computers of data transferred to punch tape. Orig. art. has: 8 tables.

SUB CODE: 08, 14/ SUBM DATE: none/ ORIG REF: 002/ OTH REF: 004

Card 2/2

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012388

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

S/058/62/000/004/043/160
A058/A101

AUTHORS: Palatbekov, P. P., Kanatbayev, A.

TITLE: Determination of arc temperature from magnesium lines

PERIODICAL: Referativnyy zhurnal, Fizika, no. 4, 1962, 28-29, abstract 4V211 ("Sb. nauchn. rabot Kafedry optiki i Kafedry eksperim. fiz. Kazakhsk. un-t," 1960, no. 2, 115-118)

TEXT: The temperature of the AC arc between carbon electrodes was determined by measuring the intensity ratios of the Mg II 2782.97 and 3336.69 lines. These Mg lines are free from self-reversal incident to magnesium oxide content up to 30%. The obtained results are satisfactorily consistent with the data in the literature.

[Abstracter's note: Complete translation]

Card 1/1

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012388

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

PALATCHENKO, N.; PONOMAREV, I.

"Kostrolit" roofing passed the test. Pozh.delo 10 no.1:24-25 Ja '64.
(MIRA 17:2)

1. Nauchno-issledovatel'skiy institut sel'skogo stroitel'stva (for Palatchenko). 2. Moskovskaya pozharno-ispytatel'naya stantsiya (for Ponomarev).

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012388

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

PALATCHENKO, N., kand. tekhn. nauk.

Small gas generators. Stroi. mat. 4 no.3:16 Mr '58. (MIRA 11:3)
(Gas producers)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012388

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

PALATCHENKO, N.A., kand.tekhn.nauk; ALEKSEYEVA-KHORAL'SKAYA, L.S., inzh.

Sheets of roofing material made of kostrolit. Stroi. mat. 8 no.4:5-6 Ap '62. (MIRA 15:8)
(Roofing)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012388

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

PALATCHENKO, N. A.

Dissertation: "Relations Between the Properties of Slag Ceramics, Their Composition, and the Method of Manufacture." Cand Tech Sci, Moscow Construction Engineering Inst, Moscow 1953

W-30928

SO: Referativnyy Zhurnal, No. 5, Dec 1953, Moscow, AN USSR

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012388

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

PALATINUS, L.

Assuring plenty of good silage. p. 274

(Ministerstvo zemedelstvi Praha. [Publication on mechanization of agriculture issued by the Ministry of Agriculture. Semi-monthly]

Vol. 5, no. 14, July 195

SOURCE: East European Accessions List (EEAL) Library of Congress. Vol. 5, No. 1, January, 1956

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012388

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

PALATINUS, L.

Mechanization of the sowing of grass seed. p. 150
MECHANISACE ZEMEDELSTVI. Vol. 5, No. 6, Apr. 1955

SO: Monthly East European Accession, (EEAL), LC, Vol. 4, No. 9, Sept. 1955 Uncl.

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012388

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

HUNGARY

OLAH, P., PALATKA, Z.; Phylaxia State Serum Institute [director [illegible]], Budapest [original language version not given].

"The Pathogenicity of Newcastle Disease Virus Strains as Controlled by Intracerebral Application to Pigeons."

Budapest, Acta Veterinaria Academiae Scientiarum Hungaricae, Vol [illegible], [illegible], 1963, pages 37-42.

Abstract: [English article, authors' English summary] On intracerebral administration of different Newcastle disease virus strains to pigeons it has been found that those inoculated with virulent strains died on the 5th or 6th day after infection without exhibiting any nervous symptoms. Mesogenic viruses H and L were pathogenic for the majority of the pigeons, but 40-[illegible] per cent of these survived. Death ensued with nervous symptoms 7-16 days after infection. Lentogenic viruses (B_1, F_1, and La Sota) had no pathogenic effect on pigeons. The intracerebral pathogenic index was found to be 3 for virulent viruses, 1.9 for H, 2.0 for L and uniformly 0.0 for B_1, F_1 and La Sota strains. When administered intracerebrally to pigeons, the Roakin strain exhibited neurotropic properties; nevertheless, its pathogenic index was the lowest (0.9) among the mesogenic strains. Virulent viruses could be carried through any number of pigeon passages, while strains H, L, and Roakin disappeared after 1, 2, and 3 passages respectively. The intracerebral pigeon test is suitable for the safety testing of vaccine B_1, since the presence of a 1:10,000 dilution of a virulent virus can be detected in the vaccine by this method. 4 Hungarian, 3 Western references.

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[illegible] low pathogenicity [illegible] tions were made. The SUVAC strain was adapted [illegible] pagated therein through several passages. Rabbits inoculated with spleen suspensions from the 7th to 23rd sheep passages developed a febrile reaction (apart from temporary fluctuations). The agent's ability to induce a febrile reaction [illegible] increased from the 25th transfer on, while it decreased and finally ceased in the rabbit. From the 38th [illegible] febrile reaction was consistently induced by the agent in sheep without any other clinical signs. Pigs inoculated with 10^{-1}-10^{-4} dilutions of spleen suspensions from the 20th to the 30th passage developed immunity to hog cholera. In subsequent passages, the SUVAC strain lost its immunogenicity for the pig. This new biological property of the sheep-adapted virus proved to be constant and could be also maintained in further serial transfers in rabbits. 6 Hungarian, 10 Western references. [Manuscript received 2 Nov 65.]

1/1

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

Name: PALATKA, Z.

Dissertation: The effect of biomycin on manifestations of the biological properties of microbes of cola and the paratyphoid group

Degree: Cand Vet Sci

Affiliation: Min Agriculture USSR, Leningrad Veterinary Inst

Defense Date, Place: 1956, Leningrad

Source: Knizhnaya Letopis', No 45, 1956

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012388

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

HUNGARY

OLAH, P., and PALATKA, Z. of the State Serum Institute "Phylaxia" (Director: MOLNAR, J.) Budapest [Original version not given].

"Hemolyzing Property of Organ-Extracts Containing the Viruses of Infectious Canine Hepatitis and Distemper"

Budapest, Acta Veterinaria, Vol 12, No 4, 1962; pp 409-415.

Abstract [English article; authors' English summary]: The organ extracts containing infectious canine hepatitis hemolyzed the erythrocytes of the guinea pig after incubation in a water bath at 40°C for an hour. The hemolytic titer of the liver extracts ranged between 1:8 and 1:256 that of the lymph node and spleen extracts between 1:4 and 1:64, whereas the lung extracts hemolyzed only up to 1:2 dilution. The hemolysis was preceded by a release of K^+ from the erythrocytes. The hemolytic titer depends on the species of animal giving the erythrocytes, on the concentration of the erythrocytes and on the temperature. The hemolyzing agent cannot be destroyed either by formalin in a concentration of 0.4% or by heating at 56°C for 30 minutes. Boiling for 10 minutes destroyed the hemolyzing activity. The hemolyzing material was partly

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APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012388

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

OLAH, Pal, dr.; PALATKA, Zoltan, dr.; az allatorvostudomanyok kandidatusa

Control of the pathogenicity of the virus strains of the fowl pest of pigeons through intracerebral vaccination. Magy allatorv lap 17:15-16 S '62.

1. Phylaxia Allami Oltoanyagtermelo Intezet, Budapest.

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012388

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

OLAH, Pal, dr.; PALATKA, Zoltan, dr., az allatorvostudomanyok kandidatusa

Hemolytic property of organ extracts of dogs containing the viruses of infectious hepatitis and distemper. Magy allatorv lap 17 no.7:271-273 Jl '62.

1. Phylaxia Allami Oltoanyagtermelo Intezet. Igazgato: Molnar Jozsef dr.

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012388

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

HUNGARY

OLAH, Pal, Dr, PALATKA, Zoltan, Dr, candidate of veterinary medicine; The Phylaxia National Vaccine-Producing Institute (A Phylaxia Allami Oltoanyagtermelo Intezet) (director: MOLNAR, Jozsef, Dr).

"The Hemolytic Effect of the Pancreas Extract of Normal and Swine Fever Infected Pigs."

Budapest, Magyar Allatorvosok Lapja, Vol 5, No 18, May 63, pp 210-211.

Abstract: [Authors' English summary modified] The hemolytic activity of pancreas extracts of pigs decreased after infection with virulent swine fever virus or inoculation with lapinized virus. The pancreas extract showed a hemolytic activity in dilutions less than 1/512 in 87 per cent of the infected pigs, but 78 per cent of normal pig extracts produced hemolysis even in a higher dilution. The demonstration of the decrease of hemolytic activity serves no diagnostic purpose since it varies greatly with the age of the animal and because it can also be demonstrated using pancreas extracts of pigs infected with Aujeszky's disease or swine erysipelas. 4 Western, 3 Eastern European references.

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

OLAH, Pal, dr.; PALATKA, Zoltan, dr., az allatorvostudomanyok kandidatusa

Hemolytic property of organ extracts of chickens infested with chicken cholera virus. Magy allatorv lap 19 no.2:82-84 F '64.

1. Phylaxia State Vaccine Producing Institute (Director: Dr. Jozsef Molnar,), Budapest.

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012388

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

REGOLY-MERKEI, Gyula, Dr. & PALATKAS, Bela, Dr.

New data on the life of Andre Hogyes. Orv. hetil. 100 no.17:622-624 26 Apr 59.
(BIOGRAPHIES
Hogyes, Endre (Hun))

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012388

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

ABGAROV, V.I., dotsent; PALATKHINOVA, K.Kh.

Activities of the Baku Society of Roentgenologists and Radiologists in 1959. Vest. rent. i rad. 35 no. 4:75-76 Jl-Ag '60.
(MIRA 14:2)

1. Predsedatel' pravleniya Bakinskogo nauchnogo obshchestva rentgenologov i radiologov (for Abgarov). 2. Sekretar' pravleniya Bakinskogo nauchnogo obshchestva rentgenologov i radiologov (for Palatkhinova).
(BAKU—RADIOLOGICAL SOCIETIES)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012388

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

S/137/62/000/001/119/237
A052/A101

AUTHORS: Palatkin, L. S., Kovalev, G. N.

TITLE: X-ray investigation of alloys of some metals with sulfur

PERIODICAL: Referativnyy zhurnal. Metallurgiya, no. 1, 1962, 4, abstract 1I22 (Uch zap. Khar'kovsk. un-t, 110, Tr. Khim. fak. 1 N.-i. in-ta khimii KhGU, 17, 109 - 120)

TEXT: Alloys of Ag, Cu, Cd, Zn, In, Pb, Sn, Ge, Bi and Sb with S prepared by the method of Academician S. A. Vekshinskiy were investigated. As initial materials were taken Ag (99.92%), Sn (99.94%), Cu (99.97%), Pb (99.99%), Bi, Zn and Cd of (ch.d.a.) grade, Sb (99.2%), In (99.98%), Ge (99.9%) and stick sulfur after a 4-fold vacuum distillation. The investigation was carried out by X-ray method and with radioactive isotopes (S^{35}). A relatively stable vitreous state was established in Cu-S (65 - 80% S), Ag-S (70 - 90% S), Sn-S (75 - 85% S), Pb-S (75 - 85% S), Bi-S (70 - 80% S), Zn-S (45 - 70% S), Cd-S (40 - 70% S), In-S (25 - 80% S), Ge-S (15 - 60% S), Sb-S (5 - 90% S) alloys. It is pointed out that the range of S concentration, within which the vitreous state is stable, extends with the increased ability of metal to stay in amorphous state. Diagrams of meta-

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A052/A101

X-ray investigation of alloys of...

stable states of Ag-S and Sn-S alloys explaining the observed deviations from the equilibrium constitution diagrams were plotted. There are 6 references.

Z. Rogachevskaya

[Abstracter's note: Complete translation]

Card 2/2

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012388

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

PALATKO, V.G.

Semiautomatic machine for the assembly of gearbox housings.
Avt.prom. 29 no.1:33 Ja '63. (MIRA 16:1)

1. Gor'kovskiy avtozavod.
(Automobiles--Transmission devices)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012388

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

PALATNAYA, G. G.

(2)

The influence of bacterized organo-mineral granulated fertilizer on yield of mixed grasses. G. G. Palatnaya (V. M. *Molotov* State Univ., Rostov). *Zemledelie* 1953, No. 2, 77–82.—Superphosphate with org. material (manure or an ext. of alfalfa) in various proportions with and without azotobacter inoculation have been tested. Inoculated 20–25% superphosphate to 80–75% org. material proved to be best. J. S. Joffe

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012388

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

L 17850-66 EWP(d)EWP(l) IJP(c) BC

ACC NR: AP6004551 SOURCE CODE: UR/0103/66/000/001/0074/0086

AUTHOR: Palatnik, A. M. (Moscow)

ORG: None

TITLE: A general property of two-dimensional modulated servosystem

SOURCE: Avtomatika i telemekhanika, no. 1, 1966, 74-86

TOPIC TAGS: servosystem, automatic control system

ABSTRACT: The author investigates a two-dimensional servosystem consisting of an a-c circuit and a linear two-channel section. The derivation of the general transfer function of linear two-channel systems is given. It is demonstrated that in the case of arbitrary demodulation functions and general transfer functions the Q-factor remains bounded even if the amplifications of the individual stages tend to infinity. Since the d-c component at the output of the phase detector is a linear combination of the amplitudes of error harmonics, an infinite increase in the system's amplification reduces only the amplitude combination to zero and not each of the components separately. This is equivalent to the effect of an additional negative feedback. Author thanks B. N. Petrov for his interest and

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

L 17850-66

ACC NR: AP6004551

V. F. Borisov for a discussion of the results. Orig. art. has: 45 formulas and 2 figures.

SUB CODE: 13 / SUBM DATE: 25Mar65 / ORIG REF: 003

Card 2/2 mat

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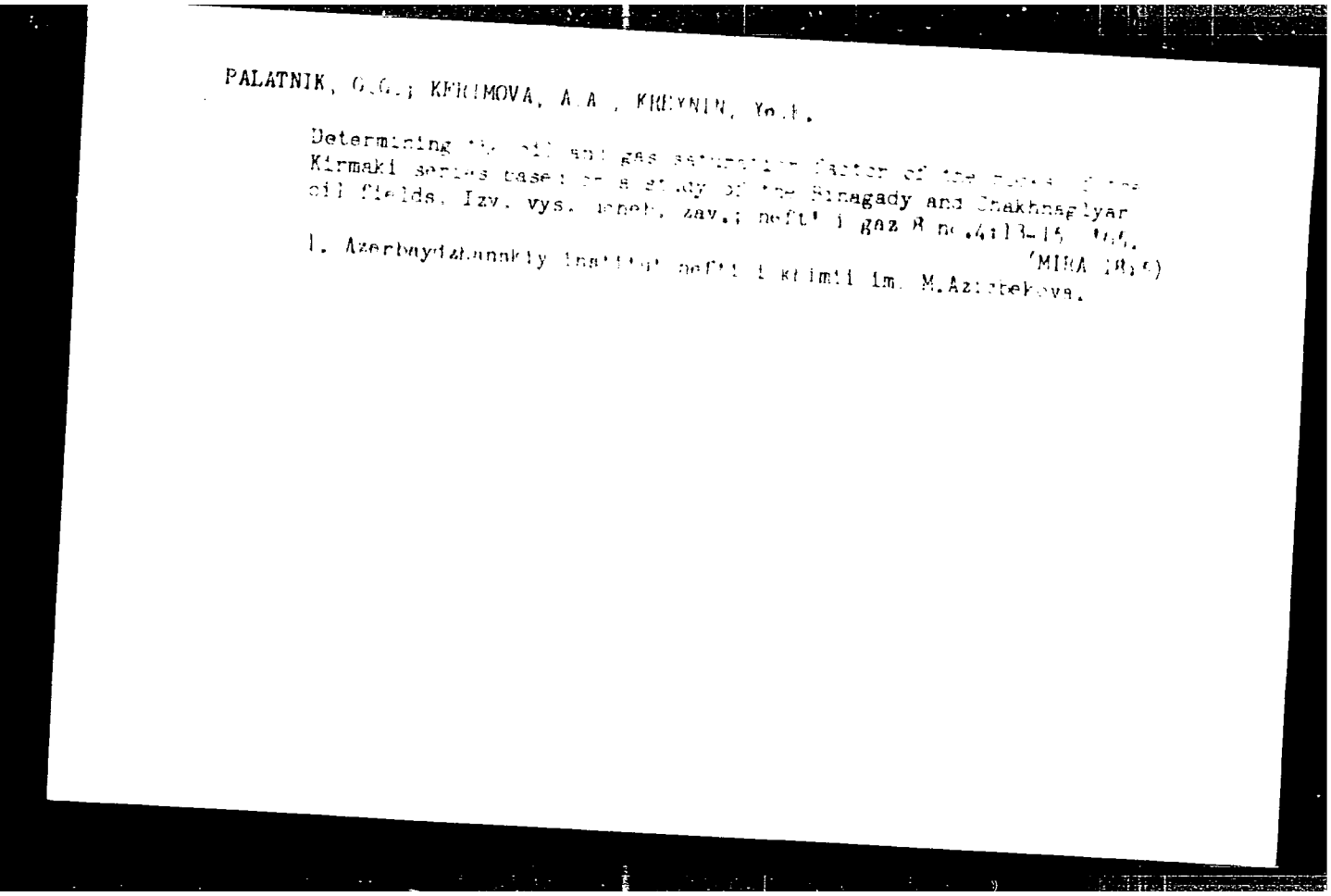
"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238



PALATNIK, G.G.; KERIMOVA, A.A., KREYNIN, Ya.I.

Determining oil, oil and gas saturation factor of the rocks of the Kirmaki series based on a study of the Binagady and Chakhnaglyar oil fields. Izv. vys. ucheb. zav.; neft' i gaz 8 no.4:13-15 '65.

(MIRA 18:6)

1. Azerbaydzhanskiy institut nefti i khimii im. M.Azizbekova.

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012388

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

MOVSESYAN, L.A. (Yerevan); KASHIN, B.I. (Ostashkov); USHAKOV, V.V. (Belgorodskaya obl.); KHAMZIN, Kh.Kh. (Sterlitamak); CHERNYSHEVICH, I.V. (Kopyl'); PALATNIK, G.S. (Vinnitsa); LEYBMAN, M.R. (Sverdlovsk); PEVZNER, S.L. Komsomol'sk-na-Amure)

Problems. Mat. v shkole no.6:91 N-D '59 (MIRA 13:3)
(Mathematics--Problems, exercises, etc.)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012388

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

LEONT'YEVA, T.P.; PALATNIK, I.B.

Study of an axisymmetrical turbulent counter jet. Trudy Inst. energ. AN Kazakh. SSR 2:234-236 '60. (MIRA 15:1)
(Fluid dynamics)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012388

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

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24.4300

2?372
S/124/61/000/008/016/042
A001/A101

AUTHOR: Palatnik, I.B.

TITLE: On propagation of a free axial symmetrical turbulent jet of finite dimensions

PERIODICAL: Referativnyy zhurnal Mekhanika, no. 8, 1961, 33, abstract 8B207 ("Izv. AN KazSSR. Ser. energ ", 1960, no. 2 (18), 84-92, Kazakh summary)

TEXT: The author describes the results of a theoretical and experimental investigation of a slightly heated jet of finite dimensions in a stationary surrounding medium at non-uniform distribution of velocities (at outlet from the nozzle). In theoretical analysis the hypothesis was made that equations of boundary layer for heat and momentum transfer can be reduced to linear differential equations of the type of heat conductivity equation with corresponding boundary and initial conditions. Three cases of initial velocity profiles at the outlet from the nozzle are considered: 1) uniform profile, 2) developed turbulent profile, and 3) profile corresponding to outflow from two concentrical axial symmetrical nozzles at different ratios of dimensions of the latter The solu-

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

On propagation ...

tions of the equations are obtained in the form of iterated integrals of the initial stream distribution, density of momentum or heat content, given by the initial conditions, and Bessel functions with arguments depending on nozzle dimensions. These integrals were calculated approximately with the aid of a hydrodynamical integrator. In experiments, fields of density of momentum stream in transverse cross sections of the jet were obtained. Calculated and experimental data were compared and found to agree satisfactorily There are 9 references.

Yu. Dityakin

[Abstracter's note: Complete translation]

Card 2/2

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012388

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

PALATNIK, I.B.

Spreading of a turbulent axisymmetric jet of finite dimensions in a uniform stream flowing in the same direction. Izv. AN Kazakh. SSR. Ser. energ. no.2:93-101 '60. (MIRA 14:3)
(Jets—Hydrodynamics)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012388

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

YERSHIN, Sh.A; PALATNIK, I.B.

Example for calculating normal thermoelastic stresses in the plane cross section of a massive dam. Izv. AN Kazakh. SSR. Ser. energ. no.2:32-36 '61. (MIRA 14:12)
(Dams)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012388

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

PALATNIK, I. B., Cand Phys-Math Sci -- "Study of the aerodynamics of [redacted] anisothermal turbulent jet currents." Alma-Ata, 1961 (Kazakh State Univ im S. M. Kirov. Phys Faculty). (KL, 4-61, 184)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012388

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

PALATNIK, I. B., SAKINOV, Z. B., USTIMENKO, B. P., VULIS, L. A., and LEONT'YEVA, T. P.

"Thermal Problems of a Free (stream) Turbulent Boundary Layer."

Report submitted for the Conference on Heat and Mass Transfer, Minsk, BSSR, June 1961.

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012388

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

27242
S/170/61/004/009/001/013
B104/B125

11.7430

AUTHORS. Vulis, L. A., Palatnik, I. B.

TITLE: Mechanism of turbulent mixing in gas flows

PERIODICAL: Inzhenerno-fizicheskiy zhurnal, v 4, no 9, 1961, 9-11

TEXT: The experimental arrangement shown in Fig. 1 was used to study the turbulent mixing of a gas jet with a gas flow of different temperature The limits within which the parameters of gas jet and gas flow were varied, are listed in Table 1 In their experiments, the authors determined the velocity head and the temperature distribution along the axis and over the cross section. The velocity head was measured with a Pitot tube [illegible] mm in diameter, and the temperature was determined by means of a platinum - platinum rhodium thermocouple The turbulence of the gas jet and of the gas flow at the exit section of the nozzle was measured by means of the ЭТАМ-3А (ETAM-3A) electrothermoanemometer The flow velocity was computed from measurements of ρu^2 and ΔT. As characteristics for the intensity of turbulent mixing at a given point of the flow, the following relations were used $\varepsilon = 1 - (\rho u^2)_m/(\rho u^2)$ and

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S/170/61/[illegible]
B104/B125

Mechanism of turbulent mixing

$\varepsilon_T = 1 - (T_m - T_n)/(T_o - T_n)$, where the subscript m refers to the axis of the jet. These characteristics tend toward zero in the absence of mixing and toward unity with complete mixing. The authors determined the function $\varepsilon_T = f(m)$, where $(m^2 = (\rho u^2)_o)$; it may be seen from this function that at any given distance from the mouth of the nozzle, the quantity $1 - \varepsilon_T$ and consequently, the conditions for a minimum mixing of the jet with the flow practically coincide at $m = 1$. In this case, jet and flow have the same velocity. The decisive role played by the density of the pulse flow in turbulent mixing may be seen from the function $\varepsilon_T = f(m)$. Measurements were then obtained at one and the same point on the axis of the jet ($x/d_o = 5$; x is the distance from the mouthpiece of the nozzle, and d_o is its diameter) at different temperatures. The relative disposition of the curves $\varepsilon_T = f(m)$ indicates that the damping rate of the jet varies with increasing temperature. The decrease of the quantity $\Delta T_m/\Delta T_o$ and also of u_m/u_o with $\omega = T_o/T_n > 1$ is greater than with $\omega \approx 1$. On the basis of the "similarity of ρu^2" it is shown that a universal dependence of $(\rho u^2)_m/(\rho u^2)_o$

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Mechanism of turbulence mixing ...

on x/d_0 on the axis of the jet is confirmed by the results of measurements. Moreover, it was found that the quantity $(\overline{u'^2}/u_0^2)$ drops the more, the higher is the temperature of the gas jet. The mixing process accelerates slowly and continuously with ω. With slight heating the level of pressure pulses rose from 1-2% at $\omega = 1$ to 10-12% at $\omega = 3$; with intense heating, values of 3-4 and 12-15% were obtained at the analogous values of ω. C. N. Abramovich is mentioned. There are 4 figures, 1 table, and 7 Soviet references.

ASSOCIATION: Institut energetiki AN KazSSR, g. Alma-Ata (Institute of Power Engineering AS Kazakhskaya SSR, Alma-Ata)

SUBMITTED: June 21, 1960

Fig. 1: Schematic representation of the experimental arrangement. Legend: (1) Outer tube; (2) inner tube; (3) nozzle for the central gas jet (diameter, 10 mm); (4) nozzle for the outer gas flow (diameter, 250 mm); (5) air intake for the inner tube; (6) centrifugal ventilator for the outer

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APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012388

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

PALATNIK, I. B.; LEONT'EVA, T. P.; SAKIPOV, L. B.; USTIMENKO, B. P.

"Thermal Problem of a Free (Jet) Turbulent Boundary Layer"

Report presented at the Conference on heat and Mass Transfer. Minsk, USSR, 5-10 June 61

General problem of heat and Mass transfer are discussed and method of solution of heat and dynamic problems of stream flows is given in this paper. New experimental data for cold, low-heated flat and axis-symmetrical streams are presented.

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012388

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

KARELIN, V. Ye.; PALATNIK, I. B.; USTEMENKO, B. P.

"An investigation of heat and momentum transfer processes in a compressible turbulent jet in a uniform flow."

report submitted for 2nd All-Union Conf on Heat & Mass Transfer , Minsk, 4-12 May 64.

Power Inst, AS KazSSR.

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012388

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

VULIS, L. A. (Leningrad); KARELIN, V. Ye.; PALATNIK, I. B.; SAKIPOV, Z.; USTIMENKO, B. P. (Alma-Ata)

"Laws of propagation of turbulent compressible gas jets"

report presented at the 2nd All-Union Congress on Theoretical and Applied Mechanics, Moscow, 29 Jan - 5 Feb 1964.

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012388

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

L 17782-66 EWT(1)/EWP(m)/EWA(d)/ETC(m)-6/EWA(1) WW

ACCESSION NR: AR5020403 SOURCE CODE: UR/0124/65/000/008/B057/B057

AUTHOR: Paletnik, I.B.; Temirbayev, D.Zh.

57
B

ORG: none

TITLE: Diffusion of free turbulent jets flowing from a rectangular nozzle

SOURCE: Ref. zh. Mekhanika, Abs. 8B385

REF SOURCE: Sb. Prob. teploenerg. i prikl. teplofiz. Vyp. 1. Alma-Ata, AN KazSSR, 1964, 18-28

TOPIC TAGS: nozzle flow, annular nozzle, turbulent jet, flow velocity, jet flow

TRANSLATION: The problem of propagation in the motionless atmosphere of a turbulent jet flowing from a rectangular nozzle was examined. Noting the fact that the initial system of equations was not closed and that it contained unknown correlations of velocities and gave only two equations for determining three component velocities, the authors attempted to find the field of the longitudinal component of the velocity, leaving the other two components undetermined. The method used

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L 17782-66
ACCESSION NR: AR5020403

was that of the equivalent problem of the thermal conductivity theory, i.e., the conversion of the system of coordinates was introduced, reducing the equation for determining the longitudinal component of the impulse to the equation of thermal conductivity, in which the functional relation describing this conversion had to be determined by the test. An experimental study was made also of the expansion of an immersed rectangular jet. During these tests a determination was made of the distribution of the longitudinal component of the impulse in the various lateral profiles of air jets flowing into the motionless air from nozzles with discharge cross sections of 20 x 20, 15 x 30, and 10 x 30 mm and a 39 m/sec velocity. A comparison of the experimental and calculated distributions of the impulse along the axis of the jet made it possible to determine the type of relationship, describing the conversion of the coordinates, for each of the cases studied and also for nozzles with lateral ratios of 1:5 and 1:20; the experiments on the latter were conducted by V.A. Turkus. With the help of these empirical functions and the solution of the thermal conductivity equation of the profile of the longitudinal impulse component in the various lateral profiles of the jet, comparisons were made with the corresponding experimental data. An estimate was given of the distance from the nozzle at which the jet flowing from the rectangular nozzle acquired an axial symmetry. References 13. O.V. Yakovlevskiy.

SUB CODE: 20

Card 2/2 TS

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012388

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

L 52269-65 EWT(1)/EWP(m)/EWG(s)-2/EWG(v)/EPR/EPA(bb)-2 Pd-1/Pe-5/Ps-4/Pw-4
WW

ACCESSION NR: AT5011661 UR/3149/64/000/001/0018/0028

AUTHOR: Palatnik, I.B.; Temirbayev, D. Zh. 39 B+1

TITLE: The propagation of free turbulent currents originating from rectangularly-shaped nozzles

SOURCE: Alma-Ata. Kazakhskiy nauchno-issledovatel'skiy institut energetiki. Problemy telpoenergetiki i prikladnoy teplofiziki, no. 1, 1964. Prikladnaya teplofizika, 18-28

TOPIC TAGS: free turbulent current, rectangular nozzle jet, rectangular jet current density, rectangular jet momentum density, radial jet velocity, turbulent current propagation, aerodynamics

ABSTRACT: One of the problems of applied gas dynamics of jet flow is the propagation of currents originating from rectangularly shaped openings. However, existing theoretical discussions (see, e.g., I.B. Palatnik, Izvestiya AN KazSSR, seriya energeticheskaya, 1960, no. 2 (18); Sh. A. Yershin, L.P. Yarin, Izvestiya AN KazSSR, seriya energeticheskaya, 1962, no. 1 (21)) could not be brought to a successful conclusion since the investigations (see, e.g., V.A. Turkus, Otopleniye i ventilyatsiya, 1933, no. 5; I.A. Yavorskiy, Izvestiya Sibirskogo otdeleniya AN SSSR, 1958, no. 2) did not supply enough information about the initial velocity distributions at the exit of the nozzle.

Card 1/2

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

L 52269-65

ACCESSION NR: AT5011661

Consequently, the present authors carried out detailed experimental studies of the flow fields of free turbulent currents originating from rectangularly-shaped nozzles for various length-to-width ratios. Experimental data concerning the current and momentum densities at various cross sections of the jet agree with the corresponding theoretical predictions (using the equivalent heat-conductivity method) within the accuracy needed for practical applications. Orig. art. has: 20 formulas and 8 figures.

ASSOCIATION: none

SUBMITTED: 00 ENCL: 00 SUB CODE: ME

NO REF SOV: 013 OTHER: 000

Card 2/2

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012388

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

L 57784-65 EPA/EPF(n)-2/EPR/EPA(bb)-2/T-2/EWP(f) Ps-4/Paa-4 WW

ACCESSION NR: AR5014261 UR/0285/65/000/005/0015/0015
621.438:621.43.056

SOURCE: Ref. zh. Trubostroyeniye. Otdel'nyy vypusk, Abs. 5.49.104

AUTHOR: Palatnik, I.B.; Temirbayev, D. Zh.

TITLE: A study of combustion chamber mixers in gas and steam-gas turbines

CITED SOURCE: Sb. Probl. teploenerg. i prikl. teplofiz. Vyp. 1. Alma-Ata, AN KazSSR, 1964, 73-82

TOPIC TAGS: gas turbine, turbine combustion chamber, mixing process calculation, mixer model test, mixer calculation program

TRANSLATION: The results of calculations and an experimental study of the gas mixing process in mixers of gas turbine combustion chamber models are reported. Expressions derived by Yu. V. Ivanov (see Energomashinostroyeniye, 1958, No. 11) in a study of the propagation of single streams and stream systems in a transverse homogeneous flow were employed in evolving a program for calculating the mixing process. An example is given of calculations for a combustion chamber mixer.

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

L 57784-65

ACCESSION NR: AR5014261

Tests were made on a mixer model to verify the calculation method. Cold air fed in a stream was mixed with the products of natural gas combustion passing through a cylindrical mixer. Velocity and temperature fields were measured at various cross sections of the mixer. Measurements were made at various positions of the stream in the cross section of the mixer. Test results were compared with calculated data. Bibl. with 6 titles. Yu. Dityakin.

SUB CODE: PR ENCL: 00

Card 2/2

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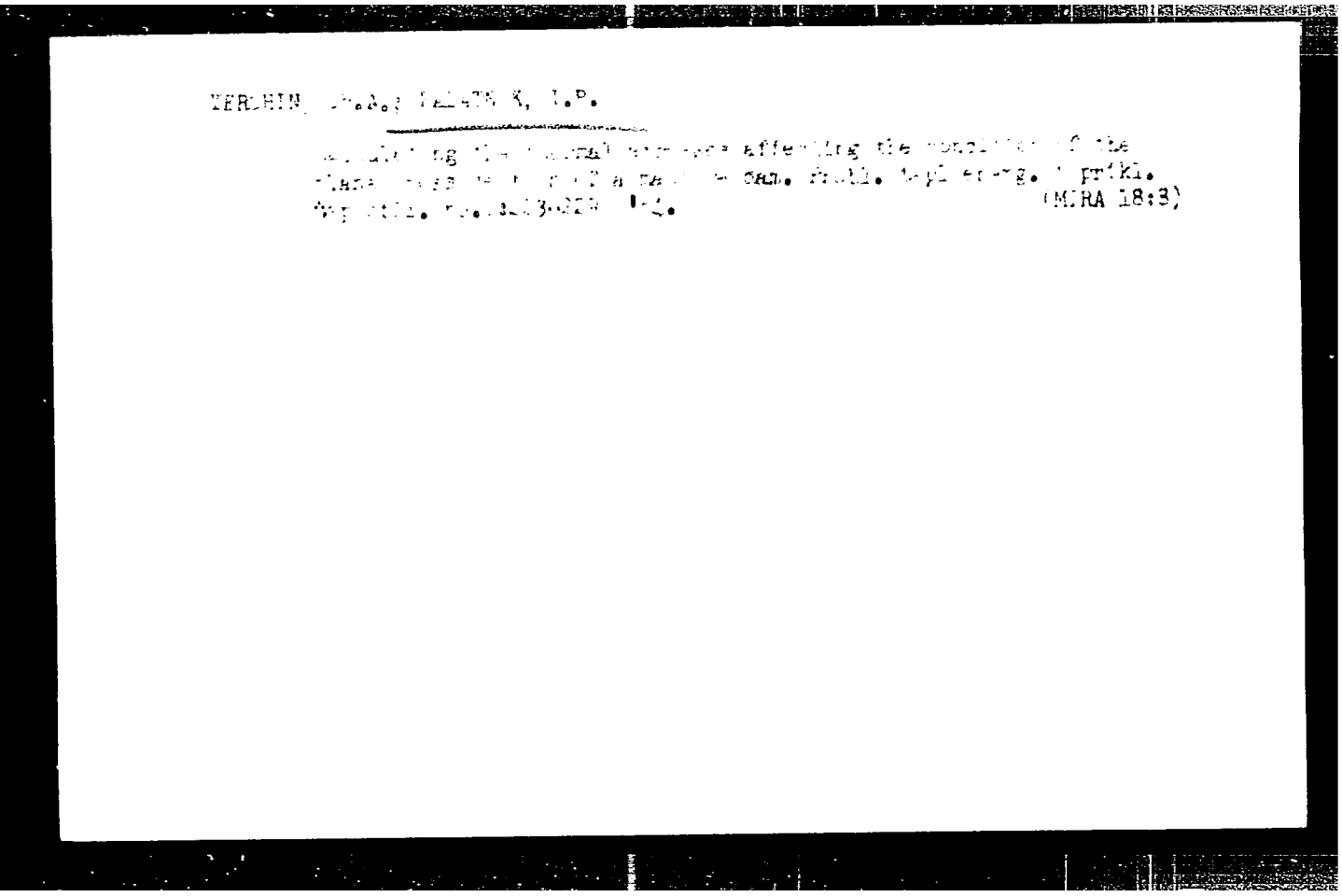

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

L 39537-66 EWT(1)/EWP(m)/EWT(m)/ETC(f)/EPF(n)-2/EWG(m)/EWA(d)/EWA(1) WW/GD/JW/
ACC NR: AT6006926 JWD/WE/GS SOURCE CODE: UR/0000/65/000/000/0399/0406

AUTHOR: Karelin, V. Ye.; Palatnik, I. B.; Ustimenko, B. P.

ORG: Power Engineering Institute, AN KazSSR (Institut energetiky AN KazSSR)

TITLE: Study of heat and momentum transfer processes in a compressible turbulent jet in a cocurrent uniform flow

SOURCE: Teplo- i massoperenos. t. II: Teplo- i massoperenos pri vzaimodeystvii tel s potokami zhidkostey i gazov (Heat and mass transfer. v. 2: Heat and mass transfer in the interaction of bodies with liquid and gas flows). Minsk, Nauka i tekhnika, 1965, 399-406

TOPIC TAGS: heat transfer, jet, combustion

ABSTRACT: The aerodynamics and heat transfer in nonisothermal cocurrent jets are important for the intensification of combustion processes. A comprehensive program to study this problem was conducted at the Kazakh Scientific Power Engineering Institute in 1962-1963. The experiments were carried out in a wind tunnel with a test section 0.6 m in diameter. The jet was preheated by passage through a combustion chamber in which butane-propane was burned. The jet was then injected into the test section through a nozzle 0.05 m in diameter. The velocity of the cocurrent air stream in the test section was varied between 10 and 20 m/sec to obtain ratios of the

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ACC NR: AT6006926

cocurrent stream to jet velocity of 0—0.482. Dynamic pressure, static pressure, and temperature profiles were measured by means of a special probe. The data were correlated in terms of excess momentum and heat capacity. Comparison with theoretically calculated relationships showed that similar problems in the theory of heat conduction can be used for calculating jets of finite dimensions flowing in cocurrent streams. Orig. art. has: 4 figures. [PV]

SUB CODE: 21 / SUBM DATE: 09Nov65/ ORIG REF: 008/ OTH REF: 004/ ATD PRESS: 4208

Card 2/2 vmb

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012388

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

L 24260-66 EWI(1)/EWP(m)/EWA(d)/ETC(m)-6/EWA(1) WW

ACC NR: AT6006928 SOURCE CODE: UR/0000/65/000/000/0414/0419

53
B+1

AUTHOR: Palatnik, I. B.; Temirbayev, D. Zh.

ORG: Power Institute, AN KazSSR (Institut energetiki AN KazSSR)

TITLE: Free turbulent jets issuing from a rectangular opening

SOURCE: Teplo- i massoperenos. t. II: Teplo- i massoperenos pri vzaimodeystvii tel s potokami zhidkostey i gazov (Heat and mass transfer. v. 2: Heat and mass transfer in the interaction of bodies with liquid and gas flows). Minsk, Nauka i tekhnika, 1965, 414-419

TOPIC TAGS: turbulent jet, mass transfer, fluid flow

ABSTRACT: For a three-dimensional flow, the field of the longitudinal component of the density of the momentum flux can be described by an equation of the form:

$$\frac{\partial \rho u^2}{\partial \tau} = \frac{\partial^2 \rho u^2}{\partial x^2} + \frac{\partial^2 \rho u^2}{\partial y^2}, \qquad (1)$$

where $\tau = \tau(x)$ is the subject to experimental determination as a function of the longitudinal coordinate x, and x and y are the transverse coordinates. For the case under consideration, this equation must be solved with the following boundary and initial conditions:

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$$\left.\begin{array}{l} \tau = 0, \quad |y| \leqslant a \\ x = 0, \quad |z| < b \end{array}\right\} \rho u^2 = \rho u_0^2 = \text{const}$$

$$\left.\begin{array}{l} y = 0 \\ z = 0 \end{array}\right\} \frac{\partial \rho u^2}{\partial y} = 0; \quad \frac{\partial \rho u^2}{\partial z} = 0$$

$$y \to \infty, \quad \frac{\partial \rho u^2}{\partial y} \to 0; \quad \rho u^2 \to 0$$

$$z \to \infty, \quad \frac{\partial \rho u^2}{\partial z} \to 0; \quad \rho u^2 \to 0 \qquad (2)$$

The solution of Eq. (1) with boundary and initial conditions (2), obtained by summation with respect to the initial conditions, has the following form:

$$\frac{\rho u^2}{\rho u_0^2} = \frac{1}{4\pi\tau} \int_{-a}^{a} \int_{-b}^{b} e^{\frac{(y-\alpha)^2+(z-\beta)^2}{4\tau}} d\alpha d\beta. \qquad (3)$$

in which integration with respect to α and β is performed with respect to the area of the initial cross section of the nozzle. Experimental results lead to the conclusion that application of the method of the equivalent problem of the theory of heat conductivity gives fully satisfactory results and can be recommended for approximate calculation

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

L 24260-66
ACC NR: AT6006928 O

of processes involving the transfer of momentum in the flow of turbulent jets from a rectangular opening. Orig. art. has: 7 formulas and 4 figures.

SUB CODE: 20/ SUBM DATE: 09Nov65/ ORIG REF: 008

Card 3/3 dlc

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012388

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

L 442229-66 EWT(1)/EWP(m) WW

ACC NR: AT6023748 SOURCE CODE: UR/3149/66/000/003/0099/0105

AUTHOR: Palatnik, I. B.; Smakov, Z.

37
37+1

ORG: none

TITLE: The use of methods of an equivalent problem of the thermal conductivity theory for studying the jet discharging from a complex nozzle

SOURCE: Alma-Ata. Kazakhskiy nauchno-issledovatel'skiy institut energetiki. Problemy teploenergetiki i prikladnoy teplofiziki, no. 3, 1966, 99-105.

TOPIC TAGS: heat conductivity theory, complex nozzle, flow field, flow density, gas jet

ABSTRACT: Experimental data on the distribution of the pulsed flow density and enthalpy in the flow field of a submerged, slightly heated jet, issuing from a cross-shaped nozzle is compared with a solution obtained using the method of an equivalent problem of the thermal conductivity theory. It is demonstrated that this method can be used to calculate the flow fields under conditions where other calculation methods can not be applied. Orig. art. has: 5 figures and 8 formulas. [AV]

SUB CODE: 20,21/ SUBM DATE: none/ ORIG REF: 005/

Card 1/1 MT

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012388

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

L 00339-67 EWT(m)/EWP(t)/ETI WW/WE

ACC NR: AT6023747 SOURCE CODE: UR/3149/66/000/003/0094/0098

AUTHOR: Palatnik, I. B.; Temirbayev, D. Zh.

ORG: none

TITLE: Selection of optimum characteristics of gas turbine combustion chamber flame holder

SOURCE: Alma-Ata. Kazakhskiy nauchno-issledovatel'skiy institut energetiki. Problemy teploenergetiki i prikladnoy teplofiziki, no. 3, 1966, 94-98

TOPIC TAGS: gas turbine, combustion chamber, combustion chamber flame holder, ~~gas turbine~~, flame holder

ABSTRACT: Experimental results are presented on the selection of certain parameters of a gas turbine combustion chamber flame holder. The experiments were conducted to study the problem of hydraulic drag, (particularly pressure drop across the perforations) and nonuniform mixing under variable operating conditions. To determine the effect of a reduction in pressure drop on the quality air-fuel mixing, tests were conducted with $\bar{S}$ parameter variations in the range $0.5 \leq \bar{S} \leq 0.8$ (where $\bar{S}$ is the ratio of the total area of perforations to the flame holder cross section). The obtained results show that the pressure

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ACC NR: AT6023747

2

drop across the perforations can be reduced if the relative pitch between the perforations is not smaller than 2.6 (where the relative pitch is defined as the ratio of the distance between the center of a perforation and its diameter). It was also found that at the same pressure drop, round perforations are more effective than the rectangular, i.e. they produce better air-fuel mixing. Orig. art. has: 5 figures and 1 formula. [AS]

SUB CODE: 21/ SUBM DATE: none/ ORIG REF: 003

Card 2/2 egh

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012388

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

PALATNIK, I. I.

Determination of calcium oxide in fused agglomerate by use of a stylometer. A. V. Lukanin and L. I. Palatnik (Kirov Met. Plant, Makeevka). *Zavodskaya Lab.* 23, 685 (1957).—For rapid detn. of CaO, a mixt. of agglomerate and powd. Cu (1:10 ratio) is pressed into a pellet 9 mm. diam. × 2.5 mm. and the CaO content is detd. spectrophotometrically, by using the vapor lines in the green part of the spectrum: Ca(1) 5698.47 A. and N(11) 5535.39 A. By comparison with chem. analyses, the av. error was found to be ±3.5–4.0%. Wilmer Stratton

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24(7) PHASE I BOOK EXPLOITATION SOV/1700

Lvov. Universitet

Materialy X Vsesoyuznogo soveshchaniya po spektroskopii, 1956. t. II: Atomnaya spektroskopiya (Materials of the 10th All-Union Conference on Spectroscopy, 1956. Vol 2: Atomic Spectroscopy) /Lvov/ Izd-vo L'vovskogo univ., 1958. 568 p. (Series: Its: Fizicheskiy sbornik, vyp.4(9)) 3,000 copies printed.

Additional Sponsoring Agency: Akademiya nauk SSSR. Komissiya po spektroskopii.

Editorial Board: G.S. Landsberg, Academician, (Resp. Ed.); B.S. Neporent, Doctor of Physical and Mathematical Sciences; I.L. Fabelinskiy, Doctor of Physical and Mathematical Sciences; V.A. Fabrikant, Doctor of Physical and Mathematical Sciences; V.G. Koritskiy, Candidate of Technical Sciences; S.M. Rayskiy, Candidate of Physical and Technical Sciences; L.K. Klimovskaya, Candidate of Physical and Mathematical Sciences; V.S. Miliyanchuk (Deceased), Doctor of Physical and Mathematical Sciences; A.Ye. Glauberman, Doctor of Physical and Mathematical Sciences; Ed.: S.L. Gazer; Tech. Ed.: T.V. Saranyuk.

PURPOSE: This book is intended for scientists and researchers in the field of spectroscopy, as well as for technical personnel using spectrum analysis in various industries.

COVERAGE: This volume contains 177 scientific and technical studies of atomic spectrography presented at the 10th All-Union Conference on Spectroscopy in 1956. The studies were carried out by members of scientific and technical institutes and include extensive bibliographies of Soviet and other sources. The studies cover many phases of spectroscopy: spectra of rare earths, electromagnetic radiation, physicochemical methods for controlling uranium production, physics and technology of gas discharge, optics and spectroscopy, abnormal dispersion in metal vapors, spectroscopy and the combustion theory, spectrum analysis of ores and minerals, photographic methods for quantitative spectrum analysis of metals and alloys, spectral determination of the hydrogen content of metals by means of isotopes, tables, and atlases of spectral lines, spark spectrographic analysis, statistical study of variation in the parameters of calibration curves, determination of traces of metals, spectrum analysis in metallurgy, thermochemistry in metallurgy, and principles and practice of spectrochemical analysis.

Card 2/31

Materials of the 10th All-Union Conference (Cont.) SOV/1700

Aydarov, T.K. Spectrum Analysis of Lithium in Brines 512

Pavlyuchenko, M.M., V.M. Akulovich, and I.O. Filonov. Spectral Determination of Microelements in Mineral Salts 516

Pevtsov, G.A. Use of Emission Spectrum Analysis in the Chemical Reagent Industry 519

Karklin'sh, R.Ya., A.K. Paegle, and E.A. Silin'sh. Use of Spectrum Analysis in Citric Acid Production 521

Palatnik, I.I. Determination of Calcium Oxide in Fluxed Sinter by Means of a Stylometer 522

Pisarevi, V.D., and T.I. Ivanova. Quenching of Cyanogen Bands in Spectrum Analysis of Solutions 524

Nalimov, V.V., and K.I. Ionova. Statistical Study of Variations in the Parameters of Calibration Curves 528

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APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012388

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

PALATNIK, I.I.

Use of a photometric steeloscope to determine calcium oxide in a fluxed agglomerate. Fiz.sbor. no.4:522-524 '58.
(MIRA 12:5)

1. Makeyevskiy zavod imeni S.M.Kirova.
(Calcium oxides--Spectra)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012388

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

LUKANIN, A.V.; PALATNIK, I.I.

Determining calcium oxide in fluxed sinter by means of a stylometer.
Zav. lab. 23 no.5:585 '57. (MLRA 10:8)

1. Makeyevskiy metallurgicheskiy zavod imeni Kirova.
(Lime--Spectra)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012388

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

PALATNIK, L. A.

USSR/Metallurgy - Metal Processing, 21 Mar 53
Spark Machining

"Phase Transformations During Spark Machining of Metals and the Experiment of Establishing a Criterion for Interactions Observed," L. A. Palatnik, Khar'kov State U im A. M. Gor'kiy

DAN SSSR, Vol 89, No 3, pp 455-458

Discusses results of X-ray analysis of cryst phases detected in surface layer of metals after spark treatment with various electrodes, presenting data on about 100 combinations of unlike

(1) 272T31

electrodes. Distinguishes following forms of interaction between substances of electrodes: formation of coatings on cathode out of anode material; formation of alloys (mixts, solid solns, or intermetallic compds) in surface layer of cathode as result of mutual diffusion of anode and cathode elements; transfer of substance from cathode on anode with formation of coatings or alloys. Suggests approximate criterion of transfer and interaction. It is expressed by ratio between periods corresponding to initial stages in origination of centers of melting and intensive evaporation in "working volumes" of electrodes. Develops formula and gives graphical

(2) 272T31

representation of criterion. States that criterion satisfactorily explains results of industrial experience and shows additional ways to increase effectiveness of spark machining of metals and their anti-corrosive protection, and also ways to decrease erosion of elec contacts and to improve accuracy of spectrum analysis of alloys. Submitted by Acad G. S. Landsberg 29 Jan 53.

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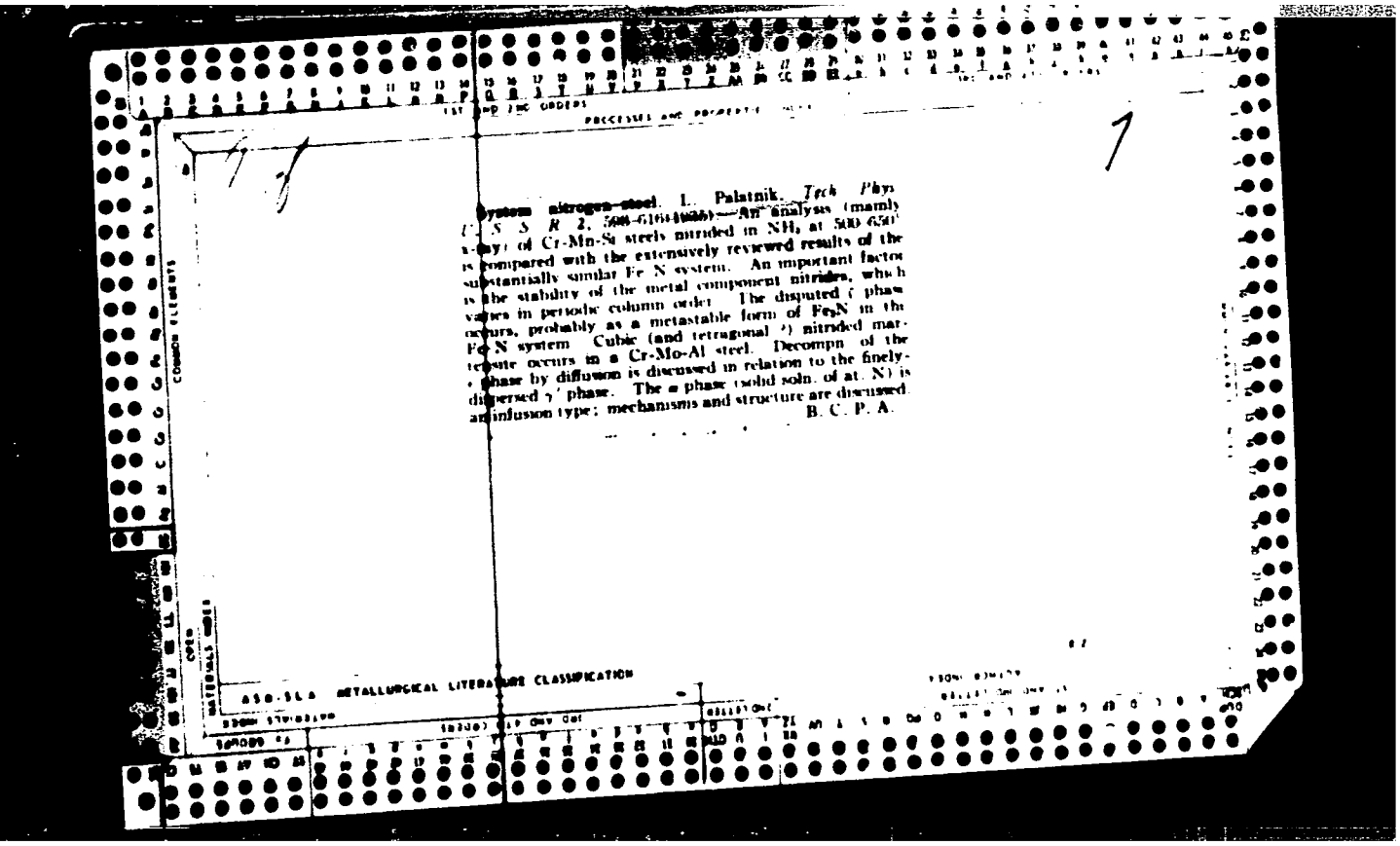

System nitrogen–steel. L. Palatnik. *Tech Phys U S S R* 2, 500–6(1935)—An analysis (mainly x-ray) of Cr-Mn-Si steels nitrided in NH_3 at 500–650° is compared with the extensively reviewed results of the substantially similar Fe–N system. An important factor is the stability of the metal component nitrides, which varies in periodic column order. The disputed ζ phase occurs, probably as a metastable form of Fe_2N in the Fe–N system. Cubic (and tetragonal γ') nitrided martensite occurs in a Cr-Mo-Al steel. Decompn. of the ε phase by diffusion is discussed in relation to the finely-dispersed γ' phase. The α phase (solid soln. of at. N) is an infusion type; mechanisms and structure are discussed.
B. C. P. A.

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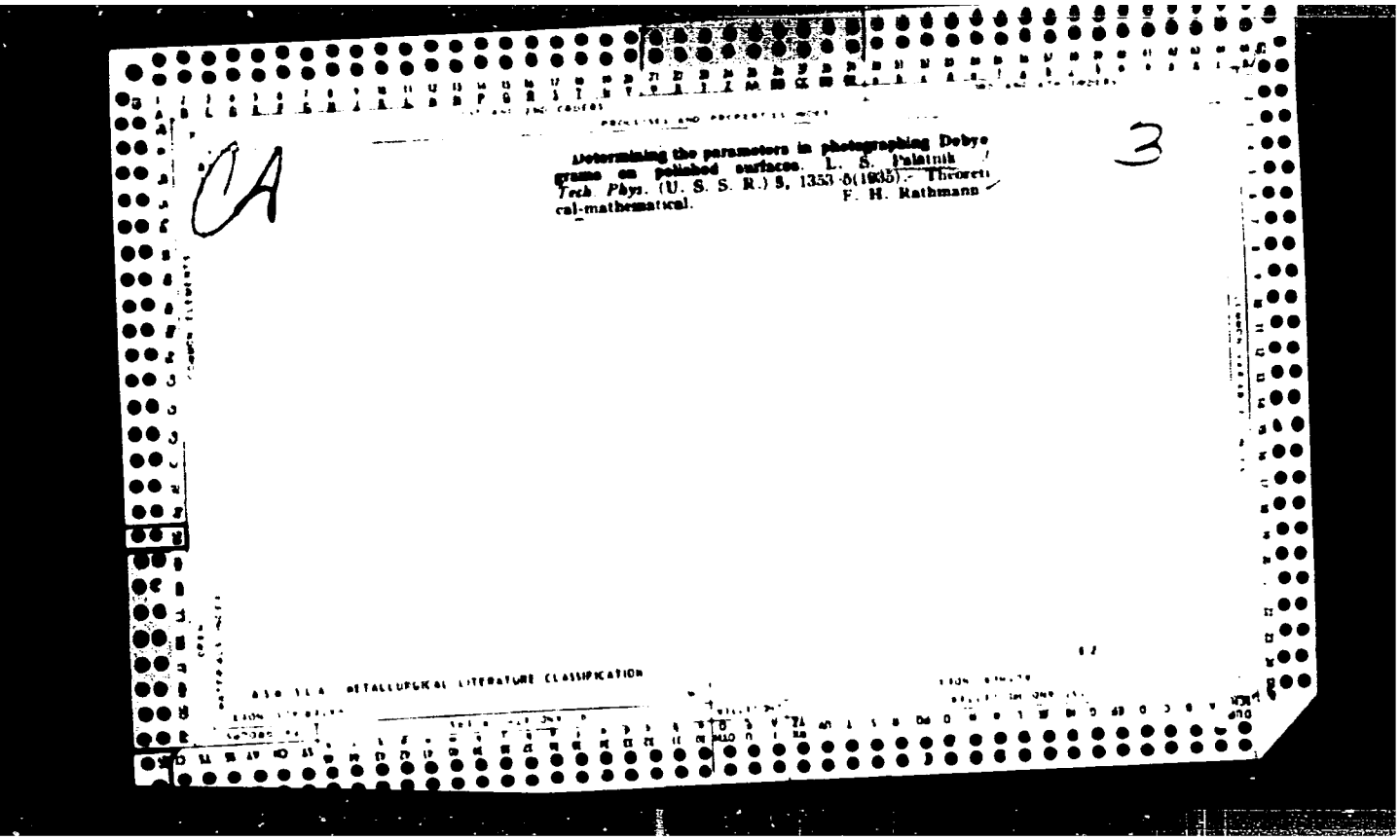
"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238



CA

3

Determining the parameters in photographing Debye grams on polished surfaces. L. S. Palatnik. *Tech Phys.* (U. S. S. R.) 5, 1353-6(1935). Theoretical-mathematical. F. H. Rathmann

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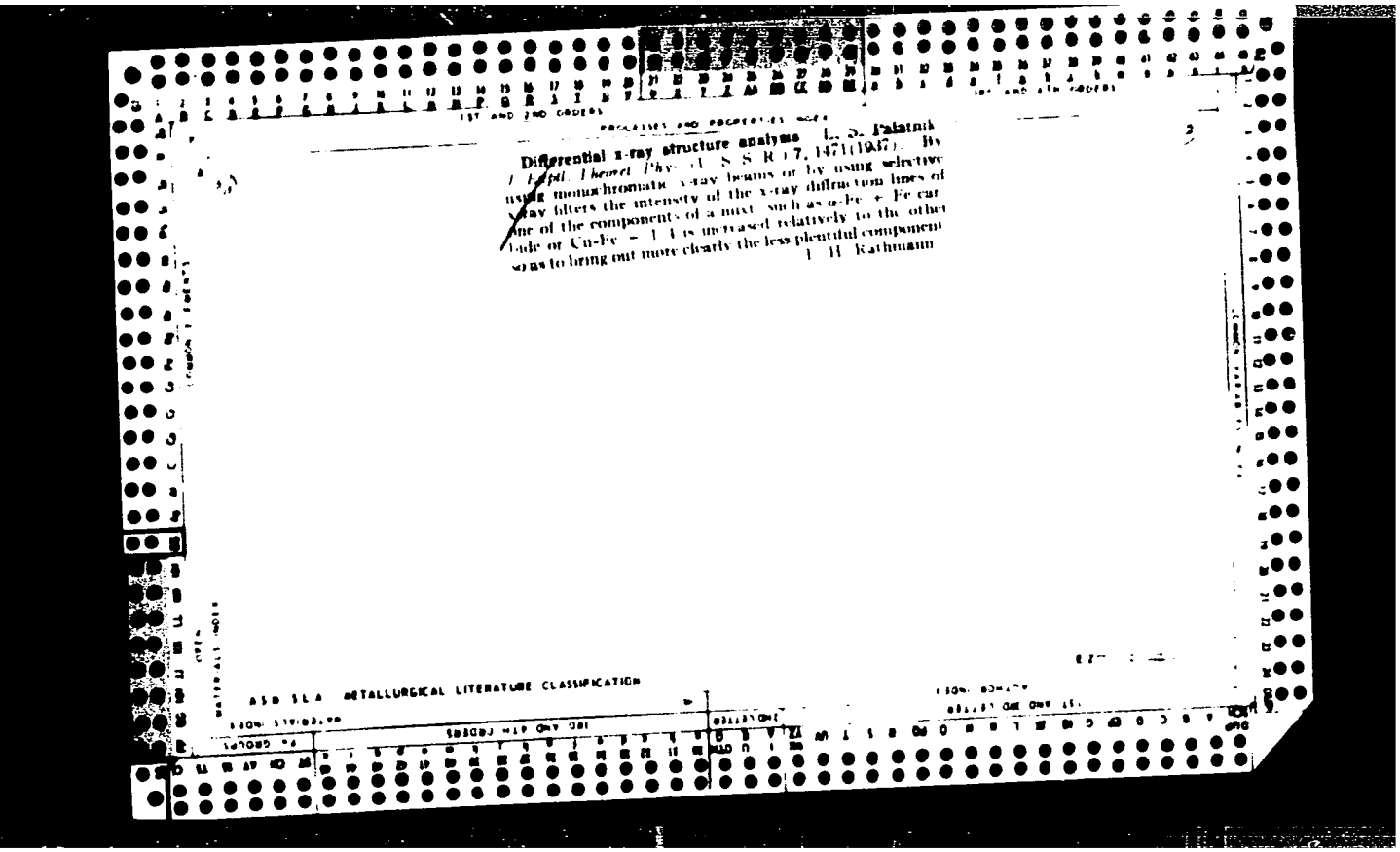

Differential x-ray structure analysis L. S. Palatnik
J. Exptl. Theoret. Phys. (U. S. S. R.) 7, 1471(1937). By using selective monochromatic x-ray beams or by using selective x-ray filters the intensity of the x-ray diffraction lines of one of the components of a mixt. such as α-Fe + Fe carbide or Cu-Fe + Ni is increased relatively to the other so as to bring out more clearly the less plentiful component. I. H. Rathmann

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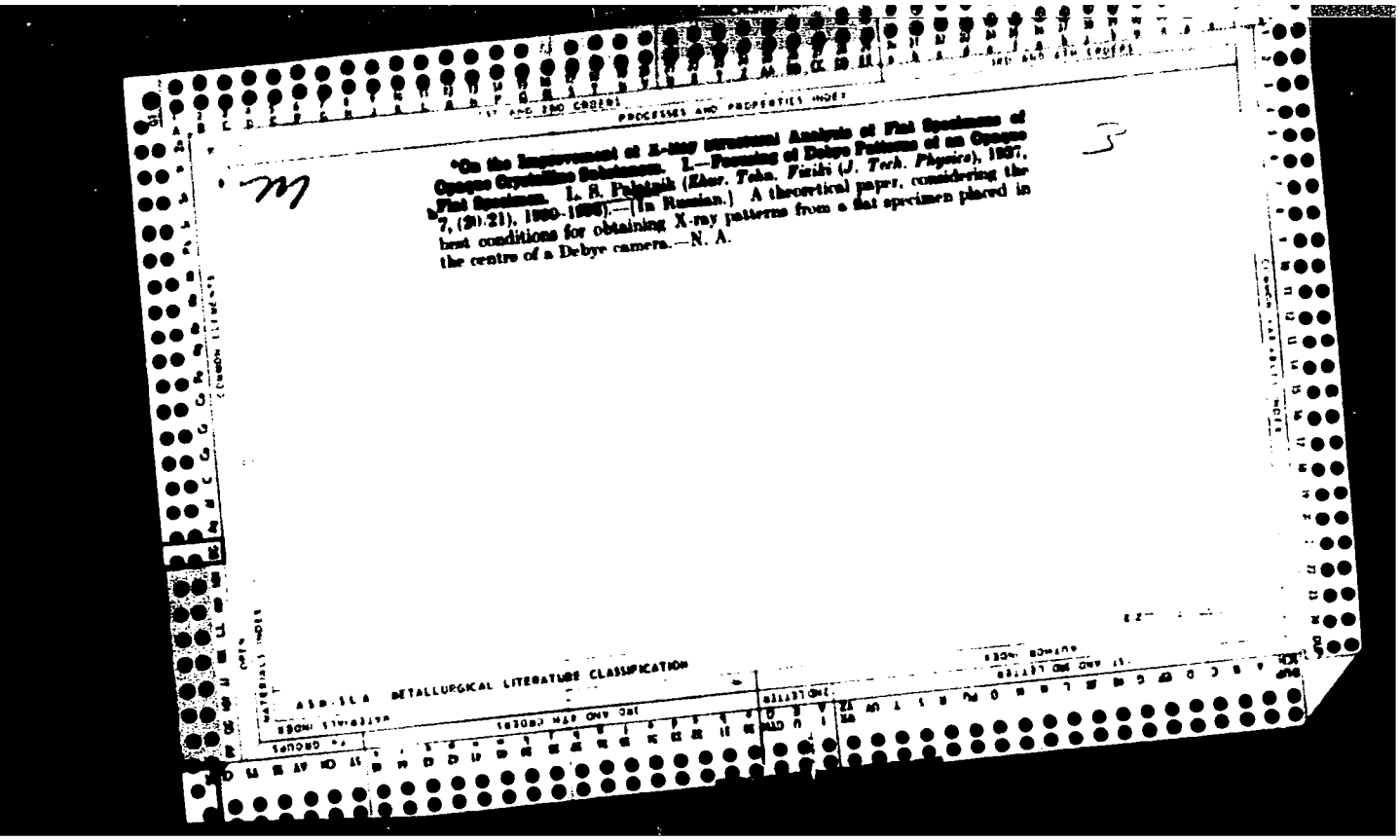

PROCESSES AND PROPERTIES INDEX

On the Improvement of X-ray Structural Analysis of Flat Specimens of Opaque Crystalline Substances. I.—Position of Debye Patterns of an Opaque Flat Specimen. L. S. Palatnik (*Khar. Tekn. Fiziki* (*J. Tech. Physics*), 1937, 7, (20.21), 1950-1956).—[In Russian.] A theoretical paper, considering the best conditions for obtaining X-ray patterns from a flat specimen placed in the centre of a Debye camera.—N. A.

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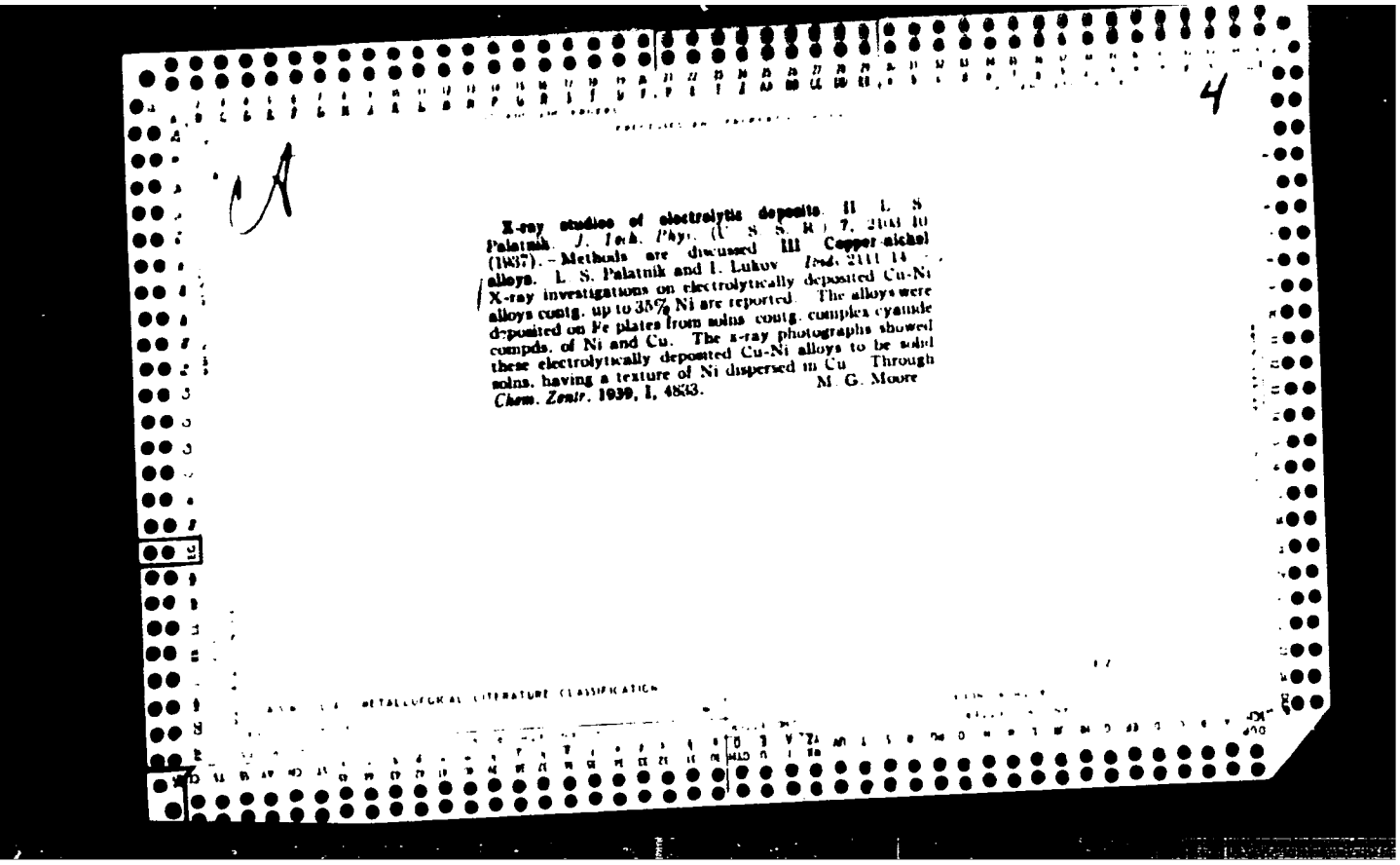

X-ray studies of electrolytic deposits. II. L. S. Palatnik. *J. Tech. Phys.* (U.S.S.R.) 7, 2101-10 (1937). - Methods are discussed. III. Copper-nickel alloys. L. S. Palatnik and I. Lukov. *Ibid.* 2111-14. X-ray investigations on electrolytically deposited Cu-Ni alloys contg. up to 35% Ni are reported. The alloys were deposited on Fe plates from solns. contg. complex cyanide compds. of Ni and Cu. The x-ray photographs showed these electrolytically deposited Cu-Ni alloys to be solid solns. having a texture of Ni dispersed in Cu. Through *Chem. Zentr.* 1939, I, 4833. M. G. Moore

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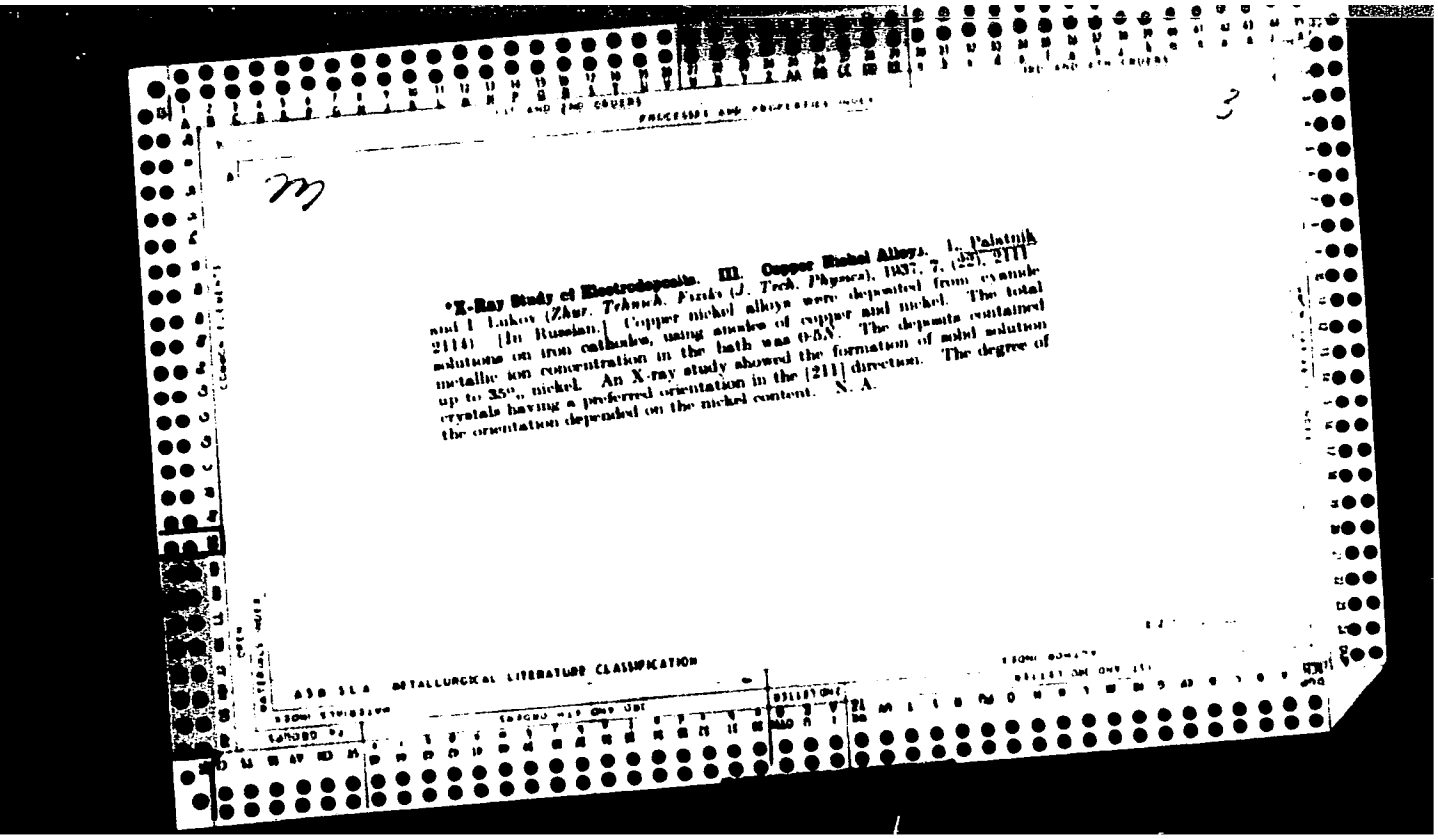

*X-Ray Study of Electrodeposits. III. Copper Nickel Alloys. L. Palatnik and I. Lukov (Zhur. Tekhn. Fiziki (J. Tech. Physics), 1937, 7, (2), 211-214). [In Russian.] Copper nickel alloys were deposited from cyanide solutions on iron cathodes, using anodes of copper and nickel. The total metallic ion concentration in the bath was 0·5 N. The deposits contained up to 35% nickel. An X-ray study showed the formation of solid solution crystals having a preferred orientation in the [211] direction. The degree of the orientation depended on the nickel content. N. A.

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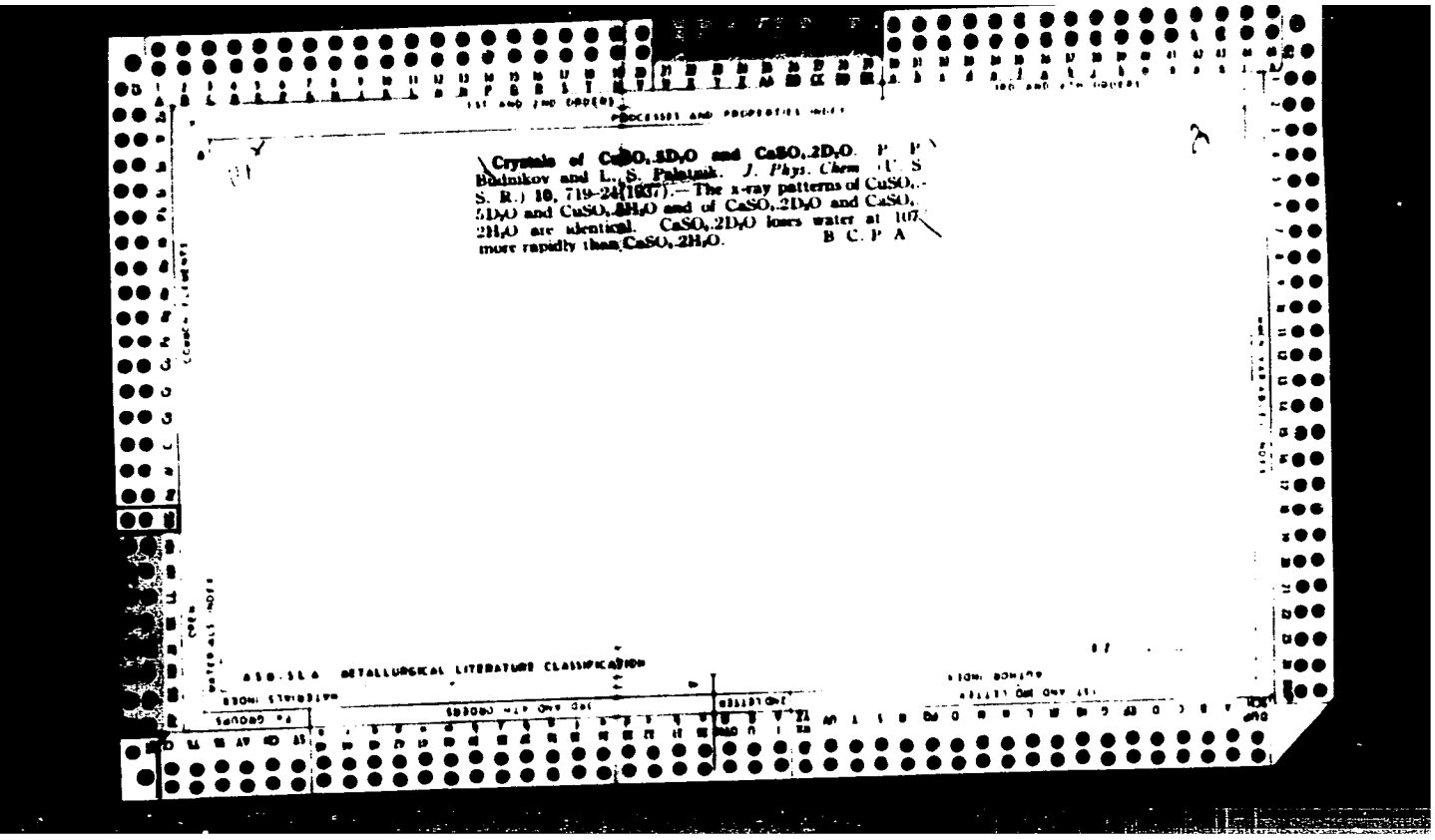

Crystals of $CaSO_4.5D_2O$ and $CaSO_4.2D_2O$. P. P. Budnikov and L. S. Palatnik. *J. Phys. Chem* (U. S. S. R.) **10**, 719–24(1937).—The x-ray patterns of $CaSO_4.5D_2O$ and $CaSO_4.5H_2O$ and of $CaSO_4.2D_2O$ and $CaSO_4.2H_2O$ are identical. $CaSO_4.2D_2O$ loses water at 107° more rapidly than $CaSO_4.2H_2O$. B C P A

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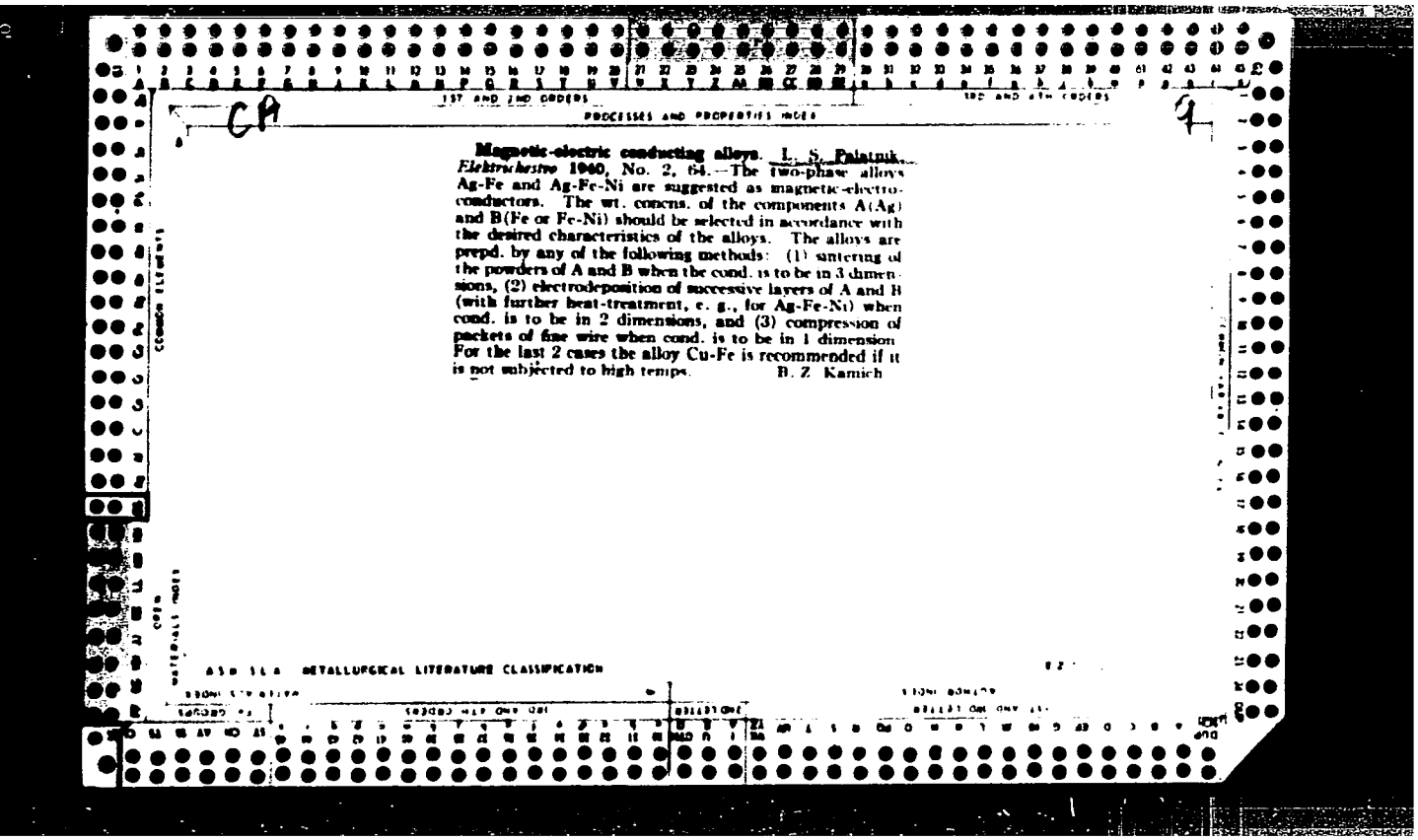

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PROCESSES AND PROPERTIES INDEX

Magnetic-electric conducting alloys. I. S. Palatnik. *Elektrichestvo* **1960**, No. 2, 64.—The two-phase alloys Ag-Fe and Ag-Fe-Ni are suggested as magnetic-electro-conductors. The wt. concns. of the components A (Ag) and B (Fe or Fe-Ni) should be selected in accordance with the desired characteristics of the alloys. The alloys are prepd. by any of the following methods: (1) sintering of the powders of A and B when the cond. is to be in 3 dimensions, (2) electrodeposition of successive layers of A and B (with further heat-treatment, e. g., for Ag-Fe-Ni) when cond. is to be in 2 dimensions, and (3) compression of packets of fine wire when cond. is to be in 1 dimension. For the last 2 cases the alloy Cu-Fe is recommended if it is not subjected to high temps. B. Z. Kamich

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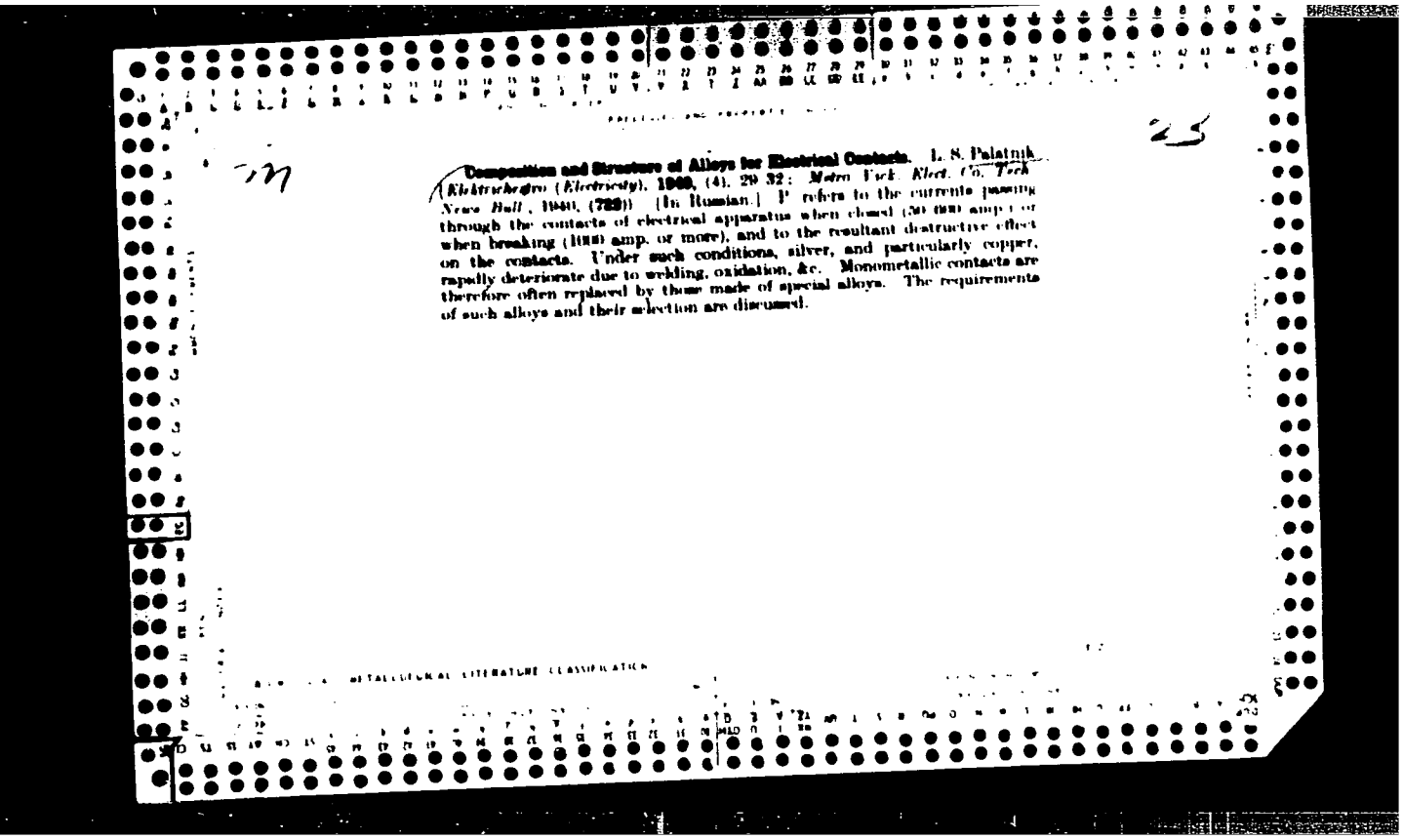

Composition and Structure of Alloys for Electrical Contacts. L. S. Palatnik. *Elektrichestvo* (*Electricity*), **1949**, (4), 29-32: *Metro Vick. Elect. Co. Tech. News Bull.*, 1949, (729)) [In Russian.] P. refers to the currents passing through the contacts of electrical apparatus when closed (50 000 amp.) or when breaking (1000 amp. or more), and to the resultant destructive effect on the contacts. Under such conditions, silver, and particularly copper, rapidly deteriorate due to welding, oxidation, &c. Monometallic contacts are therefore often replaced by those made of special alloys. The requirements of such alloys and their selection are discussed.

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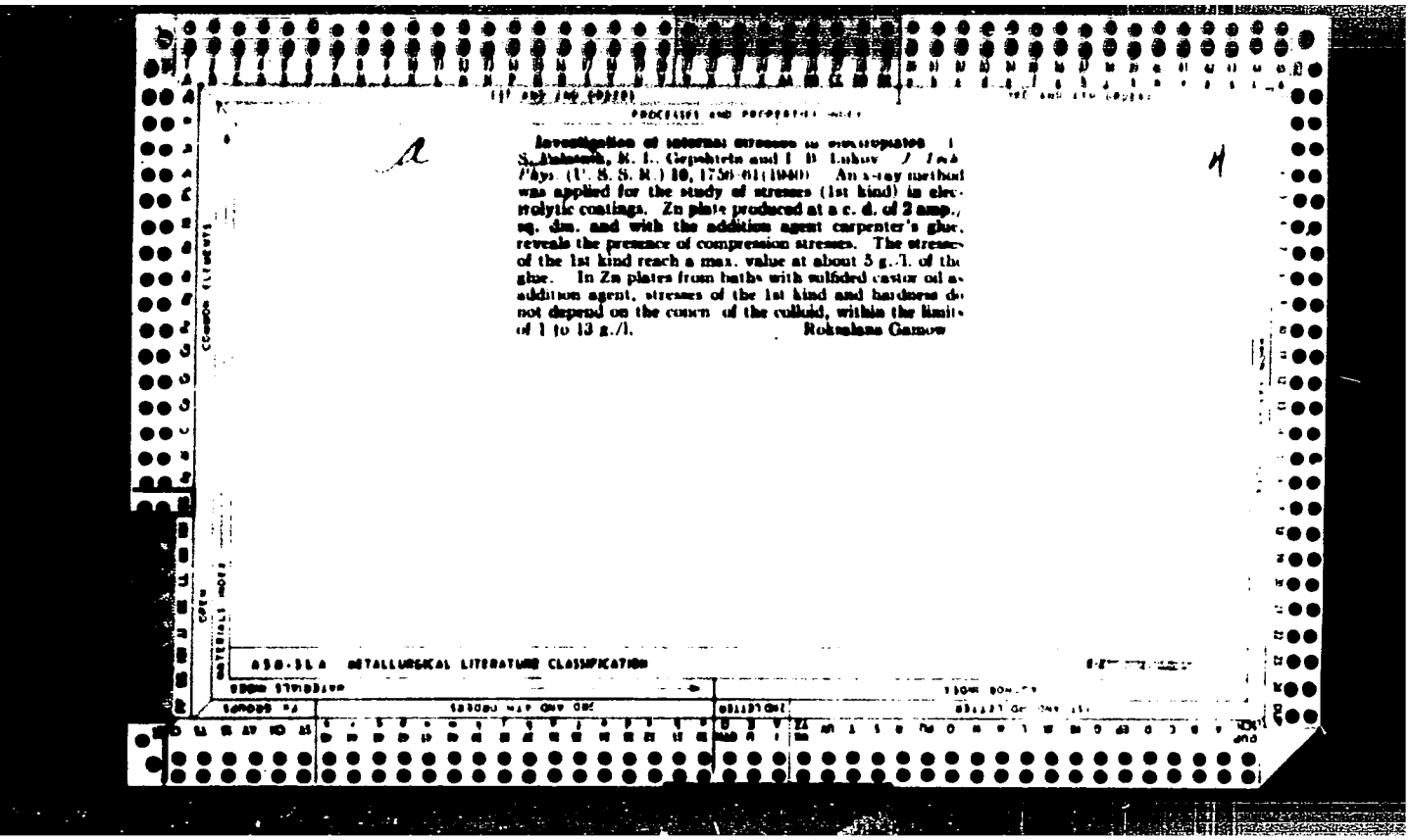

Investigation of internal stresses in electroplates. I. S. Dalatnik, R. L. Gepshtein and I. B. Lukov. *J. Tech. Phys.* (U. S. S. R.) **10**, 1756-61(1940). An x-ray method was applied for the study of stresses (1st kind) in electrolytic coatings. Zn plate produced at a c. d. of 2 amp./sq. dm. and with the addition agent carpenter's glue, reveals the presence of compression stresses. The stresses of the 1st kind reach a max. value at about 5 g./l. of the glue. In Zn plates from baths with sulfided castor oil as addition agent, stresses of the 1st kind and hardness do not depend on the concn. of the colloid, within the limits of 1 to 13 g./l. Roksalana Gamow

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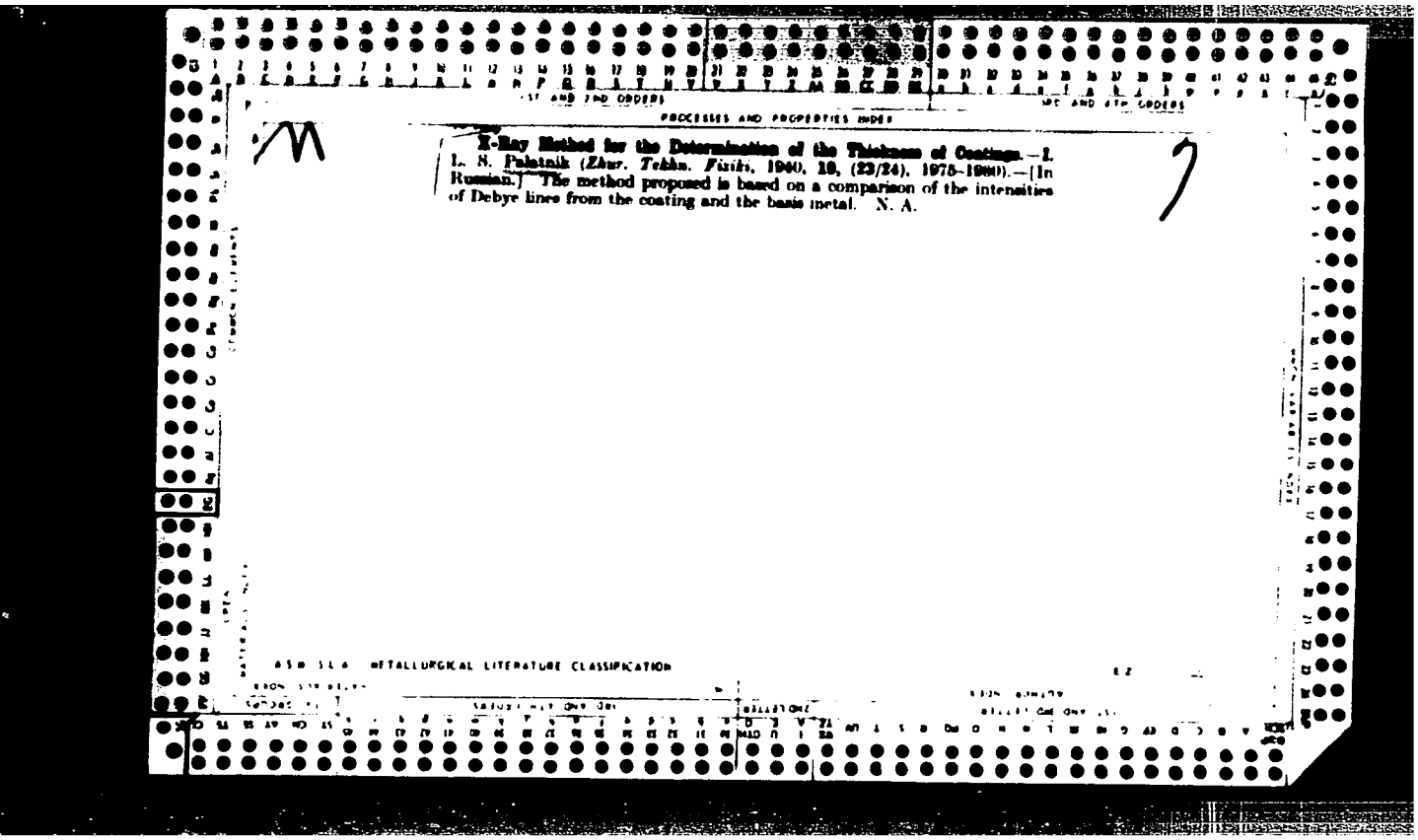

PROCESSES AND PROPERTIES INDEX

X-Ray Method for the Determination of the Thickness of Coatings.—L. N. Palatnik (*Zhur. Tekhn. Fiziki*, 1940, 10, (23/24), 1975–1980).—[In Russian.] The method proposed is based on a comparison of the intensities of Debye lines from the coating and the basis metal. N. A.

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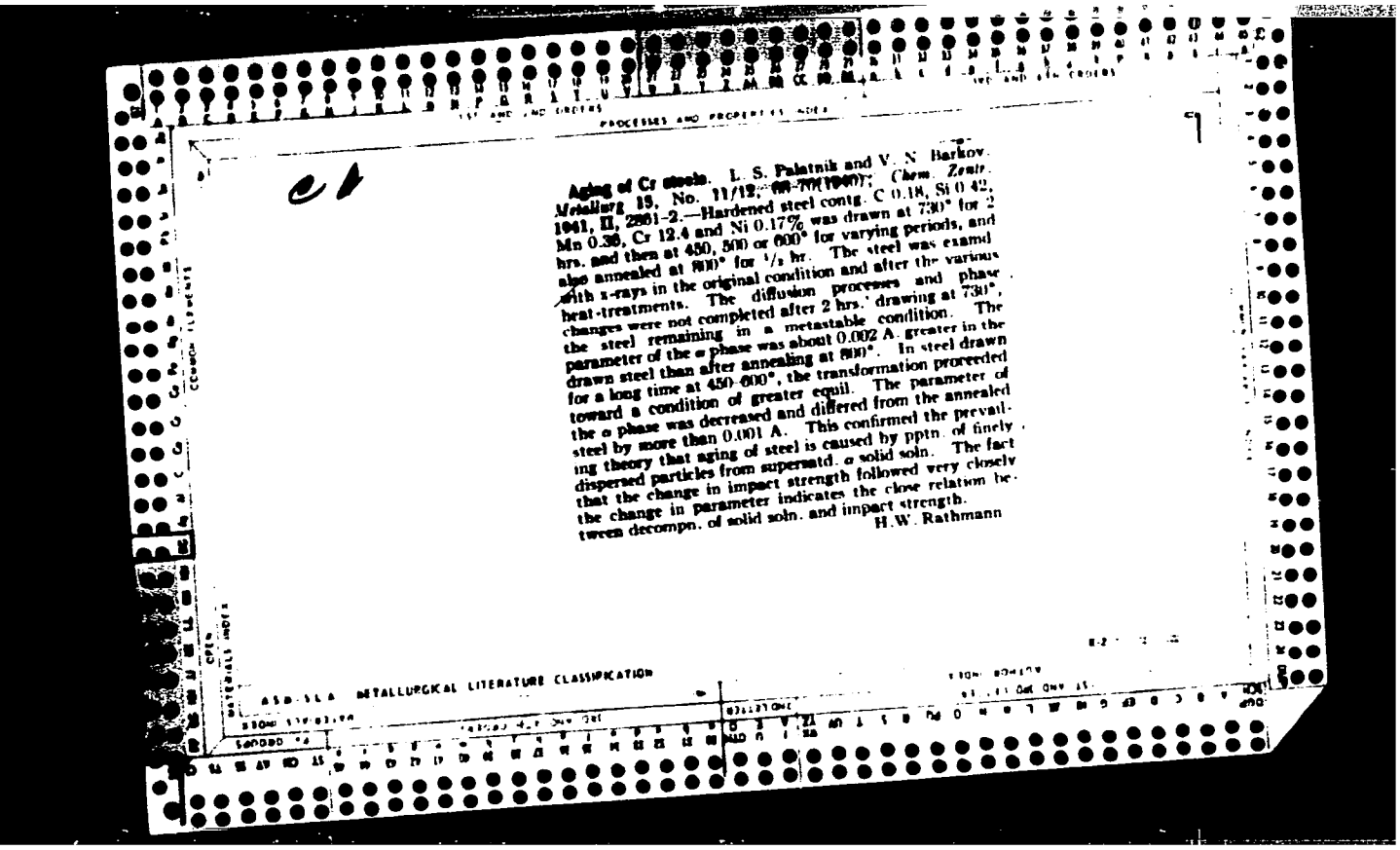

Aging of Cr steels. L. S. Palatnik and V. N. Barkov. *Metallurg* 15, No. 11/12, 68-70(1940); *Chem. Zentr.* 1941, II, 2861-2.—Hardened steel contg. C 0.18, Si 0.42, Mn 0.36, Cr 12.4 and Ni 0.17% was drawn at 730° for 2 hrs. and then at 450, 500 or 600° for varying periods, and also annealed at 800° for 1/2 hr. The steel was examd with x-rays in the original condition and after the various heat-treatments. The diffusion processes and phase changes were not completed after 2 hrs.' drawing at 730°, the steel remaining in a metastable condition. The parameter of the α phase was about 0.002 A. greater in the drawn steel than after annealing at 800°. In steel drawn for a long time at 450-600°, the transformation proceeded toward a condition of greater equil. The parameter of the α phase was decreased and differed from the annealed steel by more than 0.001 A. This confirmed the prevailing theory that aging of steel is caused by pptn. of finely dispersed particles from supersatd. α solid soln. The fact that the change in impact strength followed very closely the change in parameter indicates the close relation between decompn. of solid soln. and impact strength.

H.W. Rathmann

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