NEKRASOV, V.

A manual which stands in need of thorough revision. "Manual of weight by volume for freight transported by trucks" B.F.Naidenov. Reviewed by V.Nekrasov. Avt. transp. 33 no.4:40 Ap '55. (MLRA 8:7)

(Weights and measures--Tables, etc.) (Transportation, Automotive)

NEKRASOV, V.K.

Roads of the Moscow center. Avt.dor. 19 no.1:32 Ja '56. (MLRA 9:5)
(Moscow Province--Roads)

NEKRASOV, V.K., inzhener.

How to raise the quality of gravel road beds. Avt.dor.19 no.5: 22-23 My '56. (MLRA 9:8)
(Roads, Concrete)

KRASOV, Vladimir Konstantinovich; KALECHITS, Yevgeniy Vital'yevich; [illegible], F.L., tekhn.red.

[The building of automobile roads] Stroitel'stvo avtomobil'nykh dorog. Moskva, Nauchno-tekhn.izd-vo avtotransp. lit-ry, 1957. 486 p. (Road construction) (MIRA 11:2)

KOZLOVSKIY, Boris Konstantinovich, inzh.; NEKRASOV, Vladimir Konstantinovich, kand.tekhn.nauk; SLAVUTSKIY, A.K., inzh., nauchnyy red.; UDOD, V.Ya., red.izd-va; EL'KINA, E.M., tekhn.red.

[Handbook for builders of automobile roads for industrial enterprises] Spravochnik stroitelia avtomobil'nykh dorog promyshlennykh predpriiatii. Moskva, Gos.izd-vo lit-ry po stroit., arkhit. i stroit. materialam, 1958. 339 p. (MIRA 11:6)
(Road construction)

PANTELEYEV, Fedor Nikolayevich, dotsent, kand.tekhn.nauk; VOLKOV, Vasiliy Georgiyevich, dotsent, kand.tekhn.nauk; KOCHETKOV, D.A., doktor tekhn.nauk, retsenzent [deceased]; NEKRASOV, V.K., dotsent, kand.tekhn.nauk, retsenzent; IVANOV, S.S., red.; LAKHMAN, F.Ye., tekhn.red.

[Road materials] Dorozhno-stroitel'nye materialy. Izd.2., perer. i dop. Moskva, Nauchno-tekhn.izd-vo M-va avtomobil'nogo transp. i shossejnykh dorog RSFSR, 1958. 430 p. (MIRA 13:11)

1. Kafedra tekhnologii dorozhno-stroitel'nykh materialov Moskovskogo avtomobil'no-dorozhnogo instituta (for Panteleyev, Volkov).
(Road materials)

IVANOV, N.N., doktor tekhn. nauk; MIKHAYLOV, V.M., kand. tekhn. nauk; NEKRASOV, V.K., kand. tekhn. nauk.

Compulsory requirements in laying pavements of soft stone materials. Avt.dor. 21 no.3:21-22 Mr '58. (MIRA 11:3)
(Road construction)

NEKRASOV, V.K., inzh.

Why are precast concrete pavements being introduced so slowly?
Avt. dor. 21 no.12:13-14 D '58. (MIRA 12:1)
(Pavements, Concrete)

VOLKOV, M.I., prof.; IVANOV, F.M.kand.tekhn.nauk; KLIMASHEV, F.S.,inzh.; KOROLEV, I.V., inzh.; KUKUSHKIN, B.I., inzh.; MYSHKOVSKAYA, S.A., kand.tekhn.nauk; NEKRASOV, V.K., kand.tekhn.nauk; SPERANTOV, N.A., kand.tekhn.nauk; YAKUNIN, O.A., inzh.; MOTYLEV, Yu.L., red.; LAKHMAN, F.Ye., tekhn.red.

[Metallurgical slags in road construction] Metallurgicheskie shlaki v dorozhnom stroitel'stve. Moskva, Nauchno-tekhn.izd-vo M-va avtomobil'nogo transp. i shosseinykh dorog RSFSR, 1959. 182 p. (MIRA 12:4)

(Road materials) (Slag)

BEZRUK, Vasiliy Makarovich, doktor geol.-miner.nauk; ZASHCHEPIN, Aleksey Nikitich, kand.tekhn.nauk; IVANOV, Fedor Mikhaylovich, kand.tekhn. nauk; MIKHAYLOV, Valentin Vasil'yevich, kand.tekhn.nauk; NIKRASOV, Vladimir Konstantinovich, kand.tekhn.nauk; KURDENKOV, Boris Ivanovich, inzh.; ZASHCHUK, Igor' Vsevolodovich, kand.tekhn.nauk; GORELYSHEV, N.V., kand.tekhn.nauk, red.; YEGOZOV, V.P., red.; GALAKTIONOVA, Ye.N., tekhn.red.; DONSKAYA, G.D., tekhn.red.

[Handbook on laboratory testing of road materials and soils] Spravochnoe rukovodstvo po laboratornym ispytaniiam dorozhno-stroitel'nykh materialov i gruntov. Pod obshchei red. N.V.Gorelysheva. Moskva, Nauchno-tekhn.izd-vo M-va avtomobil'nogo transporta i shosseinykh dorog RSFSR, 1960. 381 p. (MIRA 13:11)
(Road materials--Testing)

KRASOV, Vladimir Konstantinovich; RITOV, Mikhail Nikolayevich; ROYER, Yevgeniy Nikolayevich; TOVSTOLUZHSKIY, Nikolay Iosifovich; ZAMAKHAYEV, M.S., red.; IVANOV, S.S., red.izd-va; MAL'KOVA, M.V., tekhn.red.

[Handbook for the road construction technician] Spravochnik tekhnika-dorozhnika. Izd.3., perer.i dop. Moskva, Nauchno-tekhn.izd-vo M-va avtomobil'nogo transp.i shosseinykh dorog RSFSR, 1960. 767 p.

(MIRA 14:5)

(Road construction)

NIKRASOV, V.K., insh.

Technical evaluation of soft stone materials. Avt.dor. no.1: 9-11 Ja '60. (MIRA 13:5)
(Stone, Crushed) (Road construction)

KLIMASHEV, Fedor Sergeyevich; KURDENKOV, Boris Ivanovich; NEKRASOV, Vladimir Konstantinovich; YAKOVLEVA, A.I., red.; NIKOLAYEVA, L.N., tekhn. red.

[Construction of base couses of low-strength coarsely crushed stone] Stroitel'stvo dorozhnykh osnovanii iz krupnogo shchebnia ponizhennoi prochnosti. Moskva, Nauchno-tekhn. izd-vo M-va avtomobil'nogo transp. i shosseinykh dorog RSFSR, 1961. 43 p. (MIRA 14:10)
(Road construction) (Stone, Crushed)

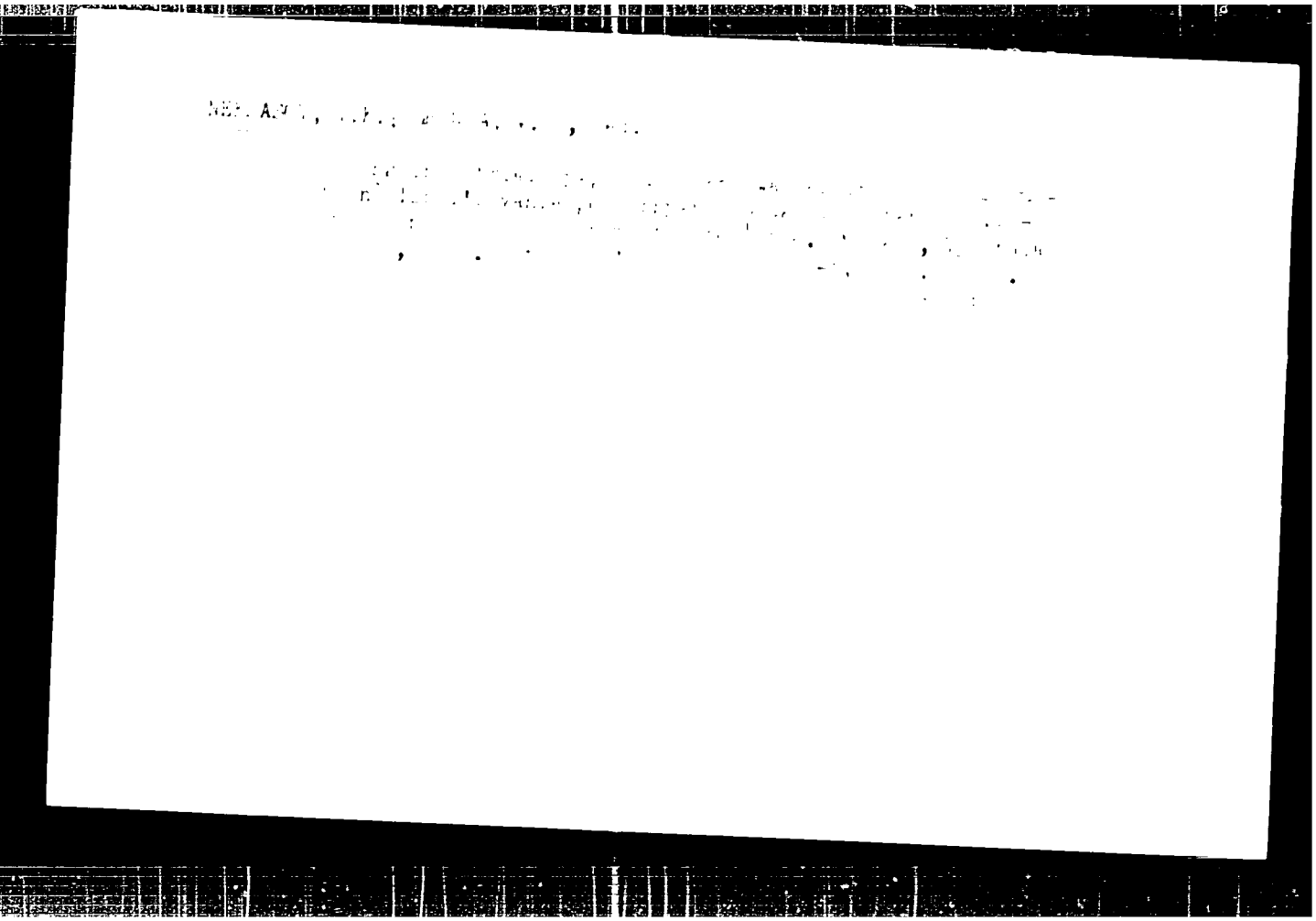
NEKRASOV, V.K., inzh.

Again on road-technical terminology. Avt.dor. 2[illegible] n.[illegible] (MIRA [illegible]

(Road construction--Terminology)

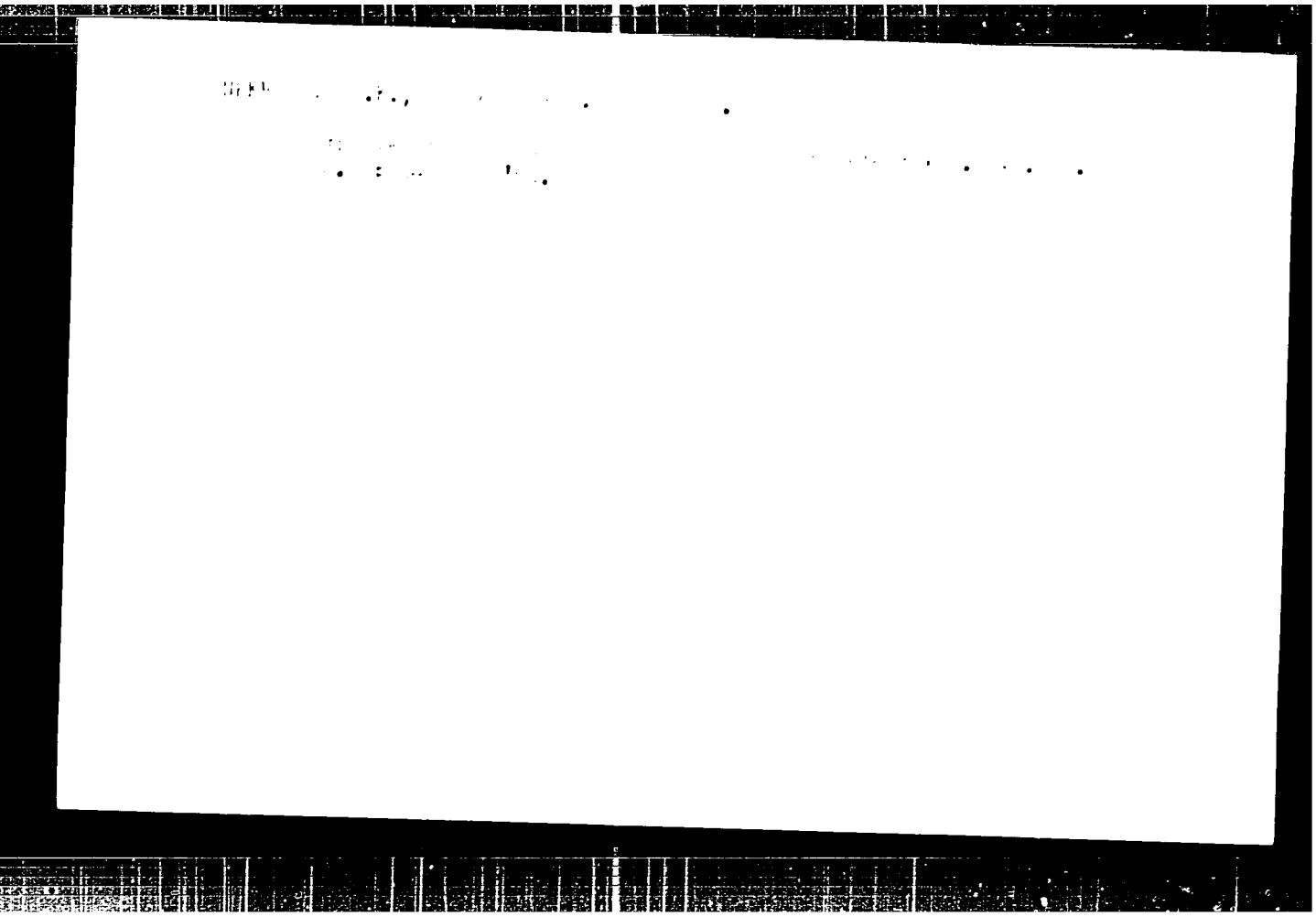
BOCHIN, Valeriy Aleksandrovich, laureat Gosud. premii SSSR; VEYTSMAN, Mikhail Iosifovich, kand. tekhn.nauk; KOLKER, Iosif Yakovlevich; LEVITSKIY, Yevgeniy Fedorovich. Prinimal uchastiye NEKRASOV, V.K.; ORNATSKIY, N.V., doktor tekhn. nauk, prof., glav. red.; GANYUSHIN, A.I., red. izd-va; KOVRIZHNYKH, L.P., red. izd-va; GALAKTIONOVA, Ye.N., tekhn. red.

[Handbook for road engineers] Spravochnik inzhenera-dorozhnika. Pod glav. red. N.V.Ornatskogo. Moskva, Avtotransizdat, Vol.2. [The building of automobile roads] Stroitel'stvo avtomobil'nykh dorog. 1963. 775 p. (MIRA 16:7)
(Road construction)



NEKRASOV, V.K.

Evaluating water absorption of mineral materials. Avt. dor. [illegible]
no.9:20-21 S '64. [illegible]



APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001136

SHEYKIN, Grigoriy Saulovich; MIKAYEV, V.K., doktor tekhn. nauk, red.

[Cement and concrete in the construction of city streets] Tsement i beton v gorodskom dorozhnom stroitel'stve. Moskva, Stroiizdat, 1965. 96 p. (MIRA 18:9)

ZHERDBIN, B.N.; DEMBOVETSKIY, V.I.; MINKIN, V.M.; NIKULINSKIY, I.D.; Prinimali uchastiye: OSHAROV, V.M., inzh.; RAYEV, Yu.O., inzh.; ZHIGULEV, P.T., inzh.; SUCHKOV, I.A., inzh.; BEREZKIN, B.S., inzh.; NEKRASOV, V.M., inzh.; ZHUKOVICH, A.I., inzh.

Use of coke-oven gas in blast furnaces. Stal' 21 no.8:673-679 Ag '61. (MIRA 14:9)

1. Kuznetskiy metallurgicheskiy kombinat i Sibirskiy metallurgicheskiy institut.
(Blast furnaces—Equipment and supplies)

RYCHAGOV, V.V., kand.tekhn.nauk; MEKHASOV, V.M., inzh.

Effect of the work of the discharge siphon on the capacity of the pumping station. Gidr.i mel. 12 no.5:37-40 My '60. (MIRA 13:7)
(Pumping stations)

NEKRASOV, V.M., inzh.

Operation of irrigation pumping stations in the Tajik S.S.R. Gidr. i mel. 12 no.11:14-20 N '60. (MIRA 14:1)
(Tajikistan--Irrigation) (Pumping stations)

NEKRASOV, V.M., aspirant

Studying hydraulic valves for breaking the vacuum of siphon gates in irrigation pumping stations. Izv. TSKHA no.2:157-164 '64. (MIRA 15:9)

1. Nauchnyy rukovoditel' doktor tekhn.nauk, prof. M.M. Florinskiy.

(Pumping stations)
(Valves)

ACC NR: AP7002891 SOURCE CODE: UR/0419/66/000/004/0120/0123

AUTHOR: Gol'tsov, V. P.; Nekrasov, V. N.; Sokolov, S. N.

ORG: Institute of Nuclear Power, AN BSSR (Institut yadernoy energetiki AN BSSR)

TITLE: Electron microscopic study of lanthanum hexaboride LaB_6

SOURCE: AN BSSR. Vestsi. Seryya khimichnykh navuk, no. 4, 1966, 120-123

TOPIC TAGS: lanthanum compound, boride, lanthanum oxide, boron, electron microscope

ABSTRACT: Lanthanum boride powder was prepared by reacting La_2O_3 and B powders, and studied with an EM-5 electron microscope (magnification 5000 to 140000). The interplanar spacings of the compound LaB_6 were determined by electron and x-ray diffraction, and the data obtained are in satisfactory agreement with the calculated data. A small portion of the lines (3-5%) corresponds to a phase different from LaB_6, apparently, La_2O_3. The study of the shape, size and crystal structure of the synthesized powder confirmed that the product of borothermic reduction of lanthanum oxide is lanthanum hexaboride. Authors thank V. I. Lisovets for providing the LaB_6 powder for the study. Orig. art. has: 3 figures, 2 tables and 1 formula.

SUB CODE: 07/ 20/ SUBM DATE: none/ ORIG REF: 005

Card 1/1

NEKRASOV, V.P., zasluzhennyy deyatel' nauki i tekhniki, professor.

Review of design standards for brick and reinforced brick structures.
Stroi.prom. 25 no.8:8-11 Ag '47. (MLRA 9:1)
(Bricks)

NEK A.OV, V. P. Cand Geograph Sci

Dissertation: "Central Cyclones Characteristic for the Natural Synoptic Period."

19 April 49

Central Inst of Weather Forecasting

SO Vecheryaya Moskva
Sum 71

NEKRASOV, V.P.

Forecasting the length of natural synoptic periods. Trudy TSIP no.109:59-72 '61. (MIRA 14:5)
(Weather forecasting)

NEKRASOV, V.P.; ORLOVA, M.V. (Moskva)

Family epidemic of acute pancreatitis. Klin.med. [illegible] 126-127 (MIRA 11:3)
F '57.

1. Iz Glavnogo voyennogo gospitalya imeni akad. [illegible].Burdenko (nach. N.M.Nevskiy)
(PANCREATITIS, case reports
acute, familial (Rus))

GAMALEYA, A.N.; GYURDZHIAN, A.A.; KOSHKIN, A.F.; NEKRASOV, V.P.; SIMONOV, P.V.

Characteristics of the postoperative period in acute radiation sickness in dogs. Med. rad. 4 no.4:64-70 Ap '59. (MIRA 12:7)

1. Iz otdeleniya luchevoy terapii (nach. A.N. Gamaleya) i eksperimental'noy laboratorii (nach. - kandidat med. nauk A.A. Gyurdzhian) Glavnogo voyennogo gospitalya imeni akad. N.N. Burdenko.

(ROENTGEN RAYS, effects,
on postop. course in exper. surg. in dogs (Rus))
(SURGERY, OPERATIVE
eff. of x-rays on postop. course in exper. surg. in dogs (Rus))

ACCESSION NR: AT4035462 S/2546/63/000/127/0101/0119

AUTHOR: Nekrasov, V. P.

TITLE: State and change of the troposphere in natural synoptic seasons over Europe and the North Atlantic Ocean

SOURCE: Moscow. Tsentral'ny*y institut prognozov. Trudy*, no. 127, 1963. Voprosy* sezonny*kh prognozov pogody* (Seasonal weather forecasting), 101-119

TOPIC TAGS: meteorology, troposphere, solar radiant energy, atmospheric circulation, atmospheric temperature, atmospheric friction layer, atmospheric temperature gradient, atmospheric stratification, atmospheric water vapor

ABSTRACT: The author analyzes the annual variation of the meteorological elements over the continents and oceans and reviews the characteristics of the state of the troposphere in natural synoptic seasons. He compares the state and change of the troposphere for conditions of virtually identical influx of solar radiant energy, which acts differently on the air of the troposphere due to oceanic and continental conditions. It is noted that the state of the troposphere and its change are the result not only of the thermal process in a particular place, but also tropospheric air circulation. It is known that in the course

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ACCESSION NR: AT4035462

of natural synoptic seasons over the oceans and continents there are predominant synoptic processes leading to either intensification or attenuation of air exchange between the oceans and continents. When the air exchange between the latter is insignificant the thermal factor is still predominant. This cannot be said of seasons with stable air exchange between the continents and oceans. Circulation causing stable transport of warm air from the oceans to the continents can introduce an appreciable contribution to the state and change of the troposphere over continents, even in its mean long-term aspect. Winter is the period with the lowest air temperatures in the entire troposphere. This season is characterized by isothermy and inversion in the friction layer. The air mass of the troposphere, the water vapor content, and the thickness of the layer of significant water vapor condensation in the ascending air are minimal during the year and remain quasi-constant during the entire season. The weight of the air mass lying above the troposphere is also quasi-constant. Spring is a period of strong increase of air temperature in the entire troposphere, particularly in the friction layer. The vertical temperature gradients are less than the moist-adiabatic gradients. The entire season is characterized by stable stratification, but some signs of convection have appeared. The water vapor content and the thickness of the layer of significant water vapor condensation in the ascending air increase rapidly. The air mass of the troposphere increases and accordingly the mass of the air in the above-lying layers decreases. The first half of summer resembles spring, but there is characteristic moist-unstable stratification with well-developed

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ACCESSION NR: AT4035462

exchange between the lower and upper air layers of the troposphere. The water vapor content and the thickness of the layer of significant water vapor condensation in the ascending air increase, but more slowly than in the spring. The mass of tropospheric air increases more slowly, but in the above-lying layers it decreases more rapidly. The second half of summer is the season with the highest air temperature at all levels of the troposphere and stratification is moist- unstable. There is well-developed convective exchange between the lower and upper layers of the troposphere. The mass of tropospheric air, the water vapor content and the thickness of the layer of significant water vapor content in the ascending air have maximal values and remain quasi-constant during the entire season. The weight of the air mass lying above the troposphere is constant. Autumn is a period of strong decrease of air temperature in the entire troposphere, with high values in the friction layer. In this period convection attenuates, but does not disappear. There is a rapid decrease in water vapor content and the thickness of the layer of significant water vapor condensation in the ascending air. The decrease of the tropospheric air mass is less than its increase in the higher layers. Early winter is a period of quasi-constant decrease of temperature and stable stratification. Water vapor content and the thickness of the layer of significant water vapor condensation in the ascending air decrease rapidly. The decrease of the tropospheric air mass corresponds to an increase in the above-lying layers. Changes in air temperature in the troposphere during the year are identical at all its levels, with the exception of the lowest level and the second half of summer. The

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ACCESSION NR: AT4035462

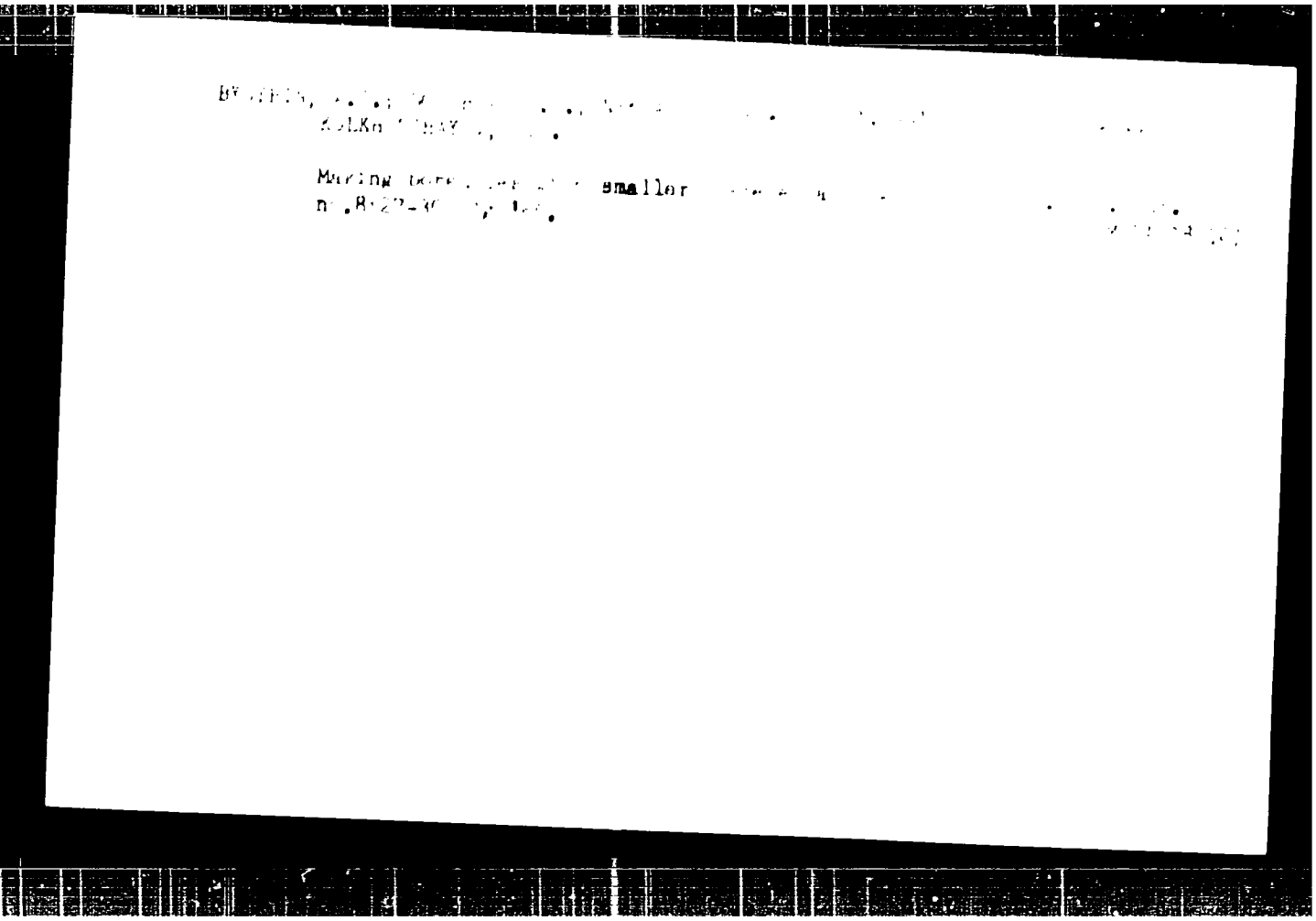
amplitude of variation of day-to-day changes of mean temperature in the entire troposphere is 1.9 times greater over the continents than over the ocean. Changes of air temperature in the troposphere over the continents are greater in the friction layer and less in the free troposphere. The duration of the increase of air temperature in the troposphere over the oceans exceeds the duration of this same phenomenon over the continents by almost an entire month. From May to the middle of September the mean air temperature of the entire troposphere over the oceans is lower (by approximately 2C), and during the remainder of the year is higher (in January up to 9C) than over the continents. Orig art. has 2 formulas, 8 figures and 6 tables.

ASSOCIATION: Tsentral'ny*y institut prognozov, Moscow (Central Institute of Forecasts)

SUBMITTED: 00 DATE ACQ: 20May64 ENCL: 00

SUB CODE: ES NO REF SOV: 006 OTHER: 000

Card 4/4



USSR/Engineering - Hydraulics, Dams Jan 52

"Certain Exploitation Problems of Multispan River Dams," L.S. Kuskov, V. S. Nekrasov, Engineers

"Gidrotekh Stroi" No 1, pp 25-30

Clarifies certain exploitation factors which may be useful in planning new hydraulic centers. Discusses various problems, such as passing water through a dam, spillway weirs with seasonal or daily regulation of discharge, permissible opening height of dam gates when there are ice and floating objects in reservoir, causes of river bank erosion, etc. Gives some operational and constructional suggestions.

212T58

YURKOV, V.A.; NEKRASOV, V.V.

Physical properties of copper-antimony alloys. Izv.vys.ucheb.-zav.;fiz. 2:62-69 '62. (MIRA 15:7)

1. Arkhangel'skiy lesotekhnicheskiy institut imeni V.V. Kuybyshev.
(Copper-antimony alloys)

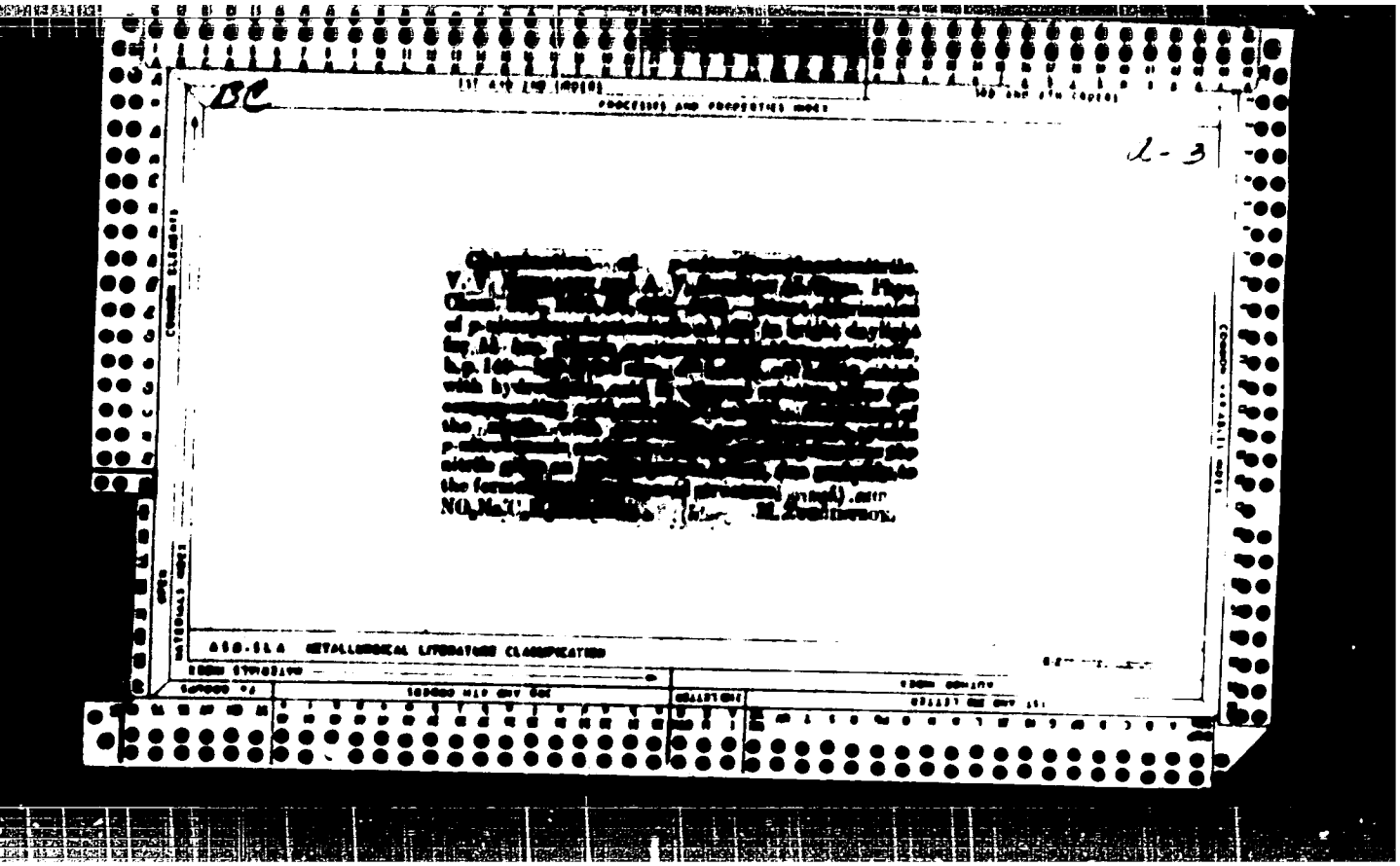
NEKRASOV, V.V., mashinist

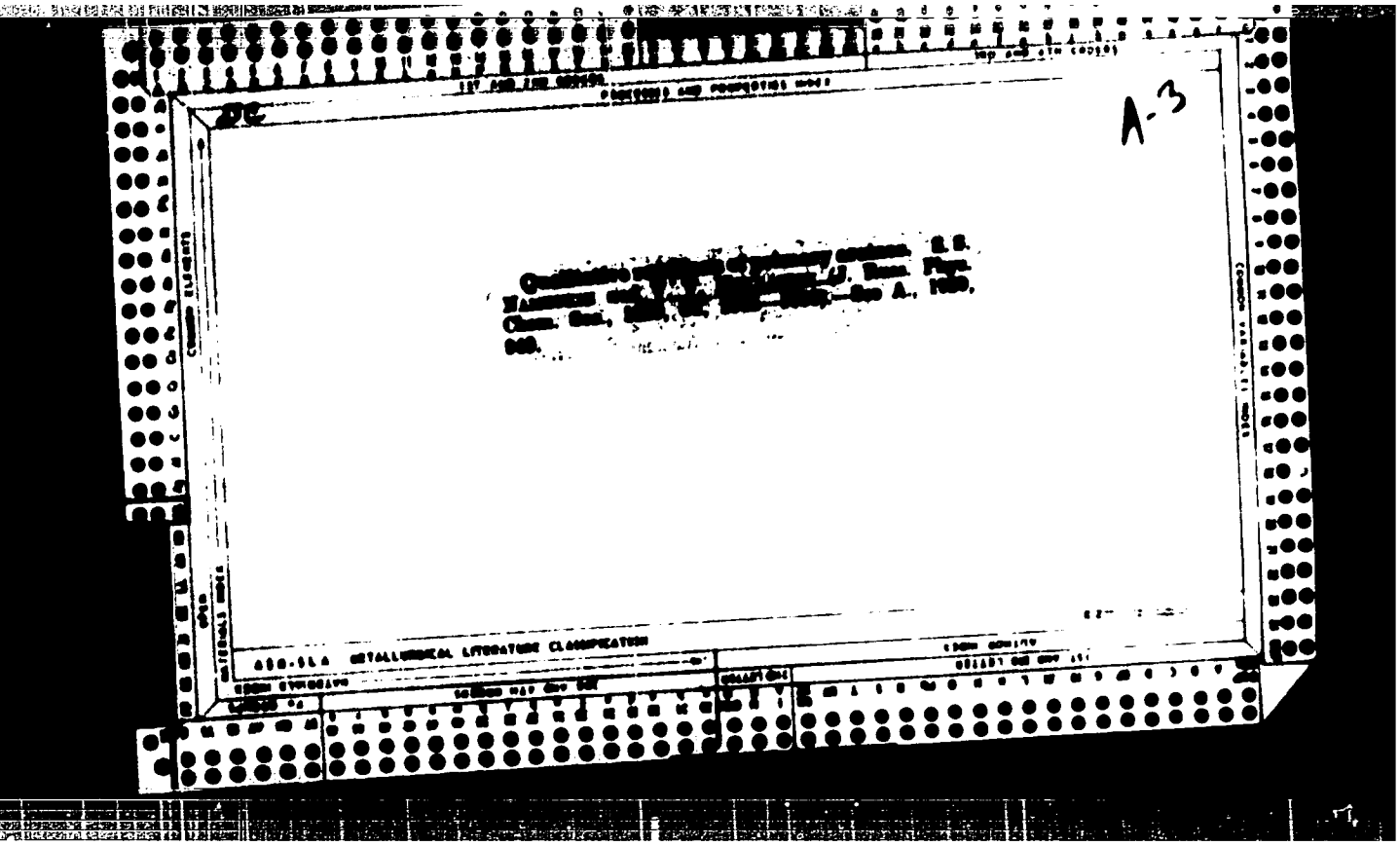
Method for increasing the life of electric lamps. Elek. i tepl. tiaga 7 no.4:41 Ap '63. (MIRA 16:5)

1. Depo Petropavlovsk Yuzhno-Ural'skoy dorogi.
(Electric lamps)

PERMINOV, A.Ye.; ROMANOV, A.A.; MIZERKOV, A.V.; TSYBA, M.M.; ZHELUDKOV, A.S.; NEKRASOV, V.V.; PRASOLOV, M.I.; BARTENEV, S.N.; BELYAYEVA, T.P.; ZHERDEV, P.A.; KOYVUNEN T.M.; SMORODOV, P.V., redaktor; PODYEL'SKAYA, K.M., tekhn. red.

[Manual for a Karelian field crop grower] Spravochnik karel'skogo polevoda. Petrozavodsk, Karel'skoe knizhnoe izd-vo, 1962. 435 p. (MIRA 17:3)





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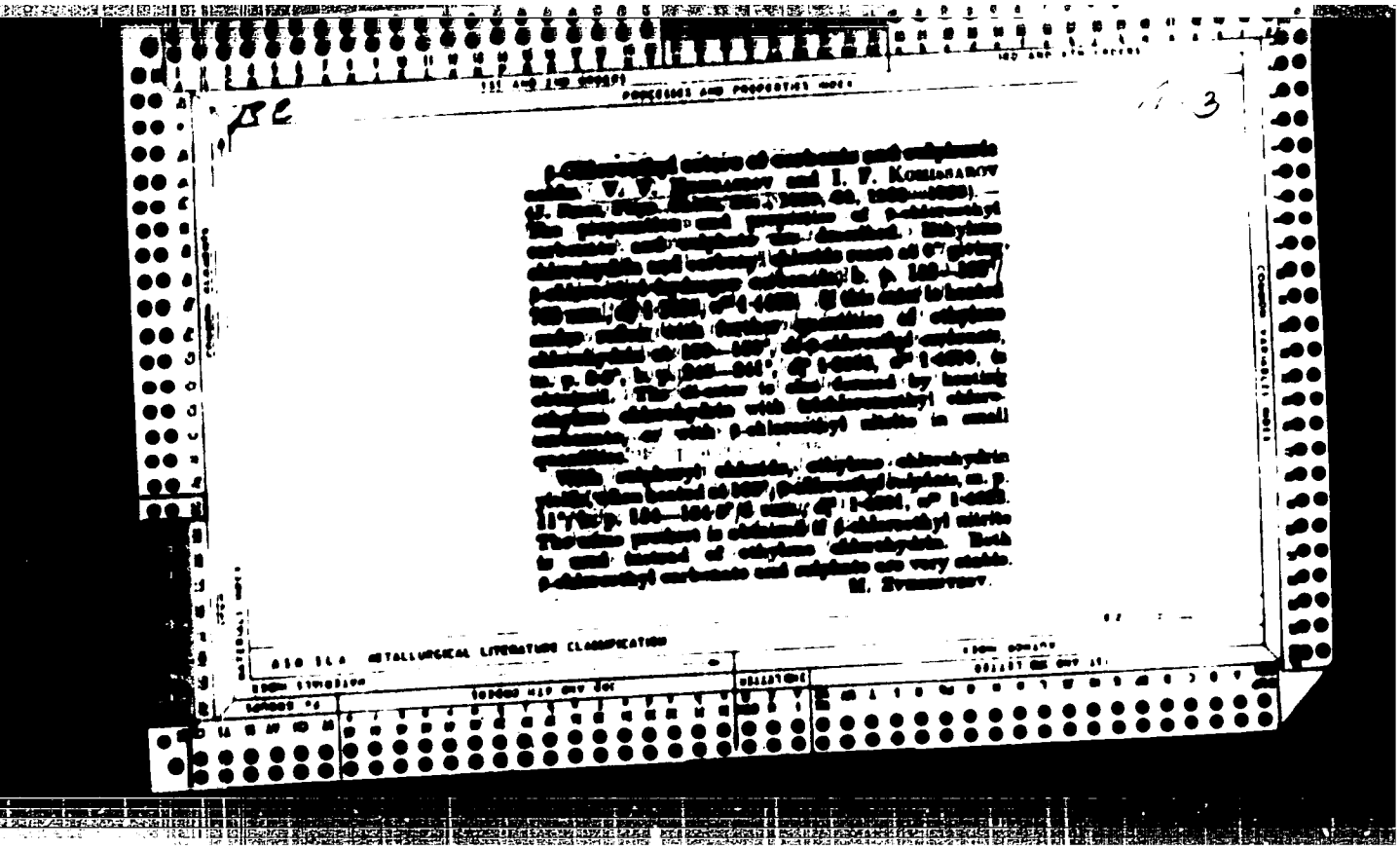

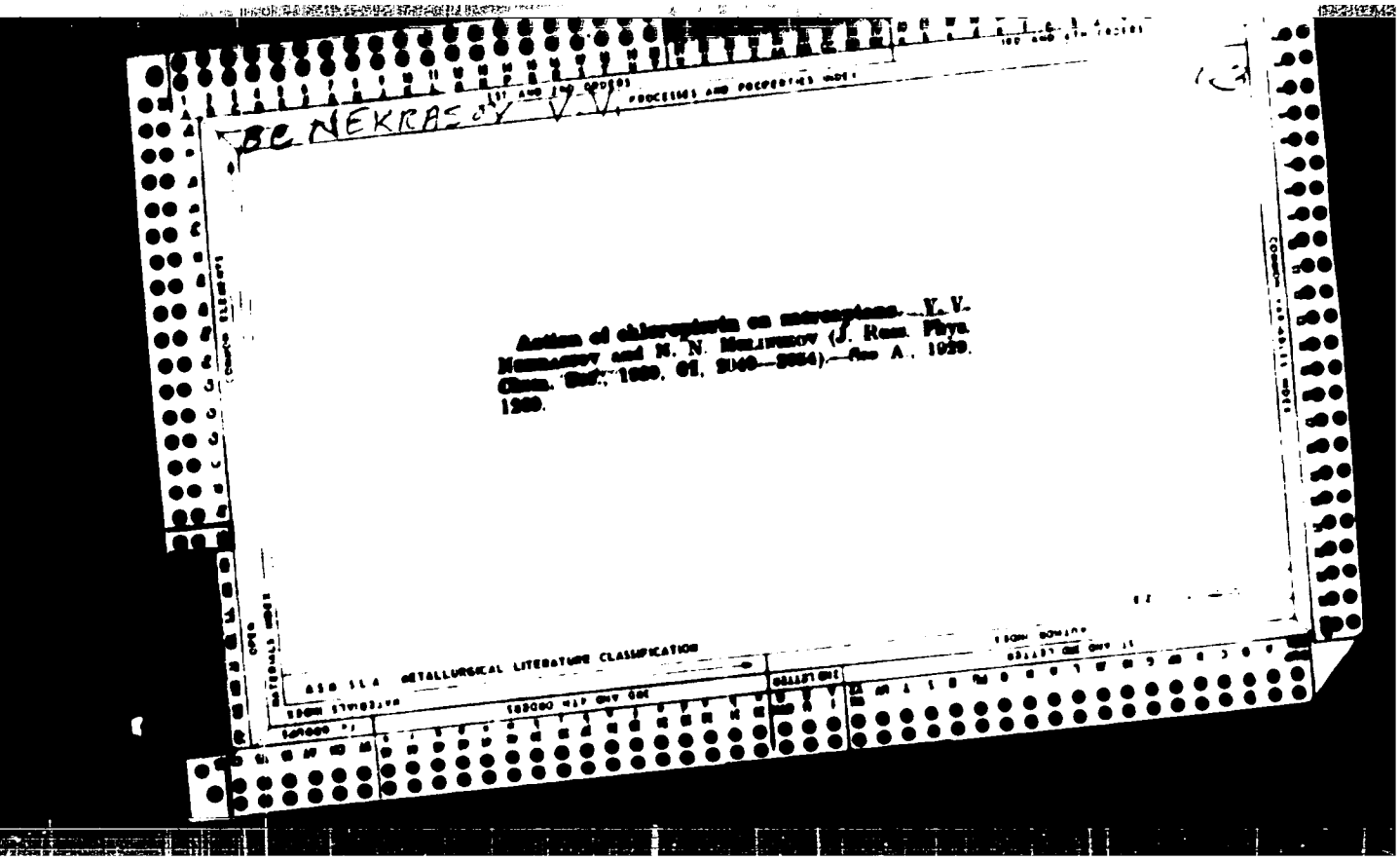

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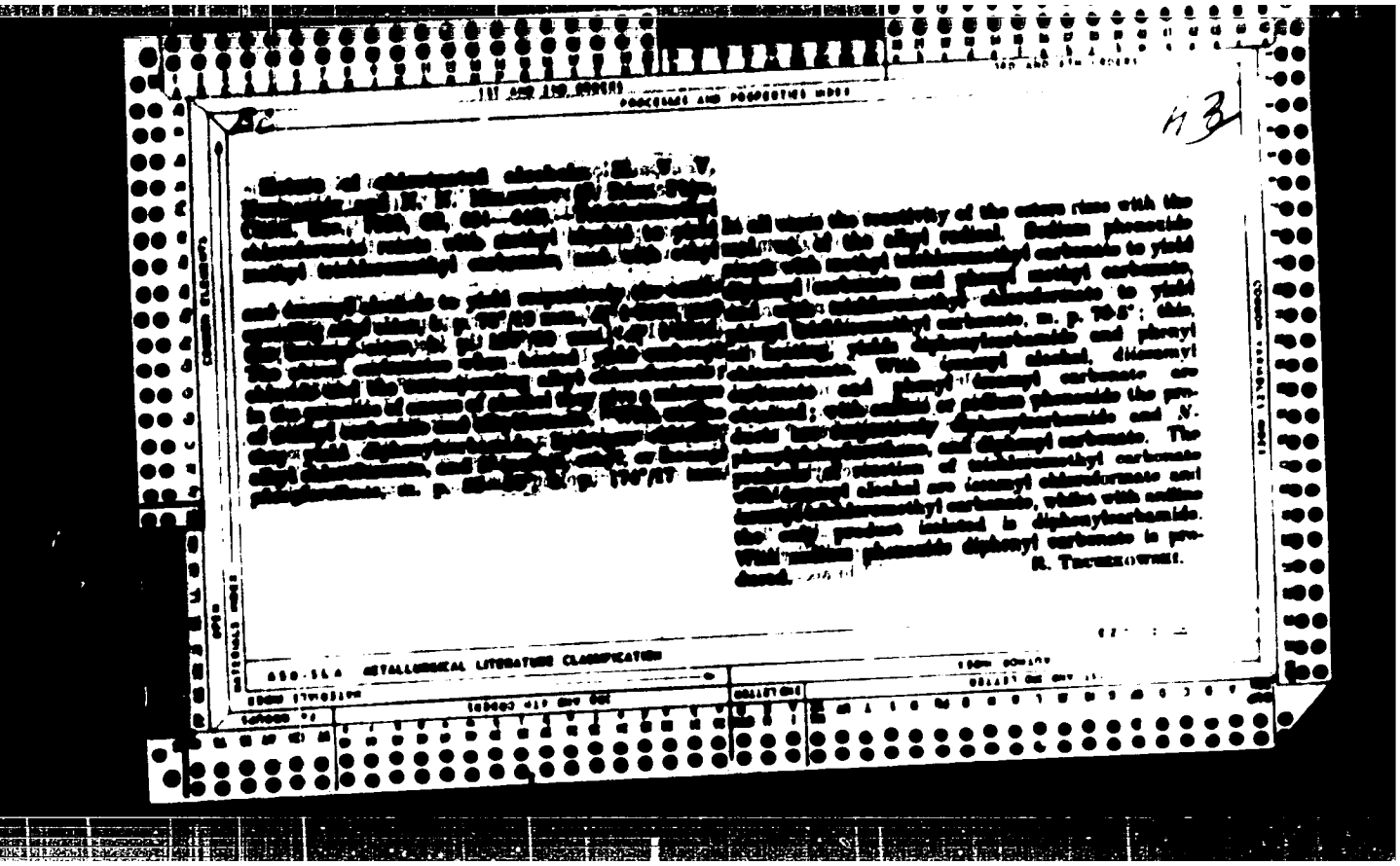

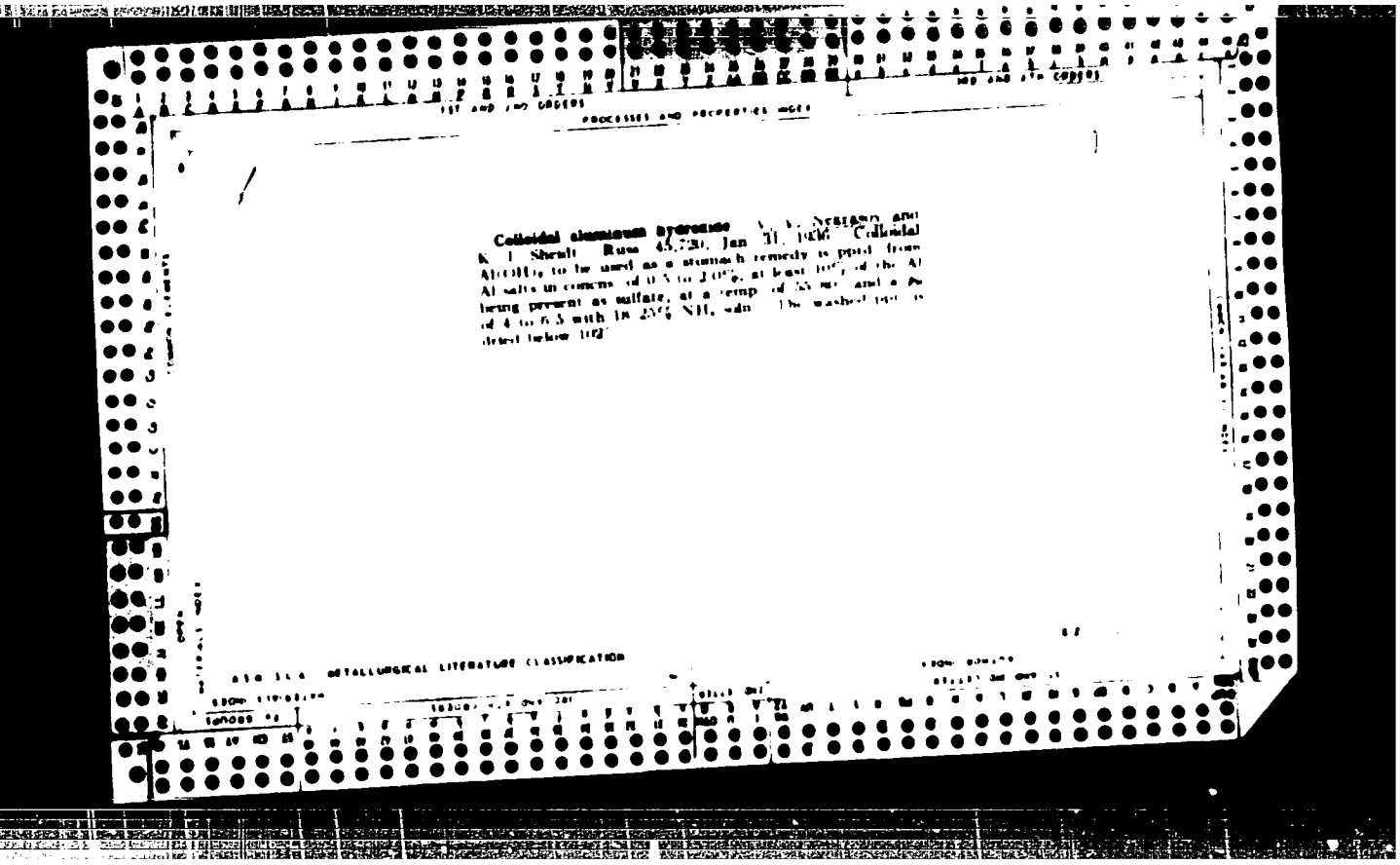

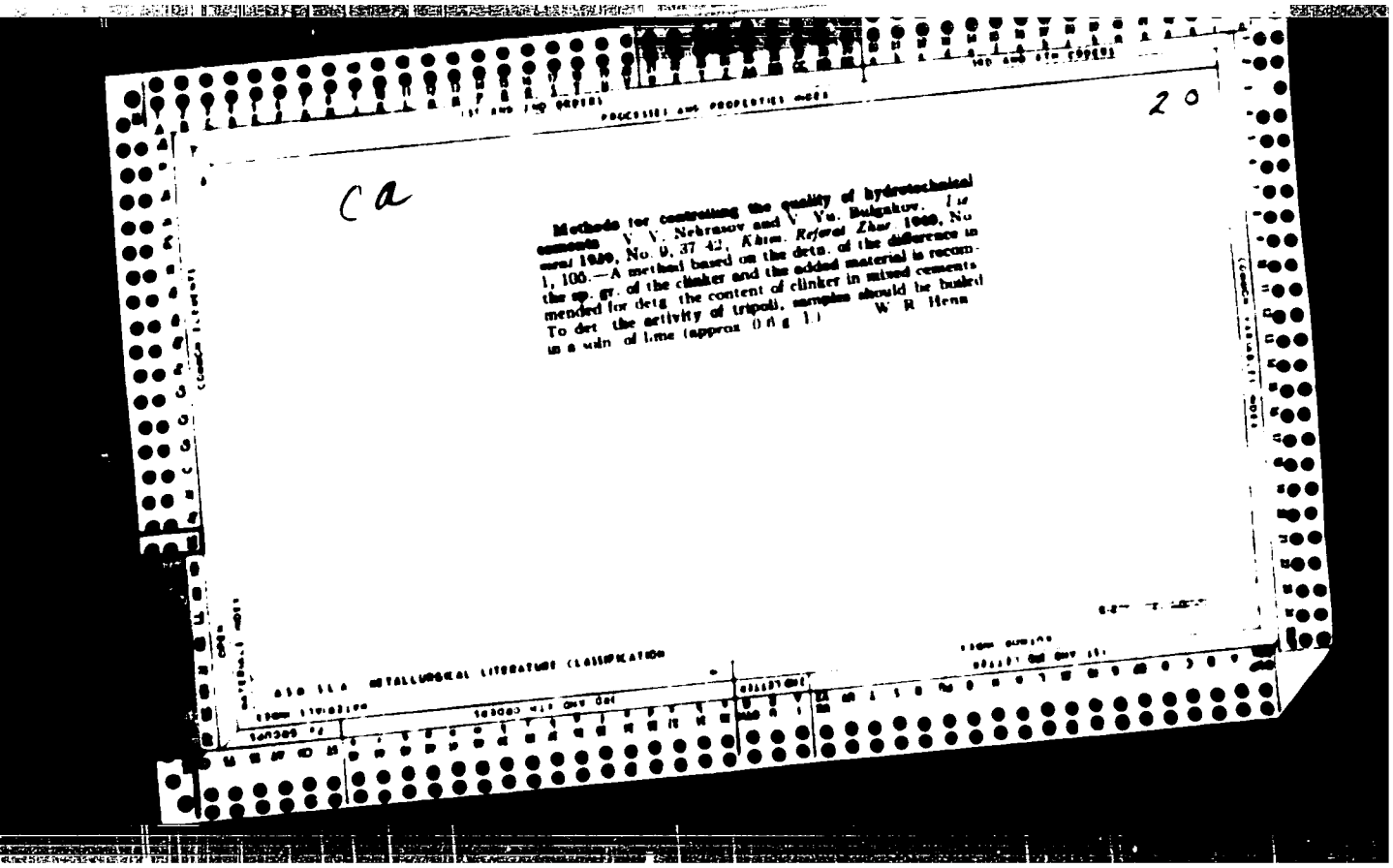

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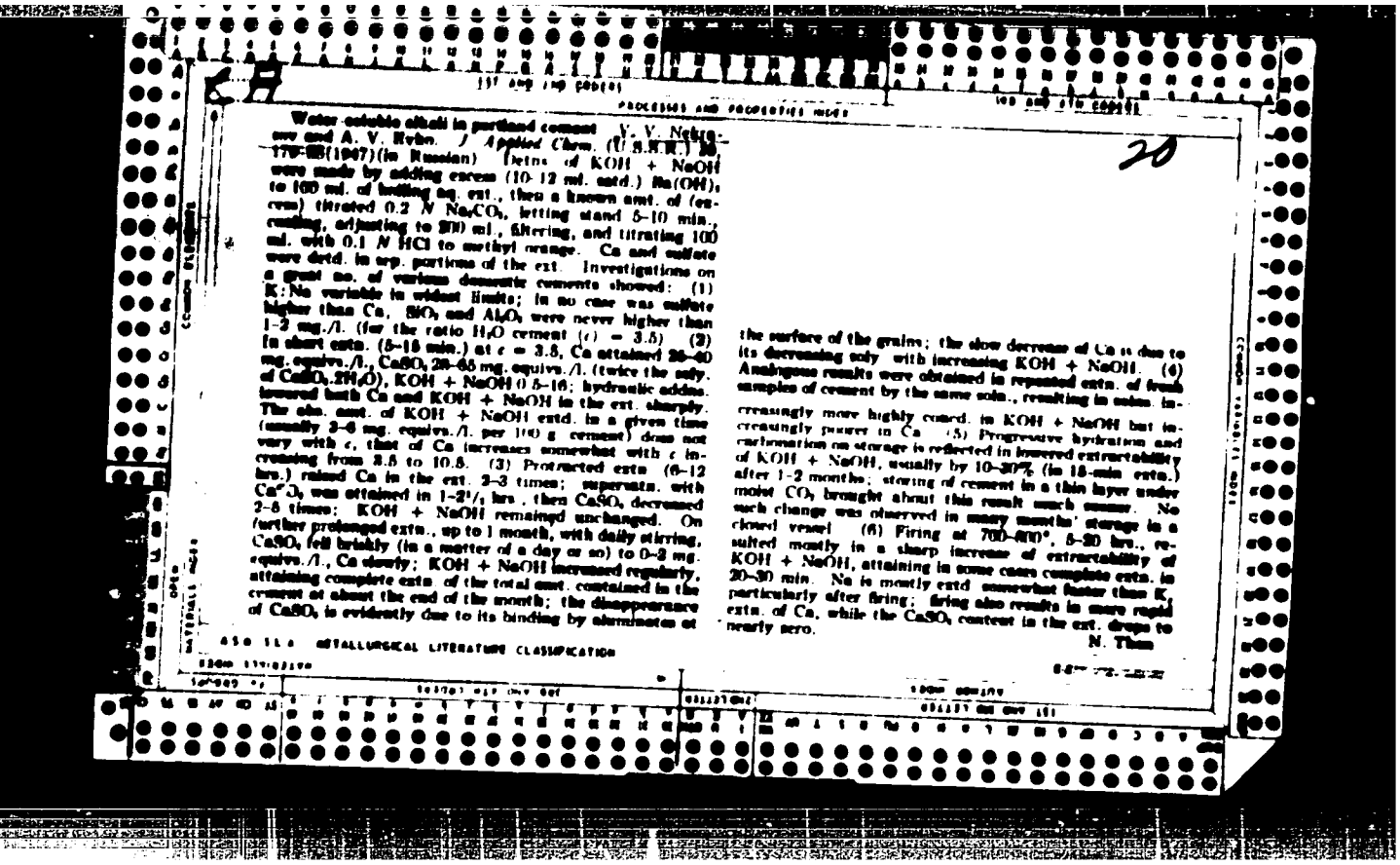
Methods for controlling the quality of hydrotechnical concrete. V. V. Nebrasov and V. Ya. Bulgakov. *Izv. Vses. Nauch.-Issledovatel. Inst. Gidrotekh.* 1949, No. 39, 37-42; *Khim. Referat. Zhur.* 1950, No. 1, 100.—A method based on the detn. of the difference in the sp. gr. of the clinker and the added material is recommended for detg. the content of clinker in mixed cements. To det. the activity of tripoli, samples should be boiled in a soln. of lime (approx. 0.6 g. l.). W. R. Henn

Change of volume of the system during solidification of hydraulic cements. V. V. Nekrasov (*Bull. Acad. Sci. U.R.S.S., Cl. Sci. Tech.*, 1946, [illegible]).—Contraction was measured in a narrow necked cylindrical glass vessel, coated internally with bitumen to avoid destruction of the vessel during the course of experiments; the bitumen remains behind if the vessel is cooled to 5° before it is broken. Portland cements from various Soviet works were investigated. In all cases contraction was not completed even after a year. Increase of H_2O in the mixture increased the amount of contraction. Addition of $CaCl_2$ greatly increased the contraction in the first days but the contraction-time curve subsequently approximated to that of cement without additive. With sugar (0.5%) the contraction was much lower at first and then rose rapidly nearly to normal. This rise was not observed with 2% of sugar. Rise of temp. in general accelerated the contraction process. In the case of both ordinary cement mixtures and those with additives there was a close connexion between mechanical strength and contraction during solidification. The amount of contraction was ∝ the vol. of H_2O used, so that contraction curves may be considered as degree of hydration curves. The velocity of hydration of the grains (assumed to be spherical with original radius r_0) of clinker should gradually decrease on account of reduction in their total non-hydrated surface and on account of decreasing degree of accessibility by the H_2O, which has to permeate the hydrated layer. The thickness x of this layer is $\sqrt{(2k\theta t)}$ or $a\sqrt{t}$, where k is a numerical coeff. and θ is the sp. permeability. The degree of hydration is given by $H = 100(\ldots)$ [illegible] $a\sqrt{t}$ ... The time for complete hydration is determined entirely by the ratio r_0/a. Experimental data for different cements and different particle sizes agree with the theory. G. S. S.



Water-soluble alkali in portland cement. V. V. Nekrasov and A. V. Ryzhov. *J. Applied Chem. (U.S.S.R.)* 20, 179–88(1947)(in Russian). Detns. of KOH + NaOH were made by adding excess (10–12 ml. satd.) $Ba(OH)_2$ to 100 ml. of boiling aq. ext., then a known amt. of (excess) titrated 0.2 *N* Na_2CO_3, letting stand 5–10 min., cooling, adjusting to 200 ml., filtering, and titrating 100 ml. with 0.1 *N* HCl to methyl orange. Ca and sulfate were detd. in srp. portions of the ext. Investigations on a great no. of various domestic cements showed: (1) K:Na variable in widest limits; in no case was sulfate higher than Ca. SiO_2 and Al_2O_3 were never higher than 1–2 mg./l. (for the ratio H_2O cement (c) = 3.5) (2) In short extn. (5–15 min.) at c = 3.5, Ca attained 20–40 mg. equivs./l., $CaSO_4$ 20–65 mg. equivs./l. (twice the satd. of $CaSO_4.2H_2O$), KOH + NaOH 0.5–16; hydraulic additions lowered both Ca and KOH + NaOH in the ext. sharply. The abs. amt. of KOH + NaOH extd. in a given time (usually 3–6 mg. equivs./l. per 100 g. cement) does not vary with c, that of Ca increases somewhat with c increasing from 3.5 to 10.5. (3) Protracted extn. (6–12 hrs.) raised Ca in the ext. 2–3 times; supersatn. with $CaCO_3$ was attained in 1–2½ hrs., then $CaSO_4$ decreased 2–6 times; KOH + NaOH remained unchanged. On further prolonged extn., up to 1 month, with daily stirring, $CaSO_4$ fell briskly (in a matter of a day or so) to 0–2 mg. equivs./l., Ca slowly; KOH + NaOH increased regularly, attaining complete extn. of the total amt. contained in the cement at about the end of the month; the disappearance of $CaSO_4$ is evidently due to its binding by aluminates at the surface of the grains; the slow decrease of Ca is due to its decreasing solv. with increasing KOH + NaOH. (4) Analogous results were obtained in repeated extn. of fresh samples of cement by the same soln., resulting in soln. increasingly more highly cmtd. in KOH + NaOH but increasingly poorer in Ca. (5) Progressive hydration and carbonation on storage is reflected in lowered extractability of KOH + NaOH, usually by 10–30% (in 15-min. extn.) after 1–2 months; storing of cement in a thin layer under moist CO_2 brought about this result much sooner. No such change was observed in many months' storage in a closed vessel. (6) Firing at 700–800°, 5–20 hrs., resulted mostly in a sharp increase of extractability of KOH + NaOH, attaining in some cases complete extn. in 20–30 min. Na is mostly extd. somewhat faster than K, particularly after firing; firing also results in more rapid extn. of Ca, while the $CaSO_4$ content in the ext. drops to nearly zero.

N. Thon

USSR/Engineering
Concrete
Water - Contamination

Sep 48

"Changes in the Composition of Natural Waters Through Contact With Concrete Structures," V. V. Nekrasov, Prof A. V. Yevko, Dr Eng Sci, Engr, 4 pp

"Gidrotekh Stroi" No 9

Results of experiments conducted to determine the nature of chemical changes brought about in natural waters after they come in contact with concrete structures.

28/49T26

USSR/Chemistry - Cement
Chemistry - Hydration

Mar 1948

"The Kinetics of the Hydration of Various Types of Cement," V. V. Nekrasov, Chair of Chem Plodovoshchnov Inst imeni I. V. Michurin, 8 pp

"Zhur Prik Khim" Vol XXI, No 3

In previous article in "Iz Ak Nauk SSSR, Otdel Tech Nauk" No 6, 1945, p 592, Nekrasov obtained an equation making possible the calculation of cement at any given time. Here he describes series of experiments with results in accordance with his formula, both for Portland and aluminous cements. Submitted 21 Feb 1947.

[redacted]

70T16

USSR/Chemistry - Cement, Hydraulic, Harden- Mar 1948
ing of
Chemistry - Cement, Hydraulic, Hydration of

"Use of the Contraction Method to Investigate Pozzolans," V. V. Mikhaylov, Chair of Chem Fiziko-tekhnicheskiy Inst imeni I. V. Michurin, 6 pp

"Zhur Prik Khim" Vol XXI, No 3

Mikhaylov describes series of experiments carried out on samples of materials used for the "pozzulation" of cements. The results show that: 1. The reaction of pozzolan with lime is accompanied by considerable contraction; 2. contraction curve for the hardening of Portland cement--pozzolan mixture

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USSR/Chemistry - Cement, Hydraulic, Mar 1948
Hardening of (Contd)

show an increased rate of clinker hydration; 3. dry-ground pozzolan may contain considerable amount of air. In neutral and acid mediums this is quickly displaced by water; in alkaline medium it remains in the system. Submitted 28 Apr 1947.

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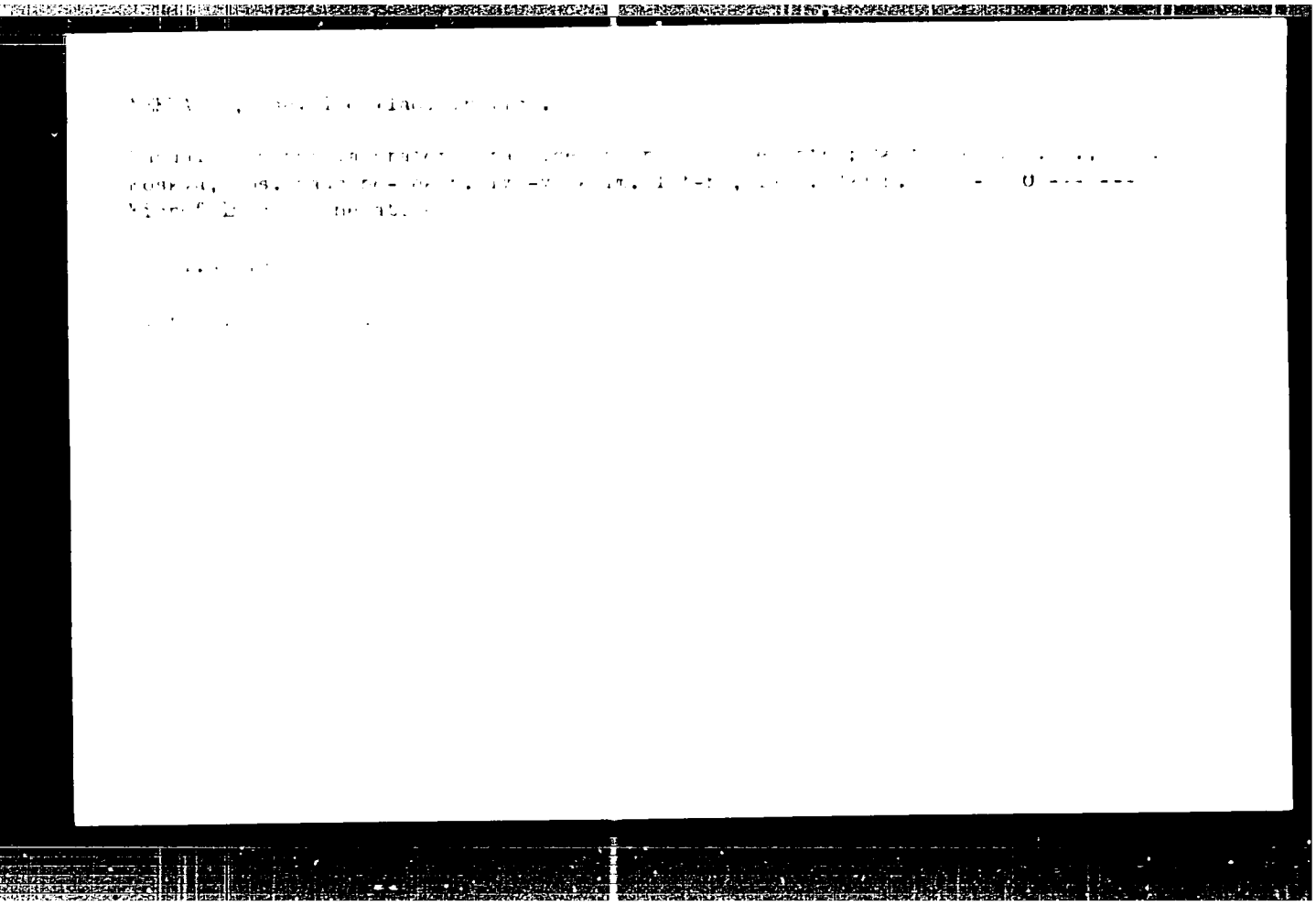

NEKRASOV, V. V.

5

Ion-exchange sorption kinetics. I. The kinetics of com-
plete cation exchange. E. E. Chernova, V. V. Nekrasov, and N. N. Tunitskii (L. Ya. Karpov Phys.-Chem. Inst., Moscow). Zhur. Fiz. Khim. 30, 2185-9 (1956).—The com-
plete cation exchange kinetics of Na^{24}, Rb^{86}, and Ca^{45} with the copolymerized sulfonated polystyrene cation exchange resin was studied on the basis of diffusion. The initial ex-
change stages were functions of the diffusion coeffs., D, which had intermediate values between the diffusion coeff. of the exchanging cations, when they were all present in microconcn. in the other cation medium. The cation diffu-
sion coeff. study of Rb^{86}, Na^{24}, and Ca^{45} in the H, K, Na, and Ca forms of the cation-exchange resin show that univalent cations have reduced mobilities in the multivalent-cation resins, and similarly the bivalent-cation diffusion rate into the univalent-cation resins is lower than that of the univalent cations. The complete exchange of Na^+ for H^+ in the resin is characterized by larger value of D than of D_{Na} in the acid form of the resin. W. M. Sternberg

Chem

5(2) PHASE I BOOK EXPLOITATION SOV/1727

Akademiya nauk SSSR. Institut geokhimii i analiticheskoy khimii

Redkozemel'nyye elementy; polucheniye, analiz, primeneniye (Rare Earth Elements; Extraction, Analysis and Application) Moscow, Izd-vo AN SSSR, 1958. 331 p. 2,200 copies printed.

Resp. Ed.: D. I. Ryabchikov, Professor; Editorial Board: I. P. Alimarin, Corresponding Member, USSR Academy of Sciences, I. S. [illegible], Doctor of Chemical Sciences, [illegible], Candidate of Technical Sciences, V. I. Kuznetsov, Doctor of Chemical Sciences, M. M. Senyavin, Candidate of Chemical Sciences, and Yu. S. Sklyarenko, Candidate of Chemical Sciences; Eds. of Publishing House: D. N. Trifonov and T. G. Levi; Tech. Ed.: S. G. Markovich.

PURPOSE: This book is intended for scientists, chemists, teachers and students of higher educational institutions, chemical and industrial engineers, and other persons concerned with the extraction, preparation, use, or study of rare earth elements.

COVERAGE: This collection contains reports presented at the June 1956 Conference on Rare Earth Elements at the Institute of Geochemistry and Analytical Chemistry imeni V. I. Vernadskiy of the Academy of Sciences USSR. The articles treat chemical methods of separating rare earth mixtures, methods of processing rare earth ores, ion exchange chromatography, chemical analysis, and some industrial applications of rare earths. Aside from contributing authors, the editors mention the following Soviet scientists, who are studying rare earth elements, rare earth deposits, extraction methods, and the preparation of oxides and salts: Martynov, Mel'nikov, Khrushchov, Melikov, Pisarzhevskiy, Chernyak, [illegible], Belousov, Zhukov and especially, S. A. Orlov, who first obtained the majority of rare earth elements in the pure state, separated many complex molecular compounds of these elements, and determined their specific properties. References are given at the end of each article.

TABLE OF CONTENTS:

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APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00113

AUTHOR: Nekrasov, V.V., [illegible]

TITLE: A Chair's Experience [illegible]

PERIODICAL: Vestnik Vysshey Shkoly, [illegible]

ABSTRACT: The author tells of his experience with 1st and 2nd course correspondence students of a physico-chemical chair of a non-chemical vuz. He points to the lack of chemistry and physics textbooks and states that the ministries and publishing houses should instigate an urgent printing of new manuals and textbooks which are not too specialized and not strictly limited to a certain program. The other materials (programs, methodical aids, instructions etc.) should be composed and issued by every vuz of its own, including correspondence tuition but as they have no printing offices at their disposal, they use material issued by other related institutes. This is no solution to the problem. He also discusses the question of students' control works and their proper rating, and the students' laboratory exercises performed when the faculty and correspondence students meet

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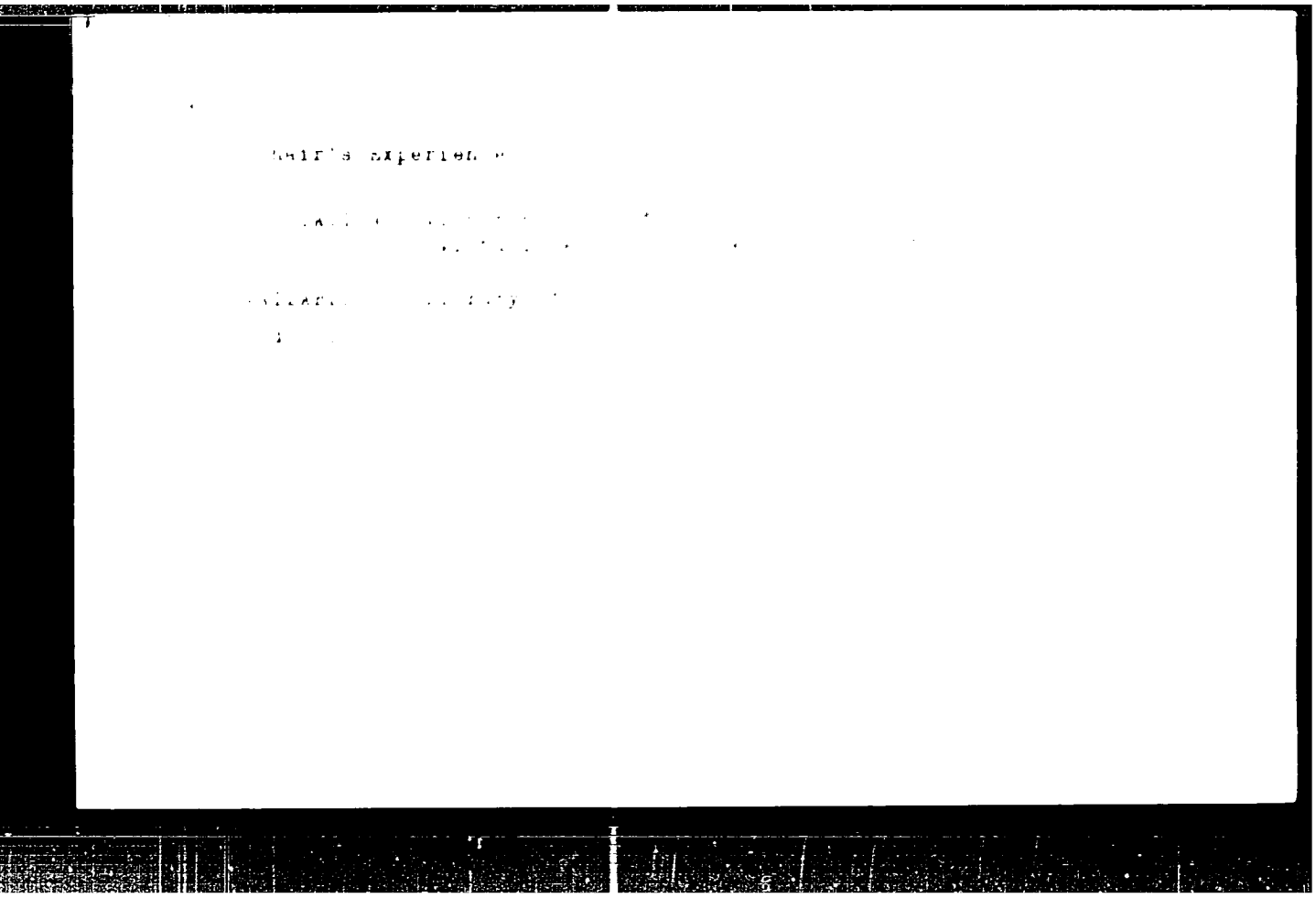

AUTHORS: Tunitskiy, N. N., Nekrasov, V. V., Cherneva, Ye. P.

TITLE: The Theory of the Separation of Rare Earths by Means of Chromatographical Methods (Teoriya razdeleniya redkozemel'nykh elementov khromatograficheskim metodom).

PERIODICAL: Zhurnal Neorganicheskoy Khimii, 1958, Vol. 3, Nr 1, pp. [illegible] (USSR).

ABSTRACT: Results of the application of statistical methods with respect to the theory referred to in the title are described in the present report, and theoretical results are compared with the experimental ones. Washing out of chromatographic apexes of curves. The efficiency of separation of the ions of two elements depends 1st on the static factors of separation (ratio of the coefficients of sorption of the ions) and secondly on kinetic factors. The coefficients of diffusion D_c (in the grains of the adsorbent) and D_p (in the solution) are described by means of equations (1). These coefficients of autodiffusion were measured in several elaborate investigations. The velocity of diffusion of the rare earths in sulfopolystyrene-resin KU-2 was measured by the authors. D_c is equal to 10^{-6} cm²/sec. If Dc is known, the part of the

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washing out which is caused by the diffusion processes in the river, can be determined. This part is expressed by the second and third term of the equation:

$$K = \frac{R^2 v^2}{15 D_c \Gamma^2} + \frac{\delta v^2}{S D_p \Gamma^2} + \frac{D_{Long}}{\Gamma^2} \quad (1),$$

in which case R - is the radius of the particles, v - the velocity per 1 cm^2 of the cross-section, $\Gamma = \beta(1 - \alpha)$, β - the coefficient of sorption with respect to the unit of volume in the interior of the grain of sorbent, δ - the thickness of the effective thin film of diffusion in the solution, S - the specific surface of the sorbent and $D_{Long.}$ (D_{pr}) - coefficient of the longitudinal diffusion. For univalent elements, and when using HCl as rinsing solution, it was found that the part K which depends on the processes in the solution, is approximately proportional to "v". (reference 4). Then,

$$K = \frac{R^2}{15 D_c \Gamma^2} v^2 + \frac{2K}{\Gamma^2} v \quad (11).$$

The washing out of the apex consequently consists of 2 parts. The first part depends on the inner diffusion in the grains of sorbent and is proportional to $v^2_{\Gamma^2}$. The second part depends on the processes in the flo-

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wing solution and is approximately proportional to $\frac{v}{r}$. Other kinetic factors can also be seized with the same method. The equation (3) can be directly applied in the cases where the distribution of ions is considered in the length of the column. Experimental investigation of the apexes. For experimentally re-examining the equation:

$$\frac{(\Delta V^a)}{\bar{V}} = a_1 + b_1 v \sqrt{r^2} \quad (7)$$ which was derived by applying (3'), the washing-out of the apexes of Rb^{86}, which was achieved by rinsing of the column with "Espatite-1"-resin by 0,1 n HCl (reference 1) was investigated. The tests confirmed the theoretically required dependence of the width of the band on the length of the column and proved the correctness of the equation (7). The results of one of the tests are shown in table 1 and figure 1. A diagram was drawn of the results of each test (figures 1, 2). Investigation of the kinetics of the ion-exchange of rare earths. The above investigation does not yet permit to draw any definite conclusions on the role of individual kinetic factors with the separation, and on the influence of the complex-former. As is generally known, the apexes of rare earths are largely expanded with the decreasing pH of the solutions of

The Theory of the Separation of Rare Earths by Means of Chromatographical Methods.

citric acid. The kinetics of desorption of several elements in [illegible]% solution of this acid with different pH (adjusted with ammonia) were investigated for clarifying these problems (reference 5). The values of the coefficients of diffusion of the ions of rare earths within the resin-grains (D_c) were computed from the curves of desorption. The found constancy of the D_c-values confirms the mechanism of diffusion of the desorption. It is shown in table 3 that the average values of these coefficients are independent on the composition of the solution. It hence results that the complex-former has no specific effect with low pH. It results from table 4 in which the dependence of the coefficients of diffusion on the pH for La^{140} and Eu^{154} are reproduced that D_c increases to some extent with increasing pH. The washing out of the apexes is mainly explained by processes in the solution. Table 5 shows the influence of the atomic number on the value of the coefficient of diffusion. The heavy rare earths diffuse many times more rapidly in resin than do the light. The conditions of separation. An increase of the coefficient of sorption prolongs the duration of separation and viceversa.

Card 4/5

There are 3 figures, 5 tables, and 7 references, 5 of which are Slavic.

The Theory of the Separation [illegible] of Chromatographical Methods.

ASSOCIATION: Scientific Physical-Chemical Research Institute imeni L. Ya. Karpova MKhP (Ministry of Chemical Industry) USSR (Nauchno-issledovatel'skiy fiziko-khimicheskiy institut imeni L. Ya. Karpova MKhP SSSR).

SUBMITTED: May 19, 1957.

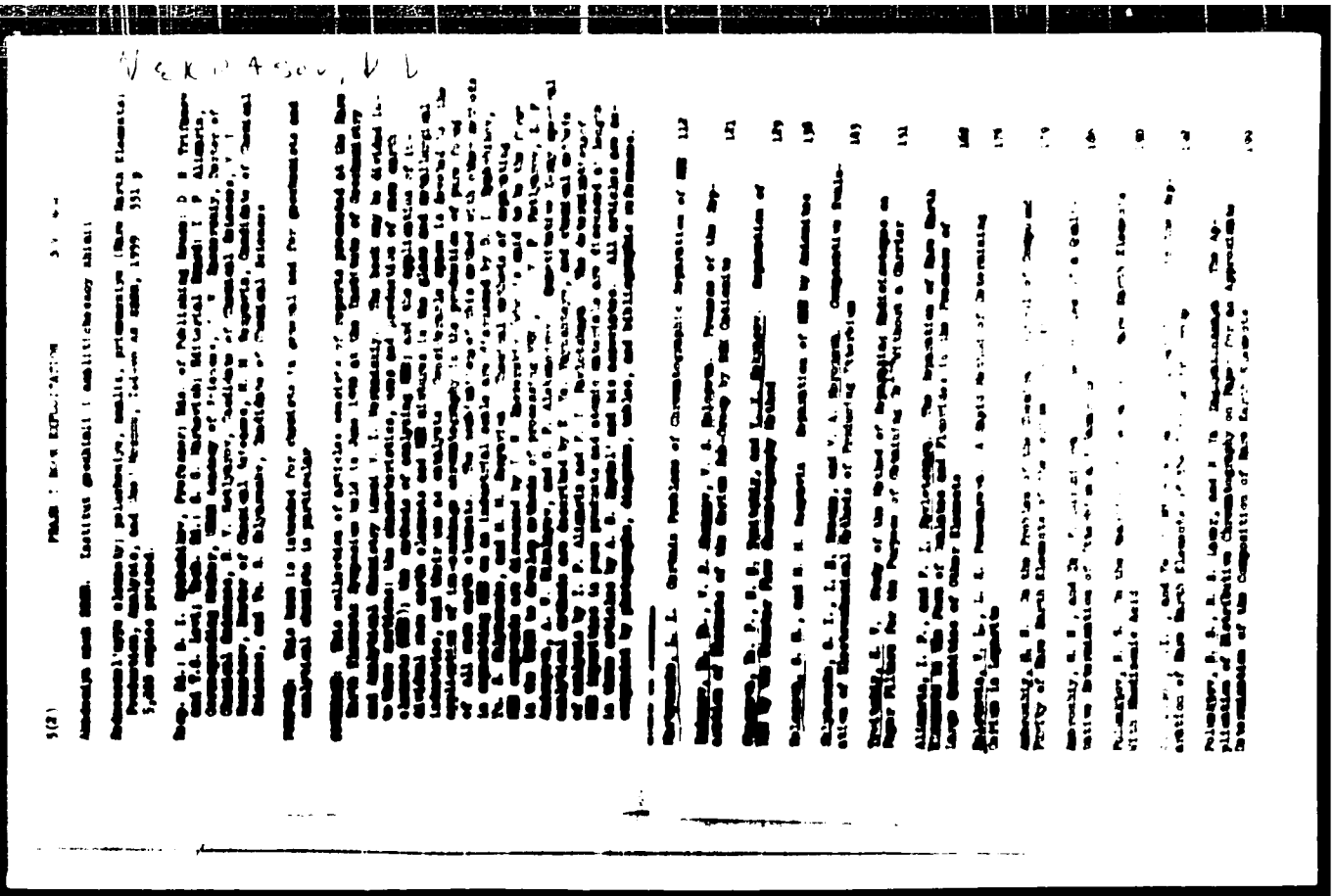
AVAILABLE: Library of Congress.

Card 1/5

NEKRASOV, V.V.; SHISHO, G.A.

Contraction of portland cement with chloride additives during hardening at, temperatures above and below freezing. Zhur. prikl. khim. 31 no.10:1460-1466 O '58. (MIRA 12:1)

1.Kafedra khimii Plodoovoshchnoge instituta imeni I.V. Michurina i nauchno-issledovatel'skiy sektor Gidroproyekta imeni S.Ya. Zhuka.
(Portland cement--Testing)



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18.1200

AUTHORS: Yurkov, V.A. and Nekrasov, V.V. 66887 SOV/126-8-1-1/25

TITLE: Thermoelectric Properties of Sn-Cd and Pb-Cd Alloys

PERIODICAL: Fizika metallov i metallovedeniye, 1959, Vol 8, Nr 1, pp 21-24 (USSR)

ABSTRACT: The thermoelectric properties of alloys have been widely studied. This is due to the fact that they have great practical and scientific importance. In practice, it is often necessary to have materials which when put in series with a given metal do not give rise to an appreciable thermal e.m.f. From this point of view it is important to carry out further studies on systems in which the thermal e.m.f curve has a point at which the sign of the e.m.f. changes. The present work was carried out in order to obtain the thermal e m.f curve for Sn-Cd and Pb-Cd alloys as a function of the concentration of the components. The effect of experimental conditions on the thermal e.m.f curve was also investigated. The results obtained are shown in Figs 1 and 2. Fig 1 shows the dependence of the thermal e.m.f for Sn-Cd alloys as a function of the temperature difference between the hot and the cold

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Thermoelectric Properties of Sn-Cd and Pb-Cd Alloys

SOV/120-8-1-4/25 66887

junctions for different compositions (indicated in the figure caption). Fig 2 shows the dependence of the thermal e.m.f. of Sn-Cd alloys on composition for different temperature differences (indicated in the figure caption). Figs 3 and 4 show analogous plots for Pb-Cd alloys. As can be seen, sign inversion occurs in all the graphs. The position of the inversion point on the Cd concentration axis changes with the temperature difference. As the latter increases, the inversion point is displaced towards smaller cadmium concentrations. There are 4 figures and 7 Soviet references.

ASSOCIATION: Arkhangel'skiy lesotekhnicheskiy institut (Arkhangel'sk Forestry Institute)

SUBMITTED: March 3, 1958

Card 2/2

3 [illegible] - [illegible] 4[illegible]

5[illegible]4[illegible]

AUTHORS Yurkov, V. [illegible], [illegible], V. [illegible]

TITLE The Electrolytic Potential of [illegible]-Sb [illegible]
splavov [illegible]-Sb

PERIODICAL Zhurnal fiz[illegible]eskoy khimii, [illegible], Vol [illegible], Nr [illegible]
[illegible] USSR

ABSTRACT Explanations concerning the relationship between the electrode potential of alloys and their composition [illegible] are of special interest in investigations on the [illegible] chemical properties of metallic alloys. Thermal [illegible] of the system [illegible]-Sb showed that two compounds, [illegible]$_3$Sb and [illegible]

(Ref [illegible]) are present. [illegible]$_3$Sb [illegible] possesses a [illegible] at [illegible]

temperatures [illegible] while CdSb [illegible]
as a semi-conductor in [illegible]
work of this paper utilized a C[illegible]-[illegible] [illegible]
(Ref [illegible]) [illegible] standard sam[illegible] as [illegible] and a
PPTV-1 galvanometer [illegible] alloys with the following [illegible]
tions were stu[illegible] [illegible]

Card 1/[illegible] and [illegible] Sb, and [illegible] SO_4, HCl- and [illegible] solutions were

The Electrostatic Potential of Cd-Sb

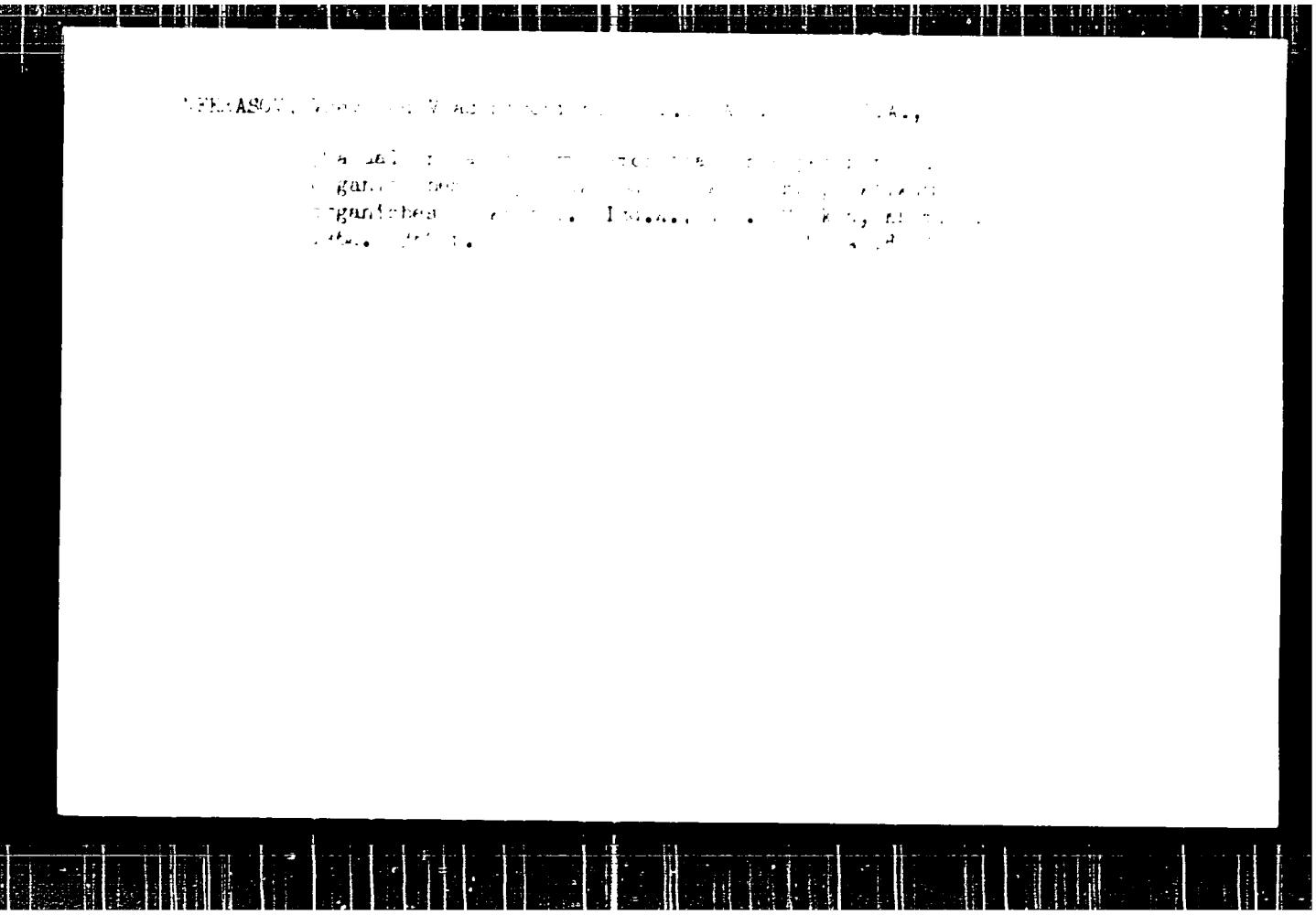
SOV/[illegible]

used as electrolytes. The addition of [illegible] causes the potential of the alloy to become more positive. The [illegible] value of the potential is higher in the alkaline solution than in the acid solutions. 3 minima are indicated in the potential-[illegible] diagram (Fig. [illegible]). The minimum at [illegible] Sb is [illegible] to the eutectic structure. The minimum at 52.5 Sb [illegible] represents the formation of the compound CdSb. The potential [illegible] at [illegible] has still to be explained by further investigations [illegible]. There are [illegible] figures and [illegible] Soviet references.

ASSOCIATION: Arkhangel'sk [illegible] Technical Institute [illegible] Arkhangel'sk [illegible]

SUBMITTED: July 1[illegible], 1[illegible]

Card [illegible]/[illegible]



NIKRASOV, Vsevolod Vladimirovich, prof.; KUL'BOVSKAYA, N.K., red.; [illegible], Ye.G., tekhn.red.

[Manual of laboratory practice in organic chemistry] Rukovodstvo k malomu praktikumu po organicheskoi khimii. Izd.3., dop. Moskva, Gos.nauchno-tekhn.izd-vo khim.lit-ry, 1960. 356 p. (MIRA 14:4)
(Chemistry, Organic--Handbooks, manuals, etc.)

[illegible]

[illegible]/E335

AUTHORS: [illegible]ov, V.A. and [illegible], V.V.

TITLE: Physical properties of copper-antimony [illegible]

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, [illegible], No. 2, [illegible]

TEXT: The microhardness, thermal, electrical and [illegible] electric properties of Cu_2Sb-Cu_3Sb were investigated [illegible] [illegible] of copper contents between [illegible] and [illegible] wt. [illegible] antimony contents between [illegible] and [illegible] wt. [illegible] [illegible] with a load of [illegible] have shown that the [illegible] are obeyed with a satisfactory degree of acc[illegible] the microhardness may be greatly affected by the [illegible] [illegible] impurities into the intercrystallite space and by the [illegible] intercrystallite substance in high-purity material [illegible] [illegible]ly-disperse state. The microhardness of freshly [illegible] surfaces of Cu_2Sb single crystals was H_{20} = 315 kg/mm[illegible]. The [illegible]pendence of the coefficient of linear expansion [illegible]

Card 1/[illegible]

temperature is plotted in Fig. 6 for the compounds Cu_3Sb (1), Cu_2Sb (2), 80% Cu_3Sb + 20% Cu_2Sb (3) and 20% Cu_3Sb + 80% Cu_2Sb (4). Fig. 7 gives the thermo-e.m.f., ε, μV, as a function of the Cu_3Sb content (mole.%) of Cu_3Sb-Cu_2Sb alloys for the temperature differences Δt = 100, 150 and 200 °C, respectively. Cu_2Sb is a strongly paramagnetic substance, whilst Cu_3Sb is a diamagnetic substance. There are 7 figures and 2 tables.

ASSOCIATION: Arkhangel'skiy lesotekhnicheskiy institut imeni V.V. Kuybysheva (Archangel Forestry Institute imeni V.V. Kuybyshev)

SUBMITTED: June 25, 1960 (initially)
June 2, 1961 (after revision)

[redacted]

[redacted]

L 25470-66 EPF(n)-2/EWT(1)/EWT(m)/ETC(m)-6/ETC(f)/EWG(m)/T/EWP(w)/EWP(t) IJP(c)
ACC NR: AP6009695 RDW/WW/JD SOURCE CODE: UR/0181/66/008/003/0961/0963

AUTHOR: Nekrasov, V. V.

ORG: Arkhangel'sk Forestry Engineering Institut im. V. V. Kuybyshev (Arkhangel'skiy lesotekhnicheskiy institut)

TITLE: Study of the absorption of ultrasound and of the microhardness of single-crystal bismuth with tellurium and tin impurities

SOURCE: Fizika tverdogo tela, v. 8, no. 3, 1966, 961-963

TOPIC TAGS: ultrasonic absorption, hardness, bismuth, single crystal, absorption coefficient, phonon, crystal lattice vibration, solid solution

ABSTRACT: The author investigated the influence of small amounts of tellurium and tin impurities on the absorption coefficient and microhardness of single crystals of bismuth of orientation A (classification of D. V. Gitsu and G. A. Ivanov (FTT v. 2, 1457, 1960)). The bismuth-base alloys were prepared by a procedure described by G. A. Ivanov and A. R. Regel' (ZhTF v. 25, 39, 1955). The ultrasound absorption coefficient was measured with an ultrasonic deflectoscope (UDM-1M) at 5 Mcs. The microhardness was measured with the PMT-3 instrument at a load of 50 g. The tests have shown that the absorption coefficient and the microhardness of the bismuth alloys with tin have approximately the same values as for alloys with tellurium if the number of atoms of tin in the alloy is four times larger than that of the tellurium. The largest change in the absorption coefficient and in the microhardness is observed

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ACC NR: AP6003695

4

when the impurities are completely soluble in the bismuth. It follows from the data that the product of the absorption coefficient by the microhardness of the alloy is approximately constant for all alloys. The results can be attributed to the interaction between the ultrasonic phonons and the electrons or the holes, and also to the scattering of the phonons by the thermal lattice vibrations. It is proposed that the correlation observed between the sound absorption coefficient and the microhardness is common to all dilute metallic solutions. The author thanks G. A. Ivanov, V. A. Yurkov, and V. M. Gribov for a discussion of the results. Orig. art. has: 2 figures.

SUB CODE: 20/ SUBM DATE: 17May65/ ORIG REF: 011

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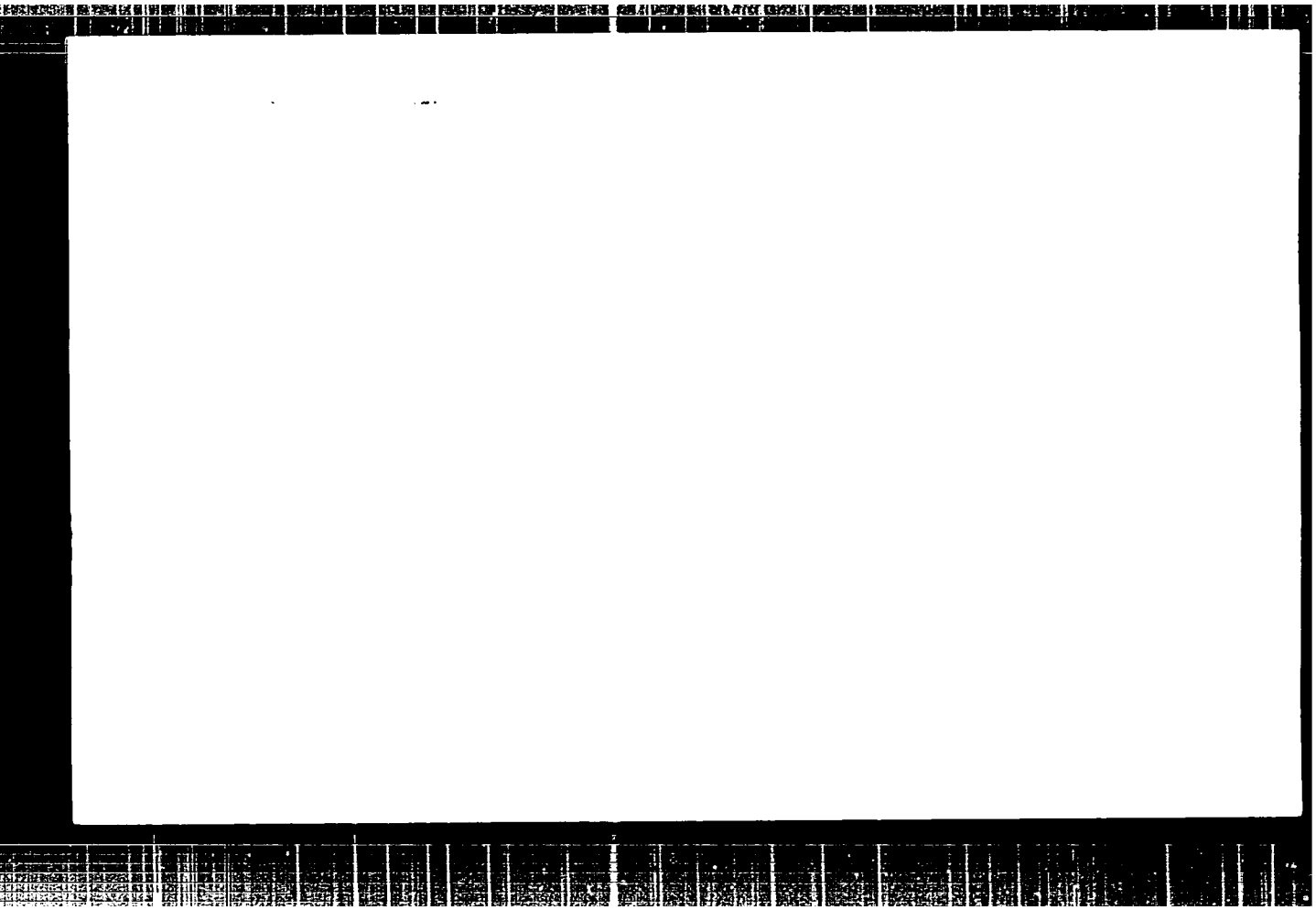
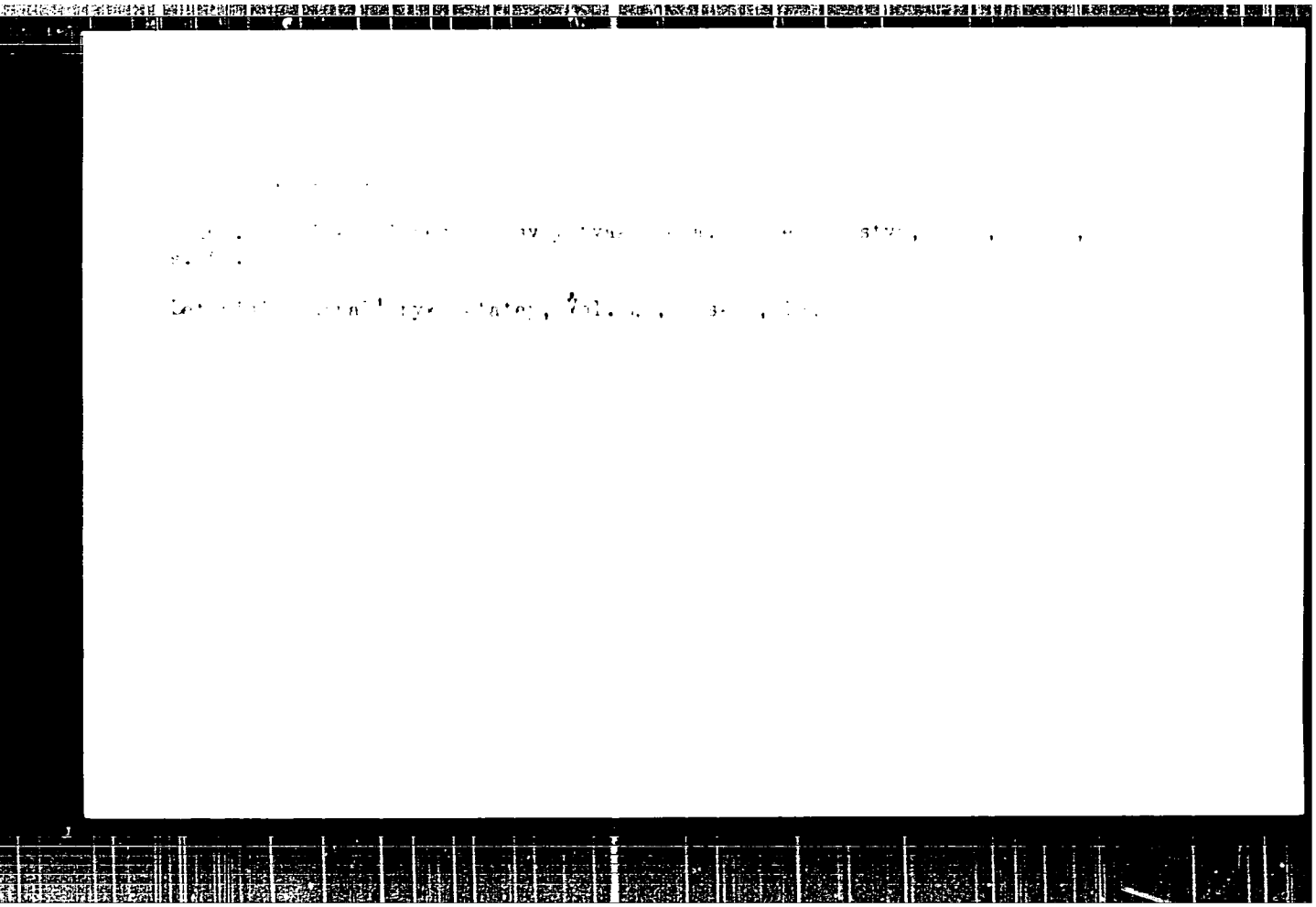


APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001136

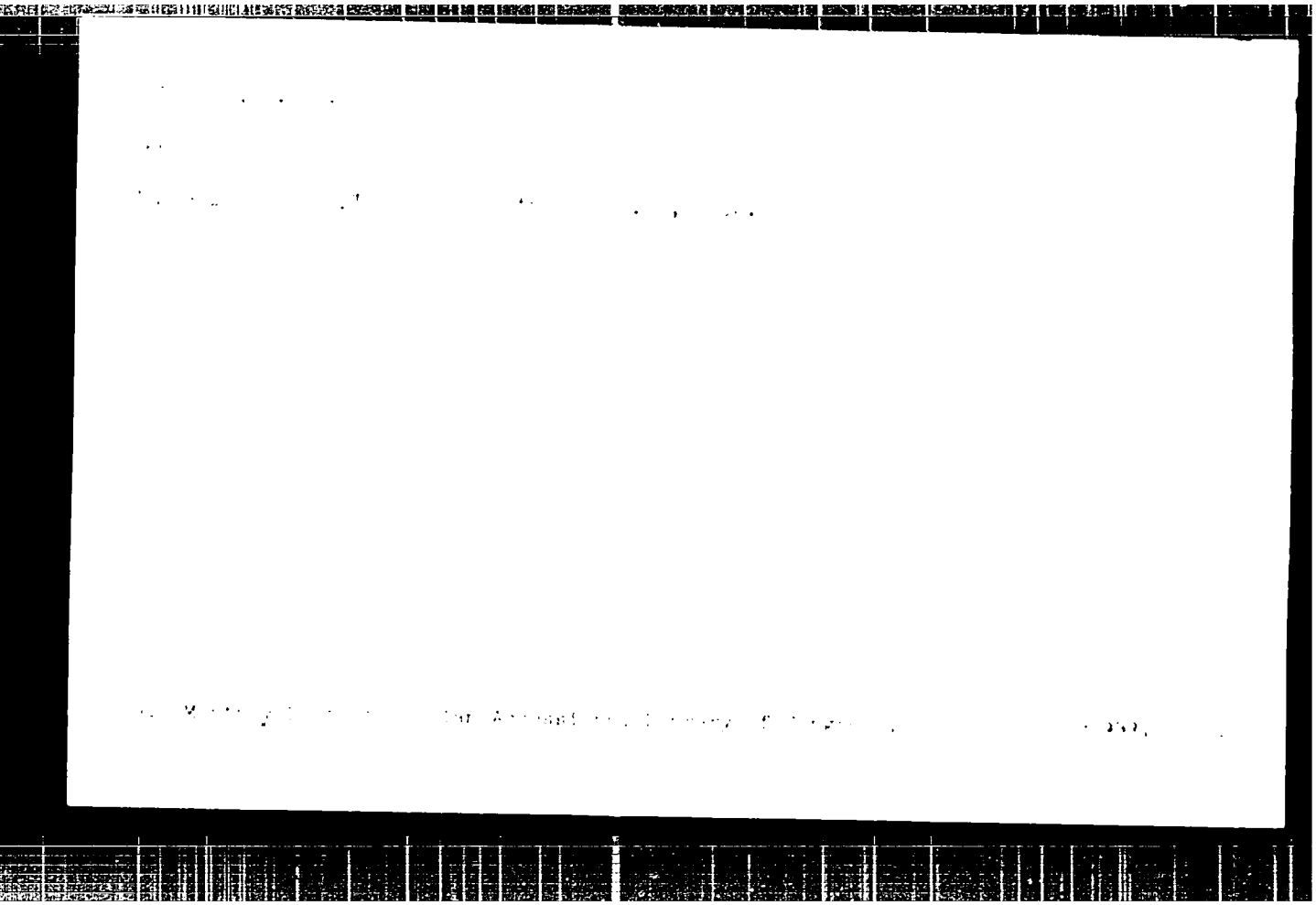


NEK..., ... M.

Bee Culture

A superficial and confusing book on the effort of leaders ("Accelerated propagation of bees." Reviewed by ... A. ...ovskaya, A. Kho...sev.) Pchelovodstvo 29, no. 5, May ....

... Monthly List of Russian Accessions, Library of Congress, August ..., Uncl.



SHCHERBINA, Pavel Semenovich; MIKRASOV, V.Yu., spetsredaktor; TETYURKVA, I.V., redaktor; PAVLOVA, M.M., tekhnicheskiy redaktor

[Beekeeping] Pchelovodstvo. Izd. 2-oe, perer. Moskva, Gos. izd-vo selkhoz. lit-ry, 1956. 622 p.
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(Kurama Range—Ore deposits)

KRASOV, Ye.M.

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(Kara-Mazar Mountains--Lead ores)
(Kara-Mazar Mountains--Zinc ores)

NEKRASOV, Ye.M.

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NEKRASOV, Ye.M.

Formation of faults transversally oriented to folds. Trudy IGEM no.41:119-133 '61. (MIRA 14:8)
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(Soviet Central Asia--Faults (Geology))

ROZANOV, Yu.A.; KRISTAL'NYY, B.V.; NEKRASOV, Ye.M.; PASHKOVSKAYA, M.D.

Changes in the pores of enclosing rocks in some deposits of northern Tajikistan. Trudy IGEM no.41:171-177 '61. (MIRA 14:8)
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Changes in the physical properties of quartz felsite-porphyries in enclosing zones of the Zambarak lead-zinc deposit. Trudy IGEM no.43:124-127 '61. (MIRA 14:10)
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SAKHAROVA, M.S.; [illegible]EKRASOV, Ye.M.

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1. Kafedra m[illegible]eralogii Mosk[illegible] gosudarst[illegible] [illegible] i TSentral'nyy nauchno-issledovatel'skiy [illegible] institut tsvetnykh, redkikh i blagorodnykh metallov, Moskva.

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Solubility in the system sodium bifluoride - water. Zhur. neorg. khim. 9 no.11:2669-2671 N '64 (MIRA 18:1)

1. Permskiy filial gosudarstvennogo instituta prikladnoy khimii.

L 52765-65 EWT(1)/EWG(v)/FCC/EEC(t) Pe-5/Pi-4 GW/GS

ACCESSION NR: AT5011177 UR/0000/64/000/000/0234/0237

AUTHOR: Antipov, B. A.; Zuyev, V. Ye.; Kabanov, M. V.; Kokhanenko, P. N.; Nekrasov, Yu. I.

TITLE: New apparatus for measuring atmospheric transparency in the infrared region

SOURCE: Mezhvedomstvennoye soveshchaniye po aktinometrii i optike atmosfery. 5th, Moscow, 1963. Aktinometriya i optika atmosfery (Actinometry and atmospheric optics); trudy soveshchaniya. Moscow, Izd-vo Nauka, 1964, 234-237

TOPIC TAGS: atmospheric transparency, infrared light, meteorological instrument, transparency meter

ABSTRACT: Many problems in the field of propagation of electromagnetic waves in different media require development of modern apparatus making it possible to determine various statistical characteristics of signals and their analysis with a high accuracy. With respect to the investigation of long-wave radiation, the detection of a useful signal in the presence of interference is possible using an infrared radiation sensor, operating with a narrow-band amplifier, tuned to the modulation frequency of the radiation source. The output of the narrow-band am-

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L 52765-65

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plifier can be connected to an electronic computer using the circuit of the DES-2 apparatus developed for investigation of distant tropospheric and ionospheric propagation of very-short waves in the range 1-20 kc/s. After modification, the instrument can be used to investigate the propagation of long-wave radiation in the atmosphere where frequencies of 5-45 cps are involved. This article describes the instrument, whose block diagram is shown in Fig. 1 of the Enclosure. It is proposed that this precise and reliable instrument be used as part of a complex apparatus for solution of problems associated with the propagation of infrared radiation in the atmosphere, especially for investigating the frequency and amplitude of fluctuation of atmospheric transparency for long-wave radiation, the correlation between transparency and meteorological elements, and similar problems. The instrument can be used in all cases when the experimenter must make a statistical analysis of signals with slowly changing amplitude. Orig. art. has: 2 figures.

ASSOCIATION: Sibirskiy fiziko-tekhnicheskiy institut pri Tomskom [illegible] universitete (Siberian Physics and Engineering Institute, Tomsk State University)

SUBMITTED: 25Nov64 ENCL: 01 SUB CODE: OP, ES

[illegible]

Card 2/3

ANTONOV, I.A., kand.tekhn.nauk; ANTOSHIN, Ye.V., inzh.; ASINOVSKAYA, G.A., inzh.; VASIL'YEV, K.V., kand.tekhn.nauk; GUZOV, S.G., inzh.; DEYKUN, V.K., inzh.; ZAYTSEVA, V.P., inzh.; KAZHEKOV, P.P., inzh.; KAHAN, Yu.B., inzh.; KOLTUNOV, P.S., kand.tekhn.nauk; KOROVIN, A.I., inzh.; KRZHECHKOVSKIY, A.K., inzh.; KUZNETSOVA, Ye.I., inzh.; MATVEYEV, N.N., tekhnik; MOROZOV, M.Ye., inzh.; NEKRASOV, Yu.I., inzh.; NECHAYEV, V.D., kand.tekhn.nauk; NINBURG, A.K., kand.tekhn.nauk; SPEKTOR, O.Sh., inzh.; STRIZHEVSKIY, I.I., kand.khim.nauk; TESMENITSKIY, D.I., inzh.; KHROMOVA, TS.S., inzh.; TSEUNEL', A.K., inzh.; SHASHKOV, A.N., kand. tekhn.nauk, dots.; SHELECHNIK, M.M., inzh.; SHUKHMAN, D.Ya., inzh.; EDEL'SON, A.M., inzh.; VOLODIN, V.A., red.; UVAROVA, A.F., tekhn.red.

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