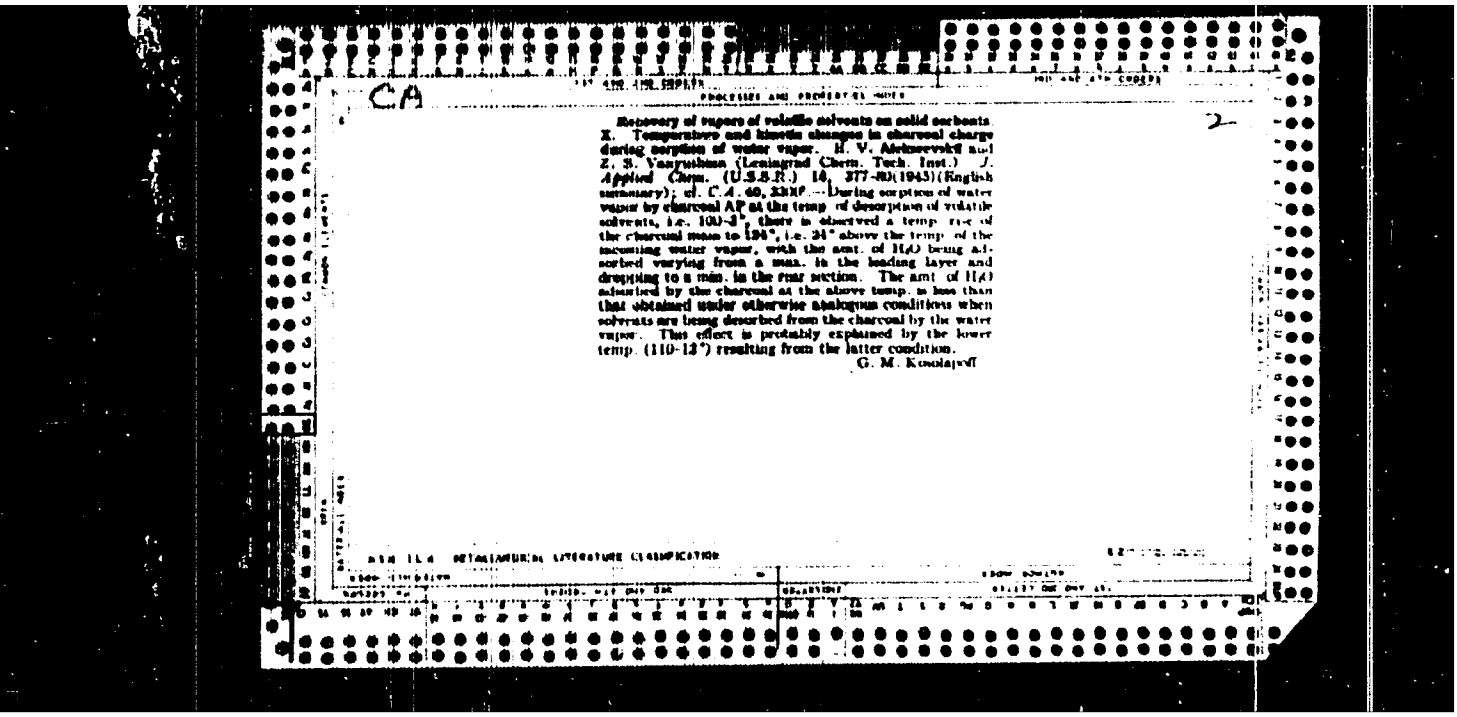
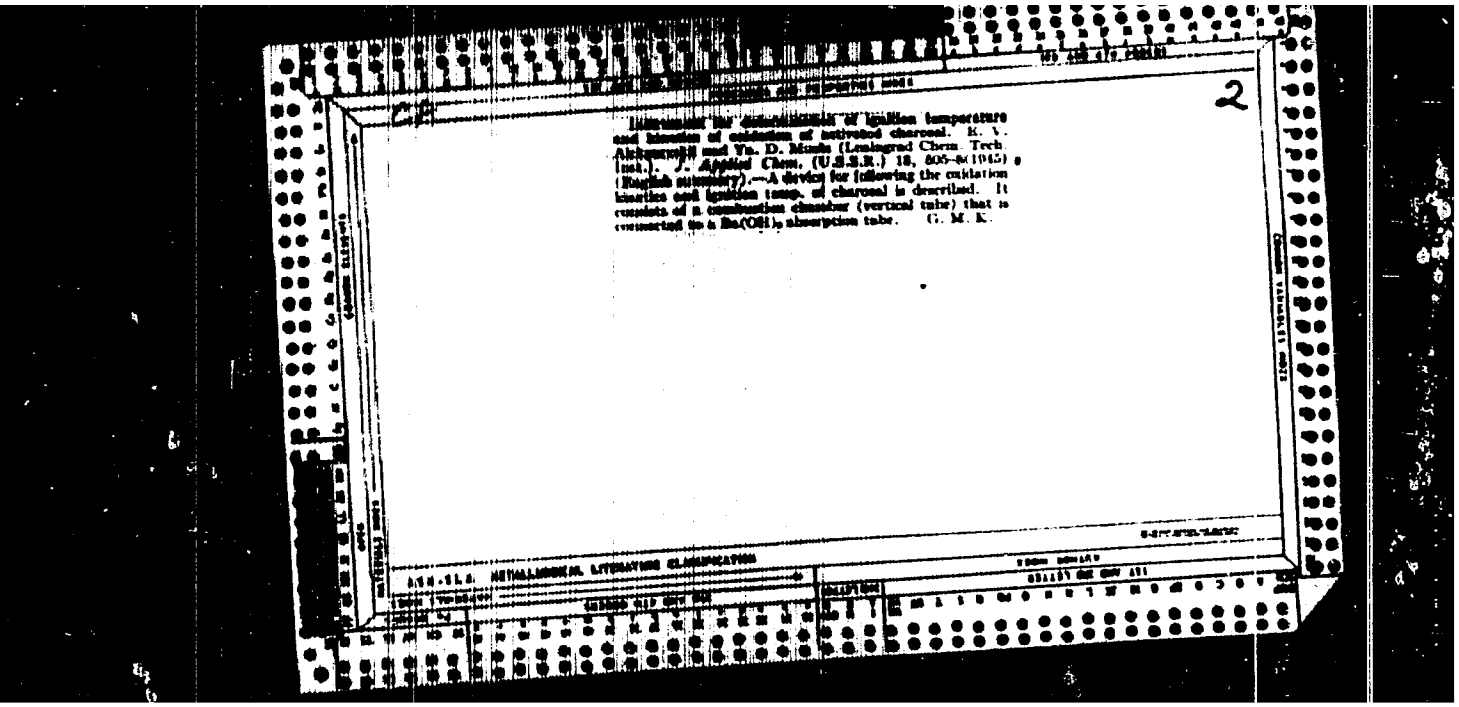


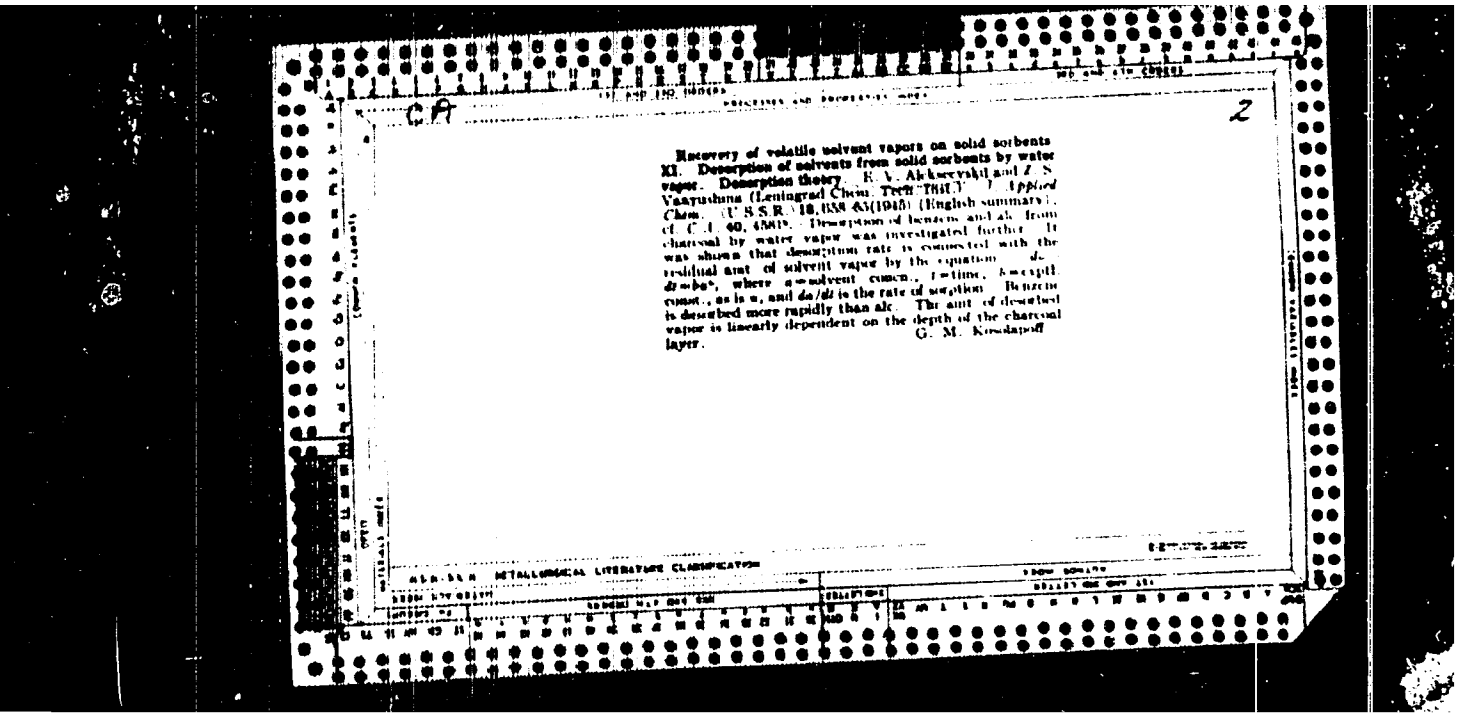
CA

2

Recovery of vapors of volatile solvents on solid sorbents
X. Temperature and kinetic changes in charcoal charge during sorption of water vapor. H. V. Alekseevskii and Z. S. Vasyutkina (Leningrad Chem. Tech. Inst.) *J. Applied Chem.* (U.S.S.R.) 16, 377-80(1943)(English summary); cf. *C.A.* 40, 3332*. —During sorption of water vapor by charcoal AP at the temp. of desorption of volatile solvents, i.e. 100-3°, there is observed a temp. rise of the charcoal mass to 124°, i.e. 24° above the temp. of the incoming water vapor, with the amt. of H_2O being adsorbed varying from a max. in the leading layer and dropping to a min. in the rear section. The amt. of H_2O adsorbed by the charcoal at the above temp. is less than that obtained under otherwise analogous conditions when solvents are being desorbed from the charcoal by the water vapor. This effect is probably explained by the lower temp. (110-12°) resulting from the latter condition.
G. M. Kosolapoff



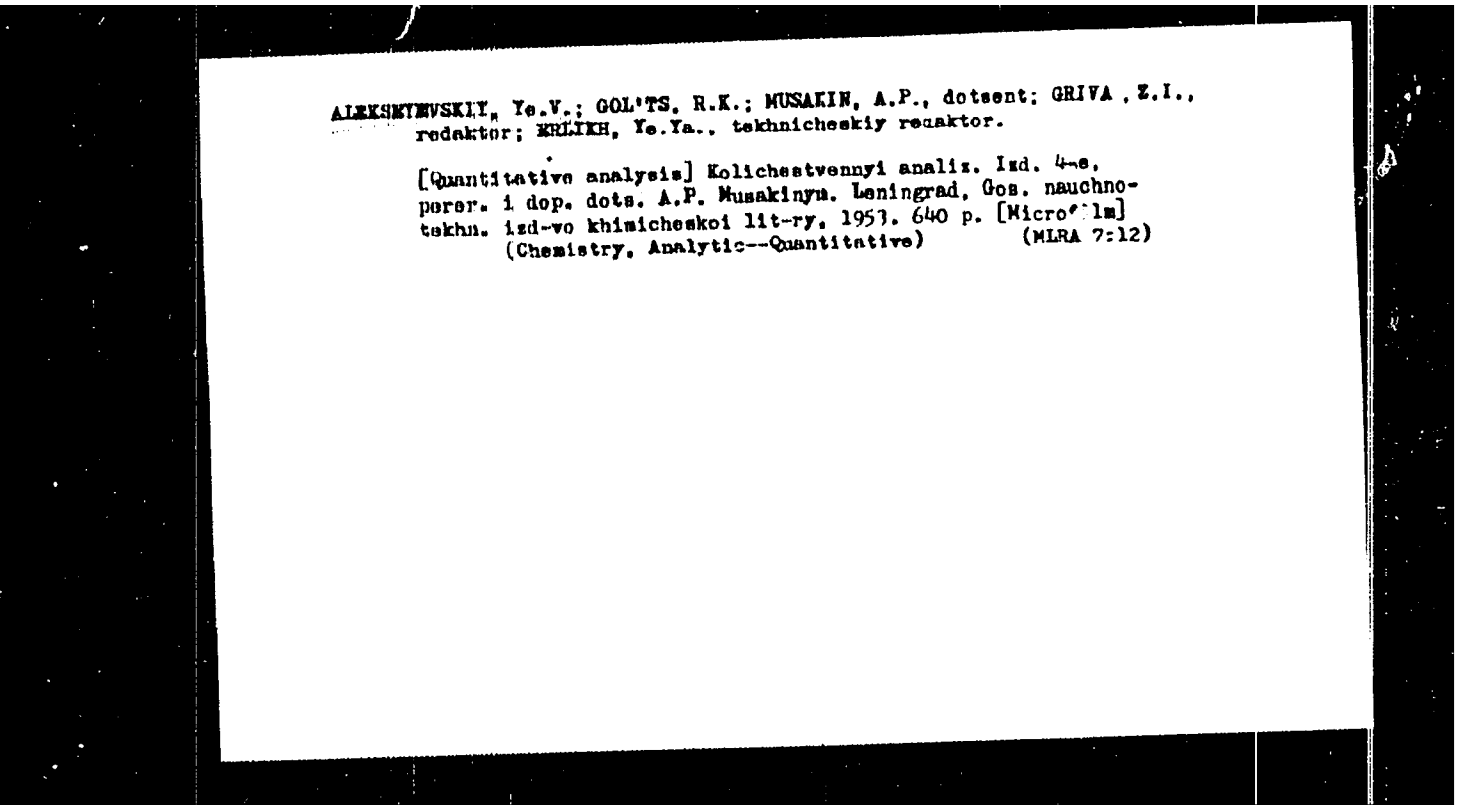
Determination of the coefficients of ignition temperature and intensity of oxidation of activated charcoal. K. V. Alekseev[illegible] and Ya. D. Mizuba (Leningrad Chem. Tech. Inst.). *J. Applied Chem. (U.S.S.R.)* 18, 805-8 (1945) (English summary).—A device for following the oxidation kinetics and ignition temp. of charcoal is described. It consists of a combustion chamber (vertical tube) that is connected to a $Ba(OH)_2$ absorption tube. G. M. K.



CA 2

Recovery of volatile solvent vapors on solid sorbents XI. Desorption of solvents from solid sorbents by water vapor. Desorption theory. K. V. Akkerevskii and Z. S. Vaayushina (Leningrad Chem. Tech. Inst.). *J. Applied Chem. (U.S.S.R.)* 18, 358-65 (1945) (English summary); cf. C.A. 40, 4581⁹. Desorption of benzene and alc. from charcoal by water vapor was investigated further. It was shown that desorption rate is connected with the residual amt. of solvent vapor by the equation $-da/dt = ba^n$, where a = solvent concn., t = time, b = constt., n is 1, and da/dt is the rate of sorption. Benzene is desorbed more rapidly than alc. The amt. of desorbed vapor is linearly dependent on the depth of the charcoal layer.

G. M. Kosolapoff



ALEKSEYEVSKIY, Ye.V.; GOL'TS, R.K.; MUSAKIN, A.P., dotsent; GRIVA, Z.I., redaktor; KRLIKH, Ye.Ya., tekhnicheskiy redaktor.

[Quantitative analysis] Kolichestvennyi analiz. Izd. 4-e, perer. i dop. dots. A.P. Musakinym. Leningrad, Gos. nauchno-tekhn. izd-vo khimicheskoi lit-ry, 1953. 640 p. [Microfilm] (Chemistry, Analytic--Quantitative) (MLRA 7:12)

ALEKSEYEVSKIY, Yevgeniy Vladimirovich; GOL'TS, Rudol'f Karlovich; MUSAKIN, Aleksandr Petrovich; KHRAPKOVSKIY, A.I., redaktor; ERLIKH, Ye.Ya., tekhnicheskiy redaktor

[Quantitative analysis] Kolichestvennyi analiz. Izd. 6-oe, ispr. Leningrad, Gos.nauchno-tekhn.izd-vo khim. lit-ry, 1957. 630 p. (Chemistry, Analytic--Quantitative) (MLRA 10:7)

GORSKIY, O.I.[Hors'kyi, O.I.], agronom; NASUSHKIN, A.I., inzh.;
ALEKSEYEVSKIY, Ye.Ye.[Alieksieievs'kyi, IE.IE.], red.;
[illegible]; GULENKO, O.I.[Hulenko, O.I.], tekhn. red.

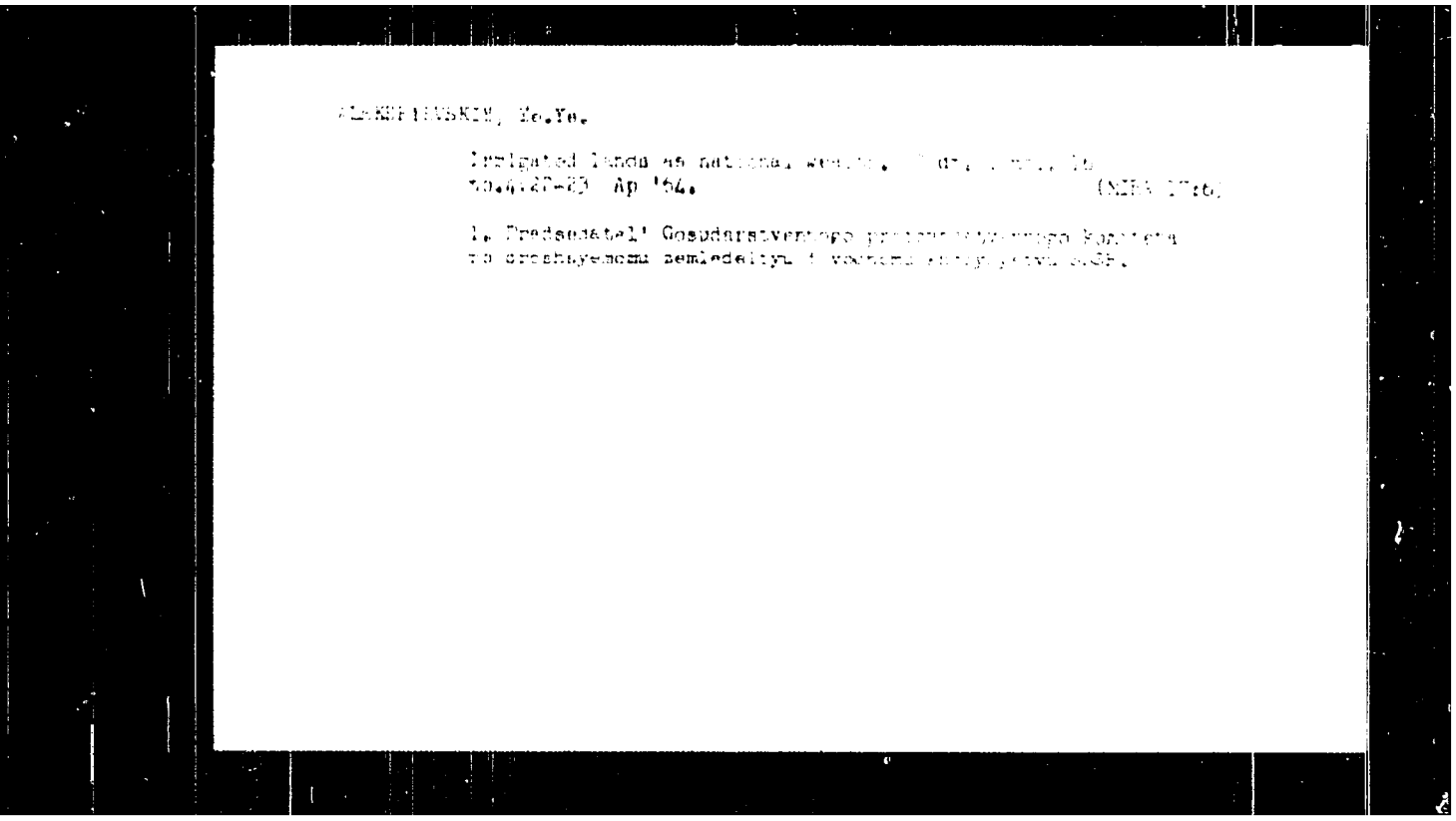
[Let's transform bogs into fertile lands] Peretvorymo bolota v rodiuchi zemli. Kyiv, Derzhsil'hospvydav URSR, 1960. 230 p. (MIRA 16:5)

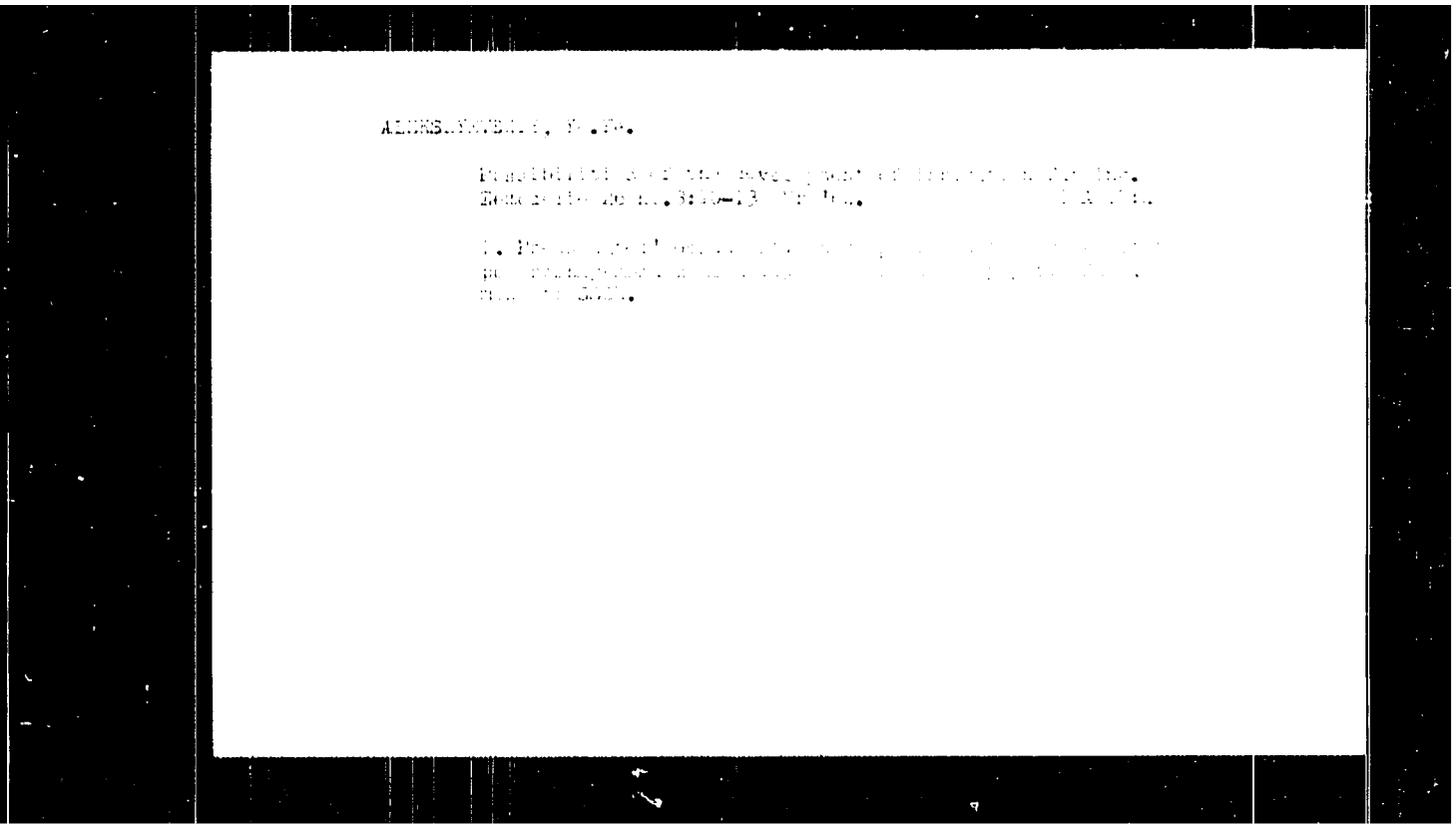
(Ukraine—Drainage)

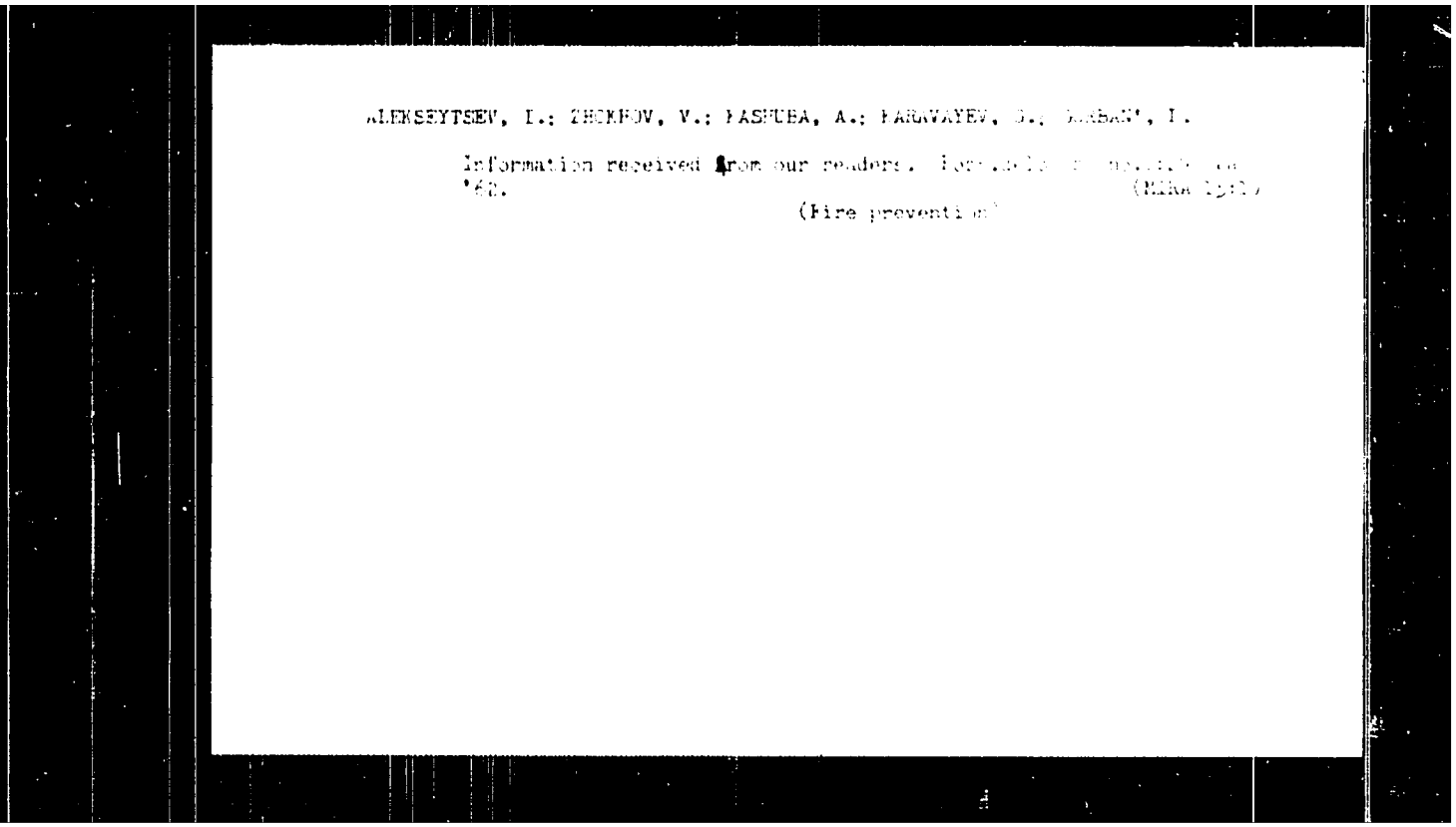
ALEKSEYEVSKIY, Ye.Ye. [Aleksieievs'kyi, IE.IE.]

Irrigation in the Ukraine. Nauka i zhyttia 11 no.5:33-36 My '61.
(MIRA 14:7)

1. Predsedatel' Gosudarstvennogo komiteta Soveta ministrov USSR po vodnomu khozyaystvu.
(Ukraine--Irrigation)





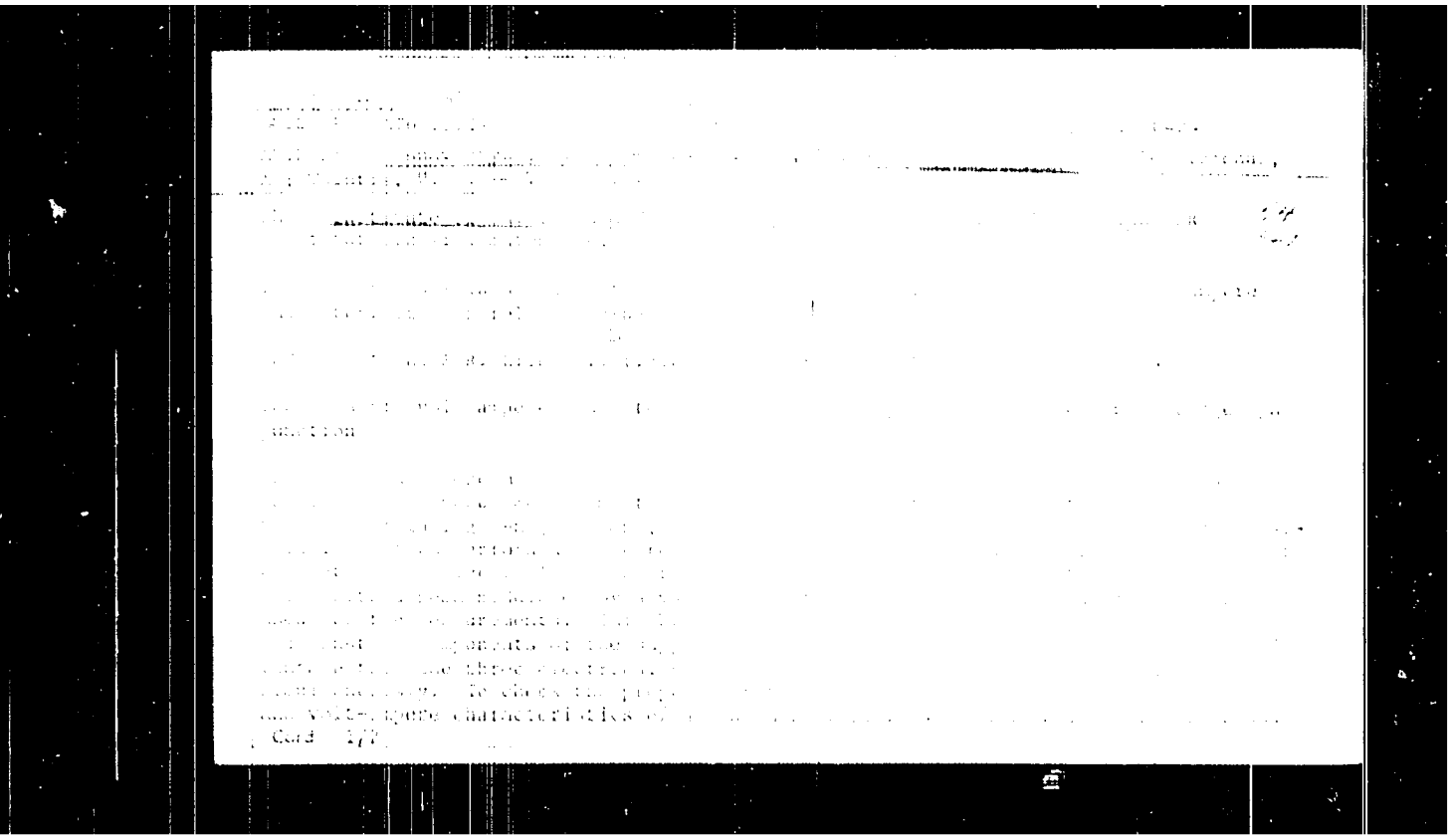


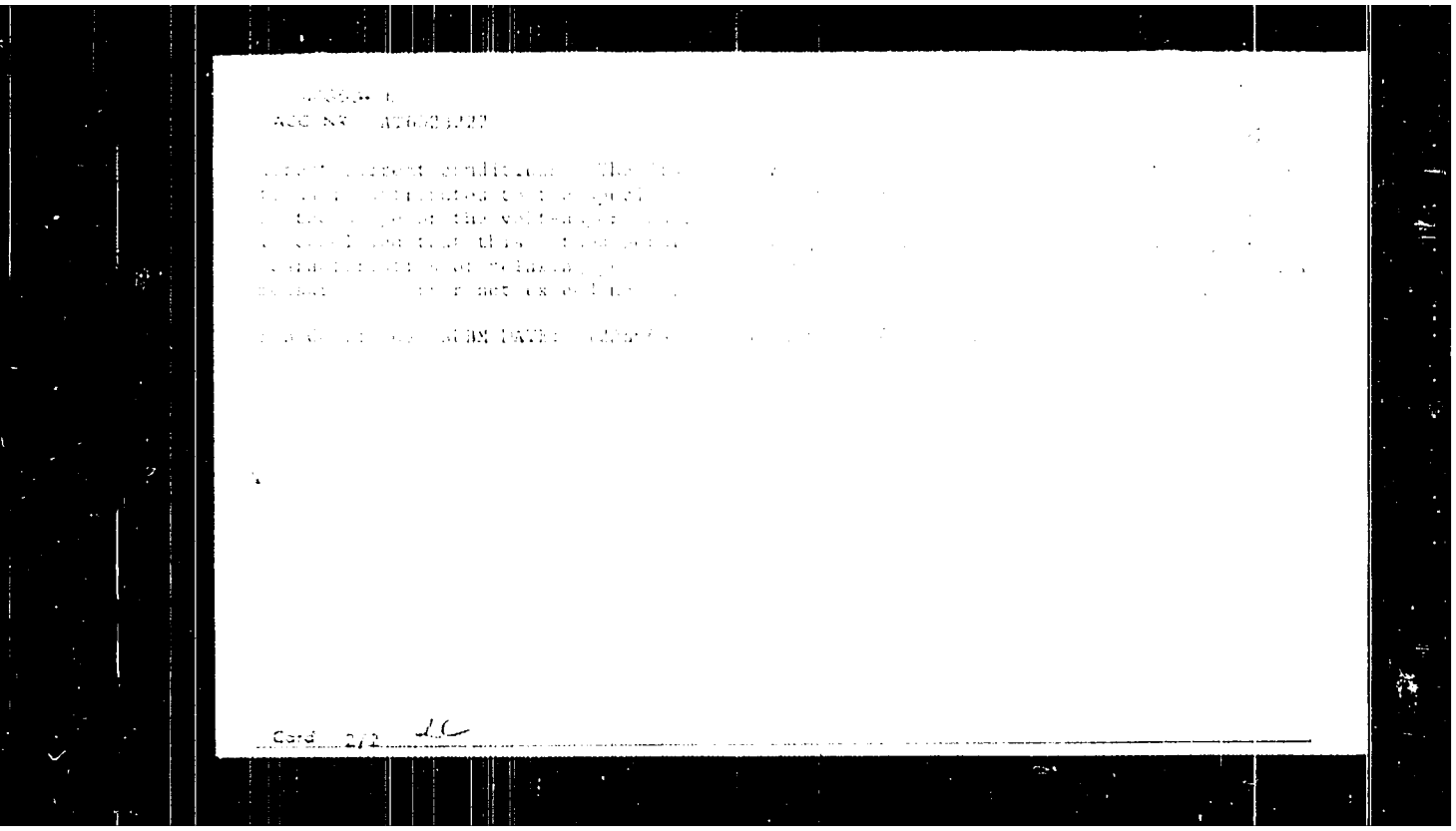
ALEKSEYTSEV, I.; ZHUKHOV, V.; PASHUBA, A.; PARAVAYEV, D.; [illegible], I.

Information received from our readers. For [illegible] on '62. (Fire prevention)

ALEKSEYEV, V.V.; LITVINENKO, A.I., inzh., kapitan dal'nego plavaniya; RACHKOV, A.A.; TSUMBAN, A.I.; KAMENEV, N.P., red.izd-va; DROZHZHINA, L.P., tekhn.red.

[Manual for merchant marine boatswains] Uchebnoe posobie dlia botsmana morskogo flota. Pod red. A.I. Litvinenko. Leningrad, Izd-vo "Morskoi transport," 1958. 359 p. (MIRA 12:2)
(Merchant seamen)





Card 2/2

L 11921-66 EWT(m)/T/EWP(t)/EWP(b)/EWA(c) IJP(c) JD
ACC NR: AT5021698 SOURCE CODE: UR/2910/64/004/004/0551/0557

AUTHOR: Shirvaytis, A. I. (Sirvaitis, A.); Alekseyunas, B. K. (Alekseyunas, B.)

ORG: Vilnyus State University im. V. Kapsukas (Vil'nyusskiy Gosudarstvennyy universitet)

TITLE: Photosensitivity of Sb_2S_3 single crystals to x rays

SOURCE: AN LitSSR. Litovskiy fizicheskiy sbornik, v. 4, no. 4, 1964, 551-557

TOPIC TAGS: antimony sulfide, photosensitivity, x ray measurement, radiation dosimetry

ABSTRACT: The photosensitivity of Sb_2S_3 single crystals to x rays was studied as a function of the growth conditions of the crystals, i. e., the vapor pressure of the more volatile component (sulfur). Also studied were the volt-ampere and dosimetric characteristics, inertia of the photocurrent and stability of the photosensitivity. All the measurements were made at room temperature. It was found that the photosensitivity increases with sulfur vapor pressure at 0.10-0.95 mm Hg but does not change statistically in the 12-395 mm Hg range. The volt-ampere

Card 1/2

L 11921-66

ACC NR: AT5028698

characteristics are linear or superlinear. The dosimetric characteristics are linear or sublinear. The photocurrent most frequently increases and decreases along a hyperbola. The photosensitivity is stable at a dose rate of 45 r/min and a field strength of (105) 10^4 V/m. The study showed that Sb_2S_3 single crystals can be successfully used in x-ray dosimetry. In conclusion, authors thank A. Karpus (Candidate of Physicomathematical Sciences) and V. Krishchunas (Senior Lecturer) for kindly supplying the Sb_2S_3 single crystals. Orig. art. has: 6 figures.

SUB CODE: 20/ SUBM DATE: 11Mar64/ ORIG REF: 006/ OTH REF: 003

Card 2/2

L 63881-65 EWT(1)/EWA(h)

ACCESSION NR: AP5014005 UR/0119/65/000/005/0025/0026
621.374.32

26
B

AUTHOR: Alekshin, A. D. (Engineer); Liz'ko, Yu. V. (Engineer)

TITLE: Circuit of a decimal pulse counter with luminous display

25

SOURCE: Priborostroyeniye, no. 5, 1965, 25-26

TOPIC TAGS: decimal counter, pulse counter

ABSTRACT: A semiconductor decimal pulse counter circuit with conventional triggers and decoders is briefly described. Two diode decoders 2--10 and 10--7 convert the trigger binary potential signals into base-7 code signals to operate a 7-segment luminescent number-display panel. The luminescent segments are supplied at 150--200v 5--10 kc via electromagnetic-relay contacts. The circuit is claimed to be stable with a frequency up to 200 ks. [Abstracter's note: No experimental verification is mentioned]. Orig. art. has: 3 figures and 1 table.

ASSOCIATION: none

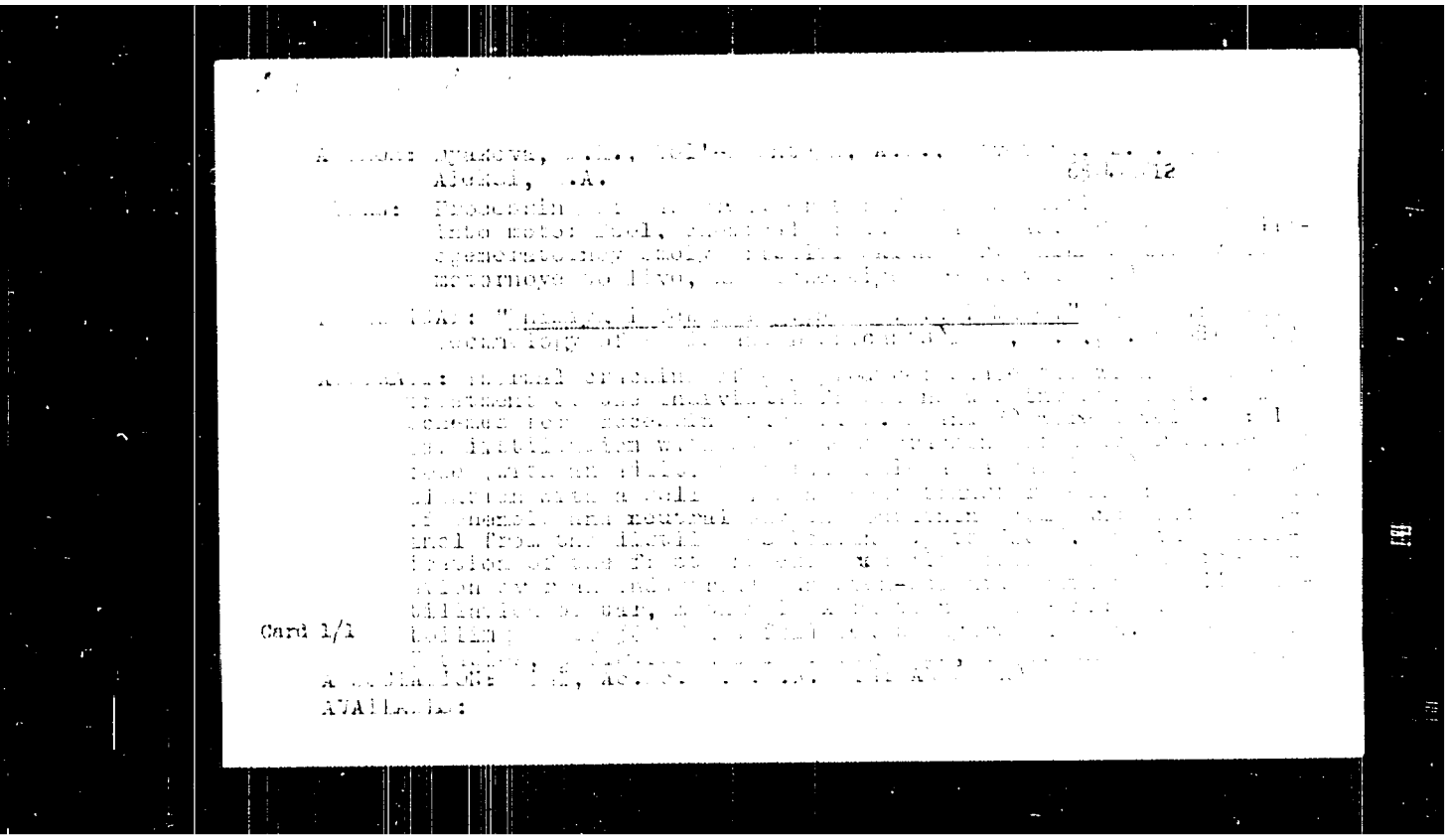
SUBMITTED: 00 ENCL: 00 SUB CODE: EC

Card 1/1 NO REF SOV: 000 OTHER: 000

D'YAKOVA, M.K.; VOL'-EPSHTEYN, A.B.; ALEKSI Ye.A.; VASIL'CHIKOVA, Ye.I.

Hydrofining distillates of tar and the products of thermal dissolution of Estonian shales. Khim.i tekh.topl.no.9:44-51 S '56. (MIRA 9:10)

1.Institut goryuchikh iskopayemykh Akademii nauk SSSR.
(Tar)(Oil shales)

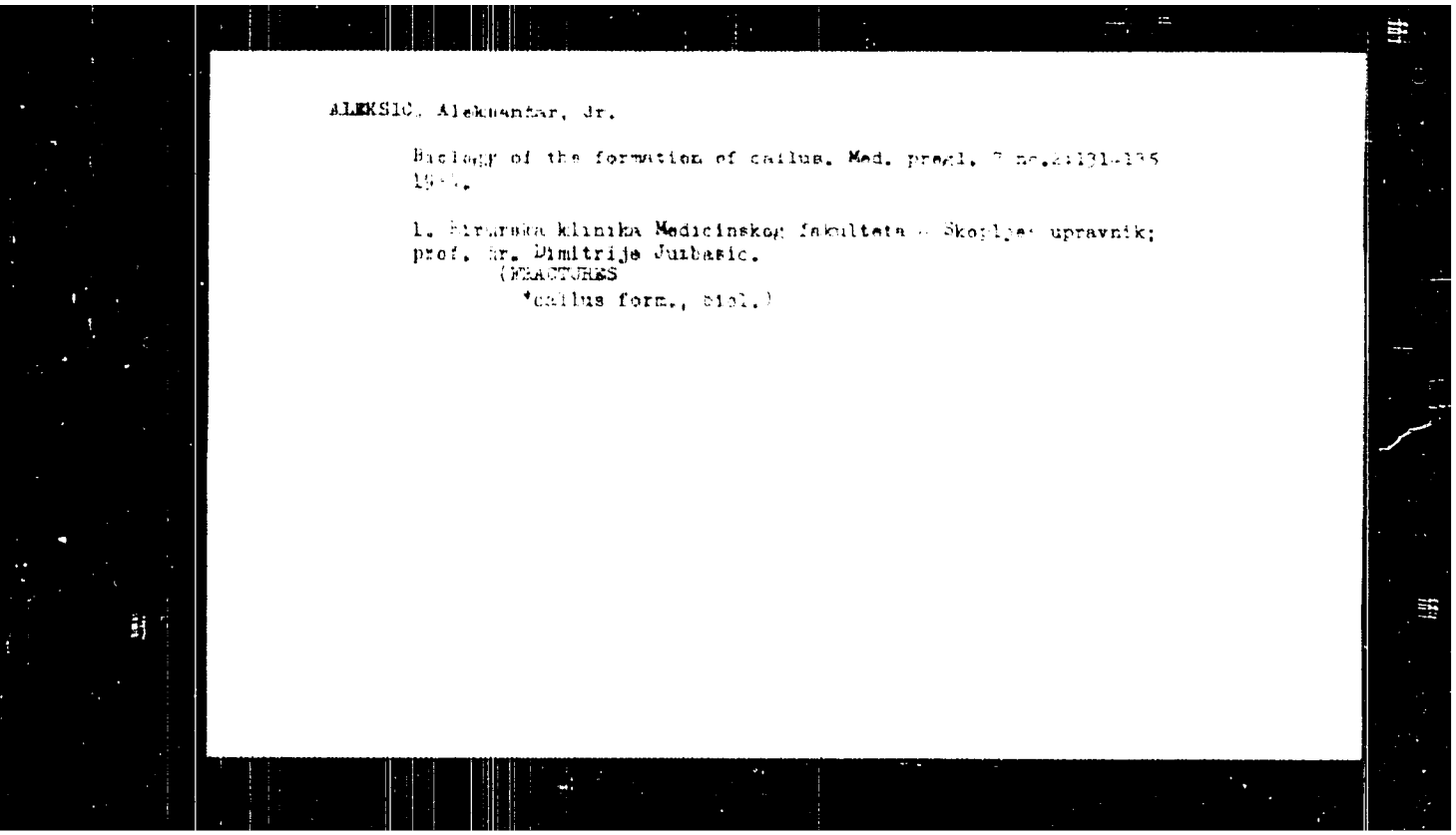


Card 1/1

AFERSI, V. A.

Hydrogenation refining at low [illegible] pressures of thermal cracking and semicoking [illegible] from Estonian shale. [illegible] and R. [illegible] [illegible] (1957). [illegible] cracking [illegible] and [illegible] (II) distillates from Estonian shale were [illegible] in a continuous process over the catalysts WS_2, and WS_2-Al silicate [illegible]. At 300-atm. pressure, at a space rate of [illegible] catalyst/hr., and a H rate of [illegible] the rate of [illegible] were practically parallel curves, the [illegible] sharply from 300 to [illegible] and rapidly [illegible] value at 410°, producing gasolines with [illegible] with WS_2. Increasing the feed rate from [illegible] catalyst/hr. increased the yield from [illegible] lowered the octane no. from [illegible] ratio of feed to H from 1:4.6 to 1 [illegible] to 100 atm. had only a slight effect on the degree [illegible]. The compn. of gasolines obtained from I and II at 400° was: alkenes 1.8, [illegible]; alkanes [illegible] 27.2, 32.8; aromatics 4.7, [illegible]. II required [illegible] higher octane no., and a lower tendency towards coking. No deterioration of the catalyst was noted after [illegible] continuous service.

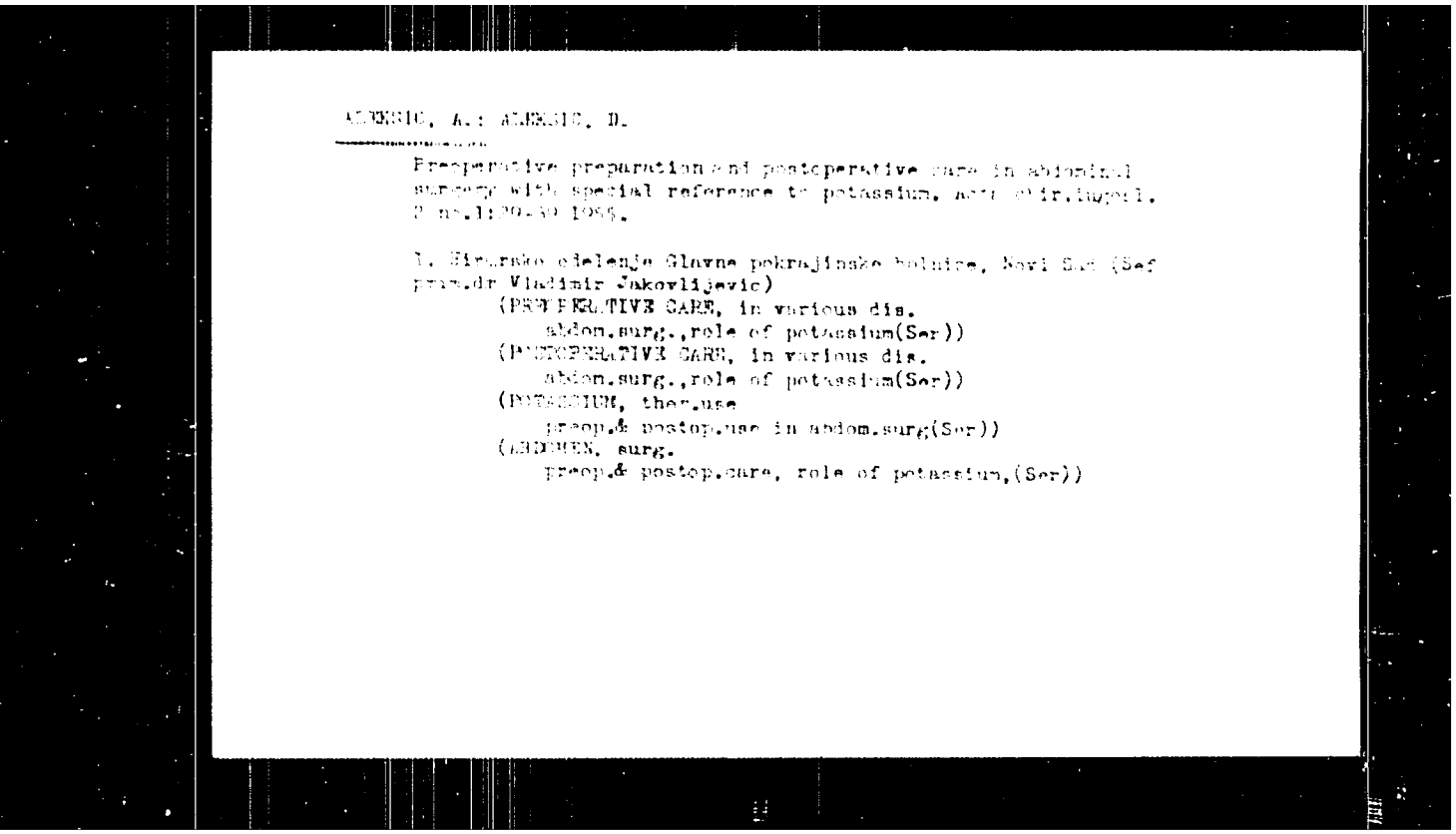
[illegible]



ALEKSIC, Aleksandar, dr.

Biology of the formation of callus. Med. pregl. 7 no.2:131-135 1954.

1. Hirurska klinika Medicinskog fakulteta u Skoplju; upravnik: prof. dr. Dimitrije Jurisic.
(FRACTURES
*callus form., biol.)

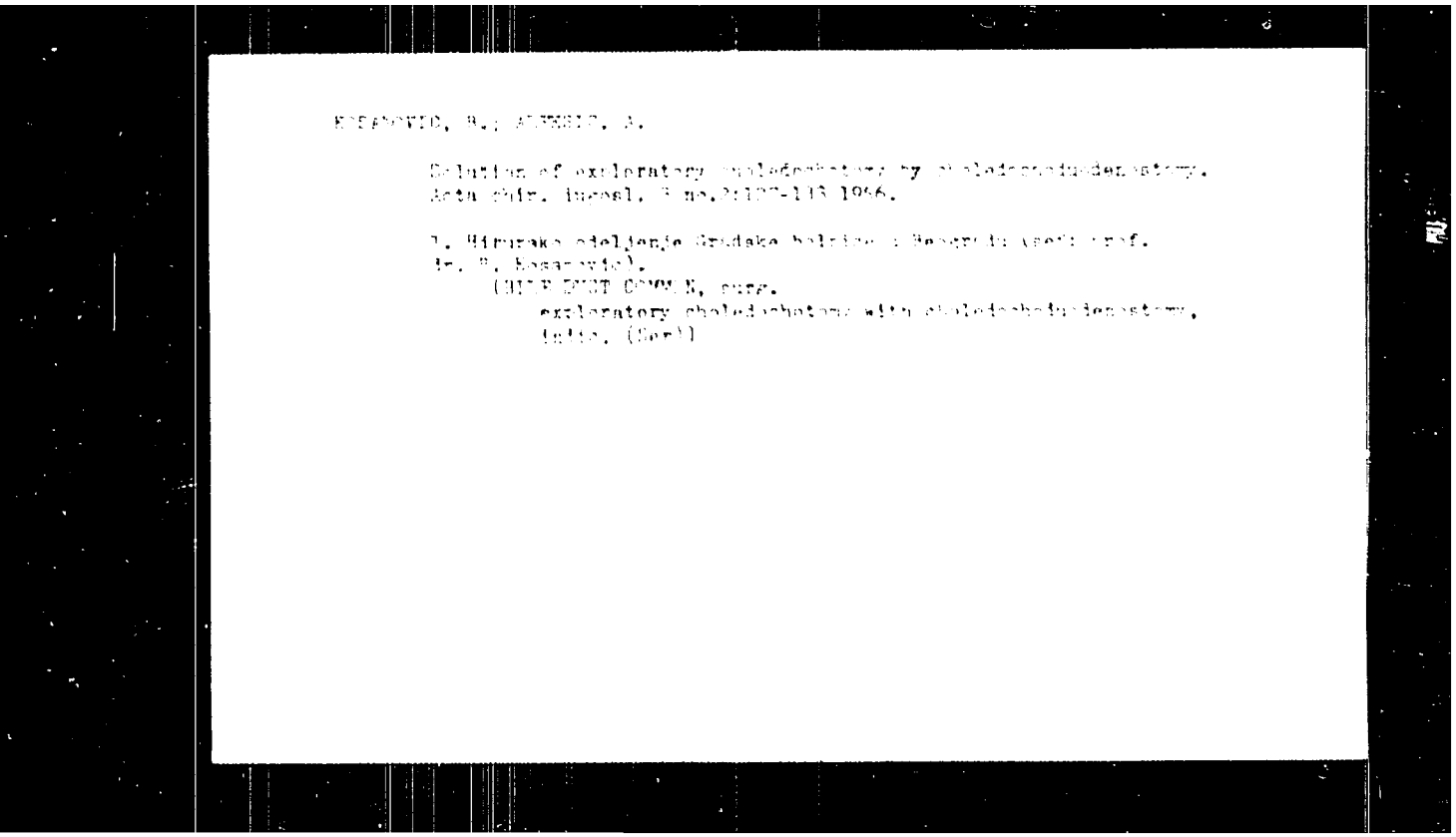


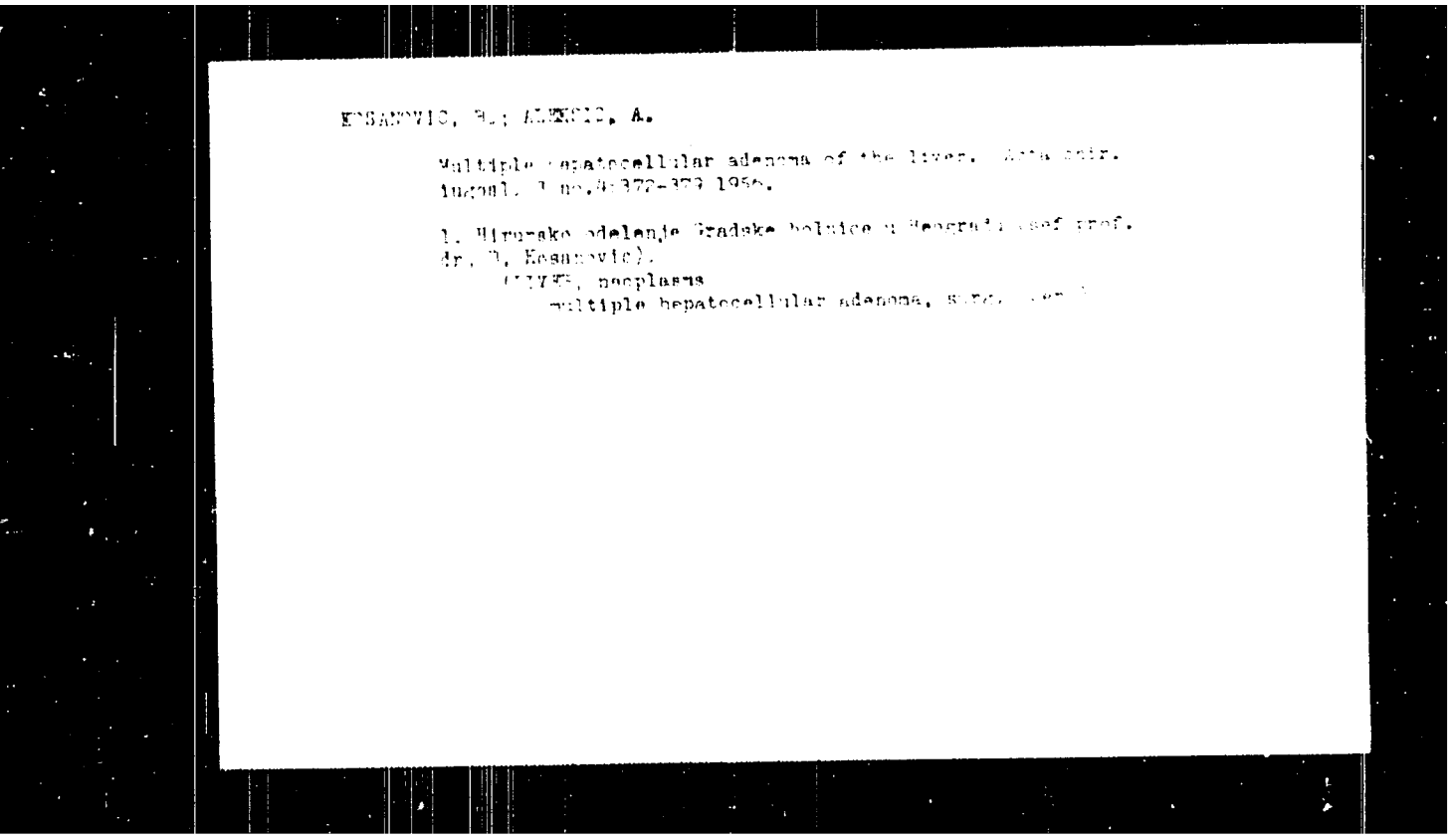
ACIMOVIC, A.; ACIMOVIC, D.

Preoperative preparation and postoperative care in abdominal surgery with special reference to potassium. Acta chir.iugosl. 2 no.1:20-30 1955.

1. Hirurško odeljenje Glavne pokrajinske bolnice, Novi Sad (Šef prim.dr Vladimir Jakovljevic)

(PREOPERATIVE CARE, in various dis.
abdom.surg.,role of potassium(Ser))
(POSTOPERATIVE CARE, in various dis.
abdom.surg.,role of potassium(Ser))
(POTASSIUM, ther.use
preop.& postop.use in abdom.surg.(Ser))
(ABDOMEN, surg.
preop.& postop.care, role of potassium,(Ser))





KOSANOVIC, M.; ALEKSIC, A.

Multiple hepatocellular adenoma of the liver. Acta anat. [illegible] 3 no.4:372-377 1956.

1. Hirurško odeljenje Gradske bolnice u Beogradu (Šef prof. dr. M. Kosanović).

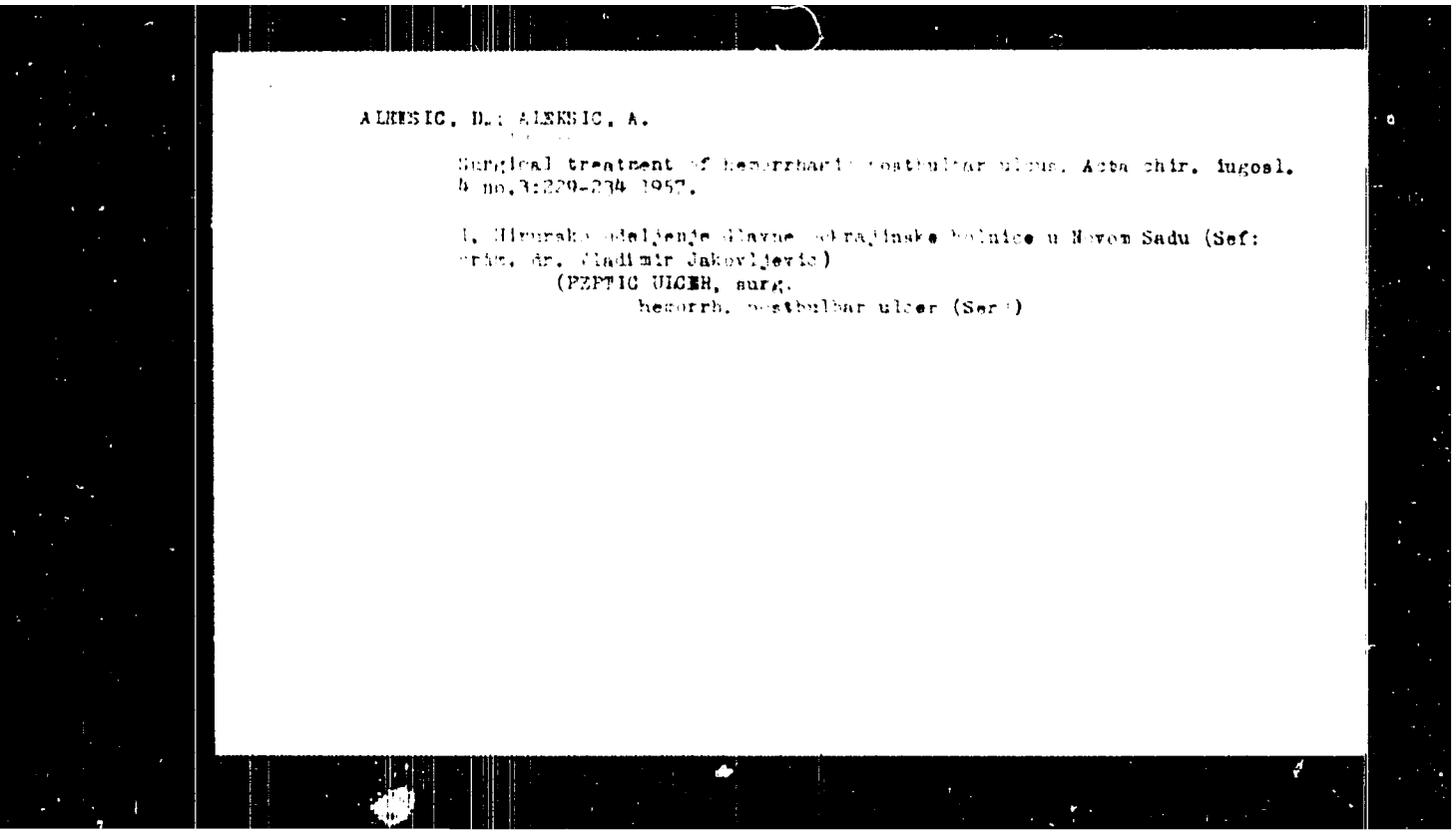
(LIVER, neoplasms
multiple hepatocellular adenoma, surg. [illegible])

ALEKSIC, D.; ALEKSIC, A.; JASOVIC, M.

Hepatic pathogenesis of biliary calculosis. Acta chir. iugosl. 4 no.2:159-169 1957.

1. Hirursko odeljenje Glavne pokrajinske bolnice u Novom Sadu (Sef: prim. dr. Vladimir Jakovljevic).

(CHOLELITHIASIS, etiol. & pathogen.
changes in funct. of liver cells (Ser))
(LIVER DISEASES, compl.
cholelithiasis caused by changes in liver cell funct. (Ser))



ALEKSIC, D.; ALEKSIC, A.

Surgical treatment of hemorrhagic postbulbar ulcus. Acta chir. iugosl. 4 no.3:229-234 1957.

1. Hirursko odeljenje Glavne okrajinske bolnice u Novom Sadu (Sef: prim. dr. Vladimir Jakovljevic)
(PEPTIC ULCER, surg.
hemorrh. postbulbar ulcer (Ser))

ANDREJEVIC, Mihailo; MITROVIC, Milan; ALEKSIC, Aleksandar; VUKASINOVIC, Djordje; ZIVKOVIC, Milada

Case of Lobstein-Bauch syndrome. Srpski arh. celok. lek. 88 no.9:903-904 My '60.

1. Interno odeljenje Gradske bolnice u Beogradu, Sef: prof. dr Mihailo Andrejevic. Hirursko odeljenje Gradske bolnice u Beogradu, Sef: prof. dr Miter Mitrovic.

(PULMONARY case reports)

ALEKSIC, D.

Early postoperative failure of evacuation through gastrojejunal anastomosis. Acta chir. iugosl. 1 no.4:379 '54 1954.

1. Hirurako odeljenje Glavne pokrajinske bolnice Novi Sad (Sef prim. dr Vladimir Jakovljevic)

(STOMACH, surg.
gastrojejunostomy, postop. evacuation failure)
(JEJUNUM, surg.
gastrojejunostomy, postop. evacuation failure)

ALEKSIC, Dejan, dr.

The principles and results of surgery of peptic ulcer and its complications. Med. Pregl., Novi Sad 7 no.6:369-374 1954.

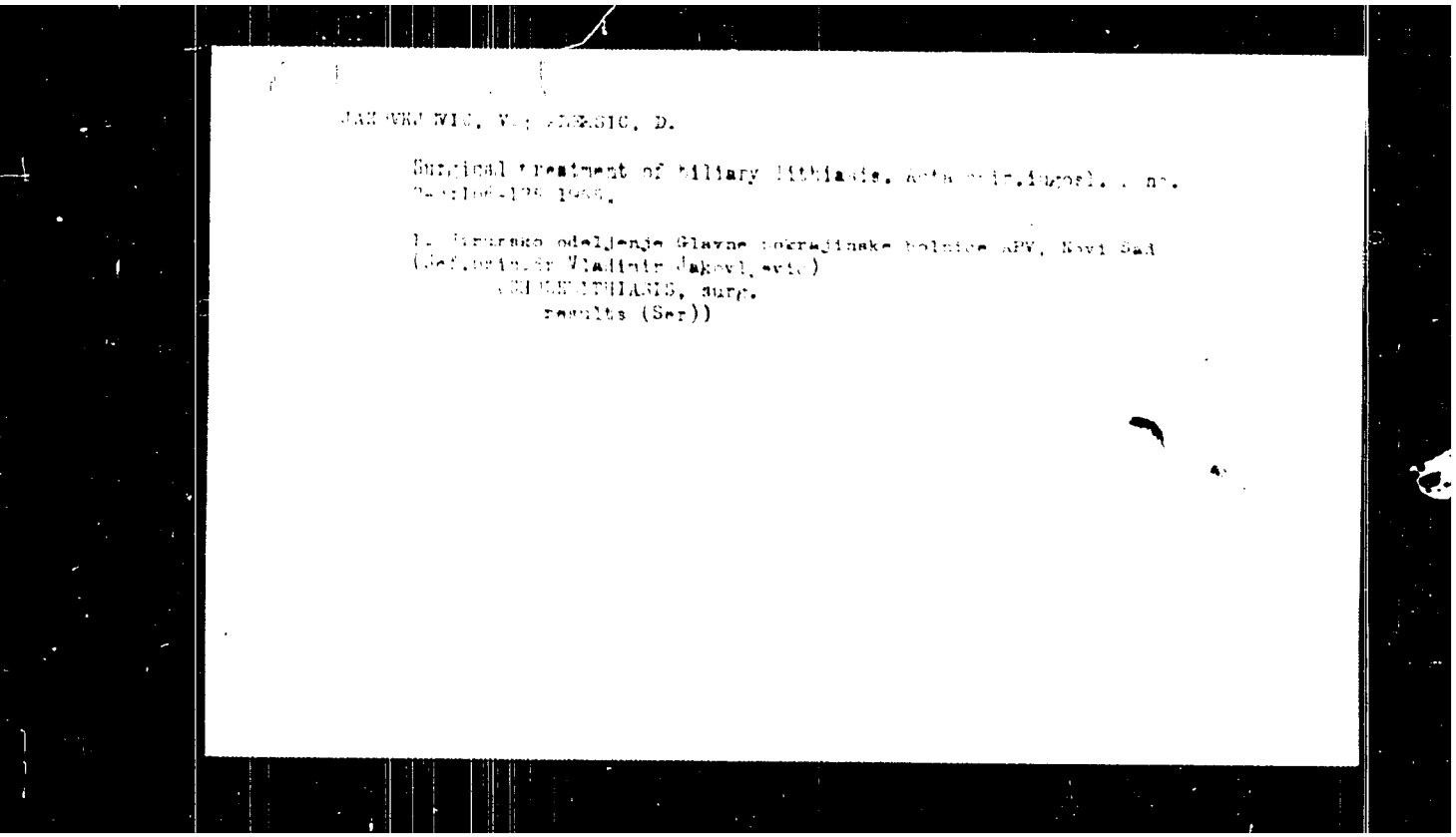
1. Hirursko odeljenje Glavne bolnice - Novi Sad. Sef: Prim. dr Vladimir Jakovljevic.
(PEPTIC ULCER, surg.
technica & postop.compl.)

ALEKSIC, A.; ALEKSIC, D.

Preoperative preparation and postoperative care in abdominal surgery with special reference to potassium. Acta chir.iugosl. 2 no.1:29-40 1955.

1. Hirursko odeljenje Glavne pokrajinske bolnice, Novi Sad (Sef prim.dr Vladimir Jakovljevic)

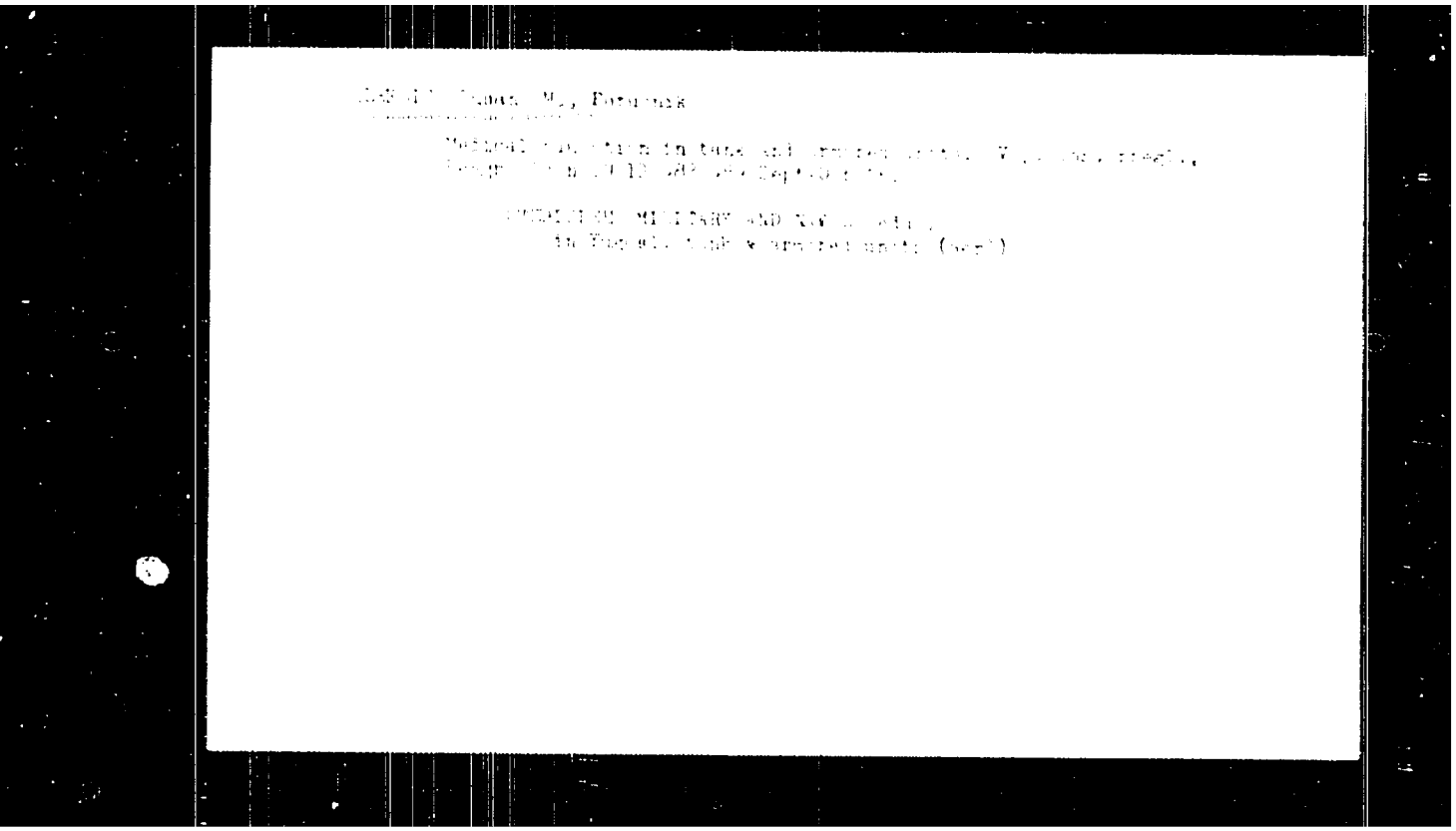
(PREOPERATIVE CARE, in various dis.
abdom.surg.,role of potassium(Ser))
(POSTOPERATIVE CARE, in various dis.
abdom.surg.,role of potassium(Ser))
(POTASSIUM, ther.use
preop.& postop.use in abdom.surg.(Ser))
(ABDOMEN, surg.
preop.& postop.care, role of potassium,(Ser))

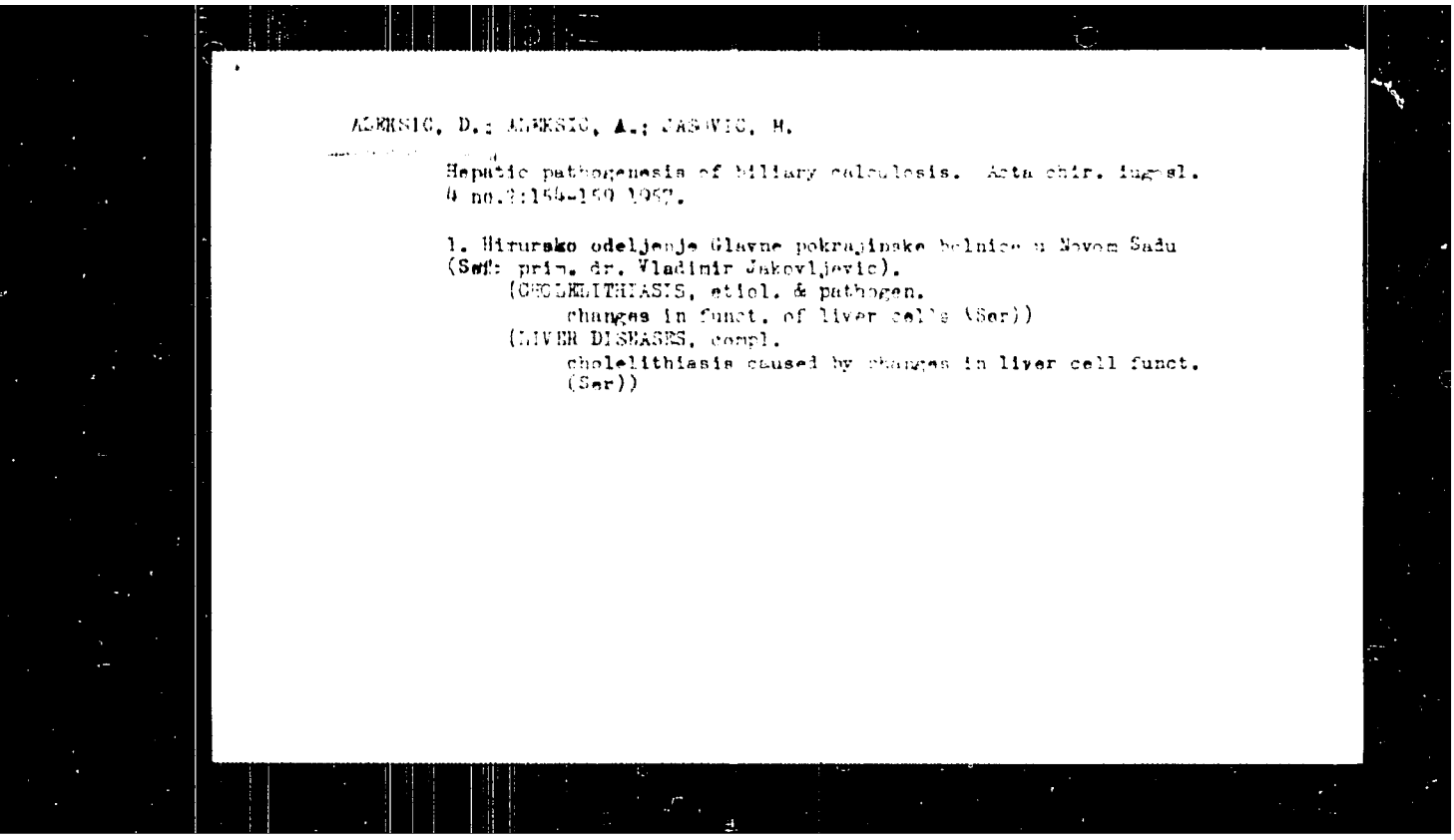


JANKOVIC, V.; ZDRALIC, D.

Surgical treatment of biliary lithiasis. Acta chir.iugosl. 2 no.
[illegible] 1955.

1. Hirurško odeljenje Glavne okružnjake bolnice APV, Novi Sad
(Gal.surg.dr Vladimir Jakovljević)
(BILIARY LITHIASIS, surg.
results (Ser))

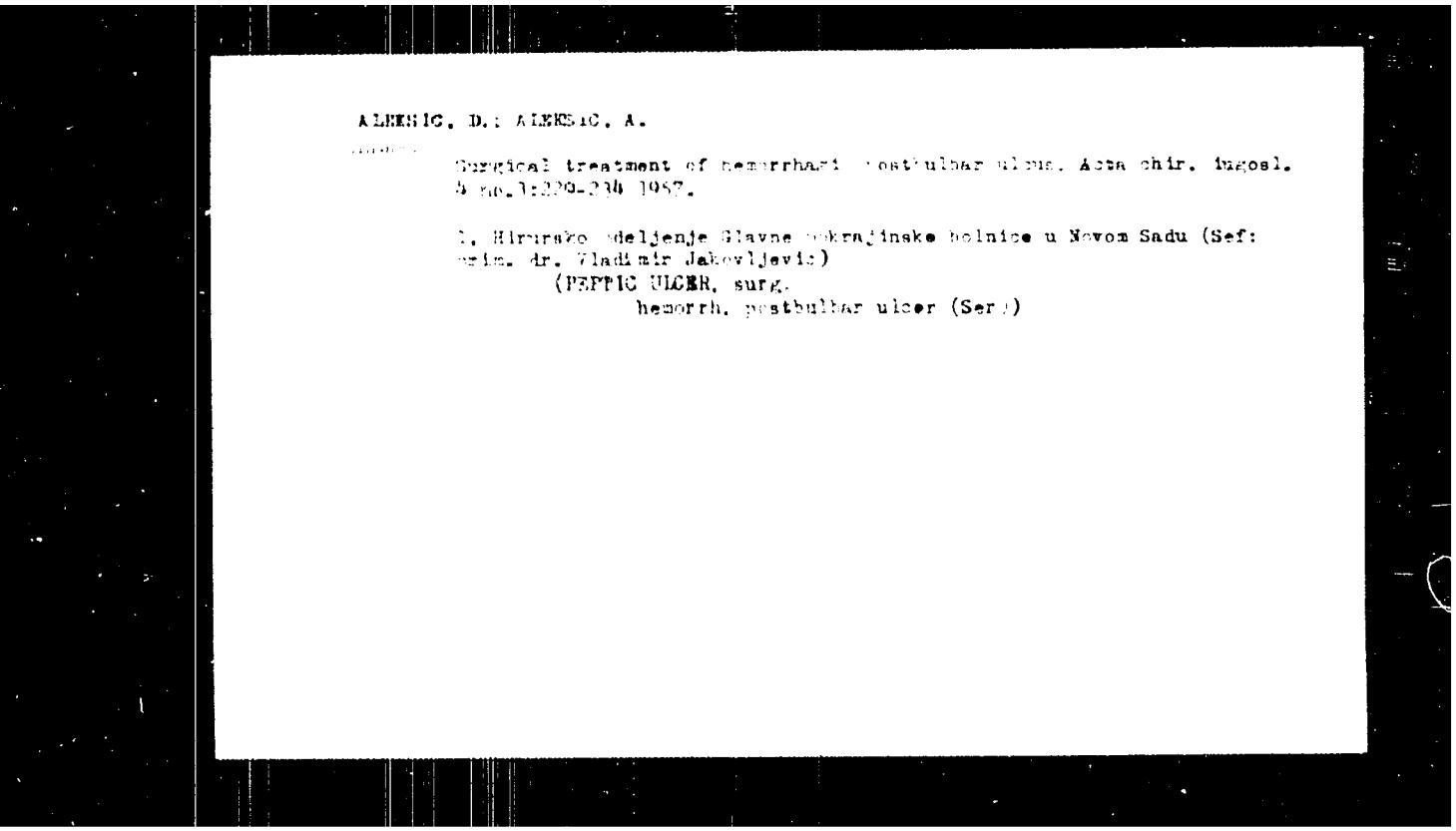




ALEKSIC, D.; ALEKSIC, A.; JASOVIC, M.

Hepatic pathogenesis of biliary calculosis. Acta chir. iugosl. 4 no.2:154-159 1957.

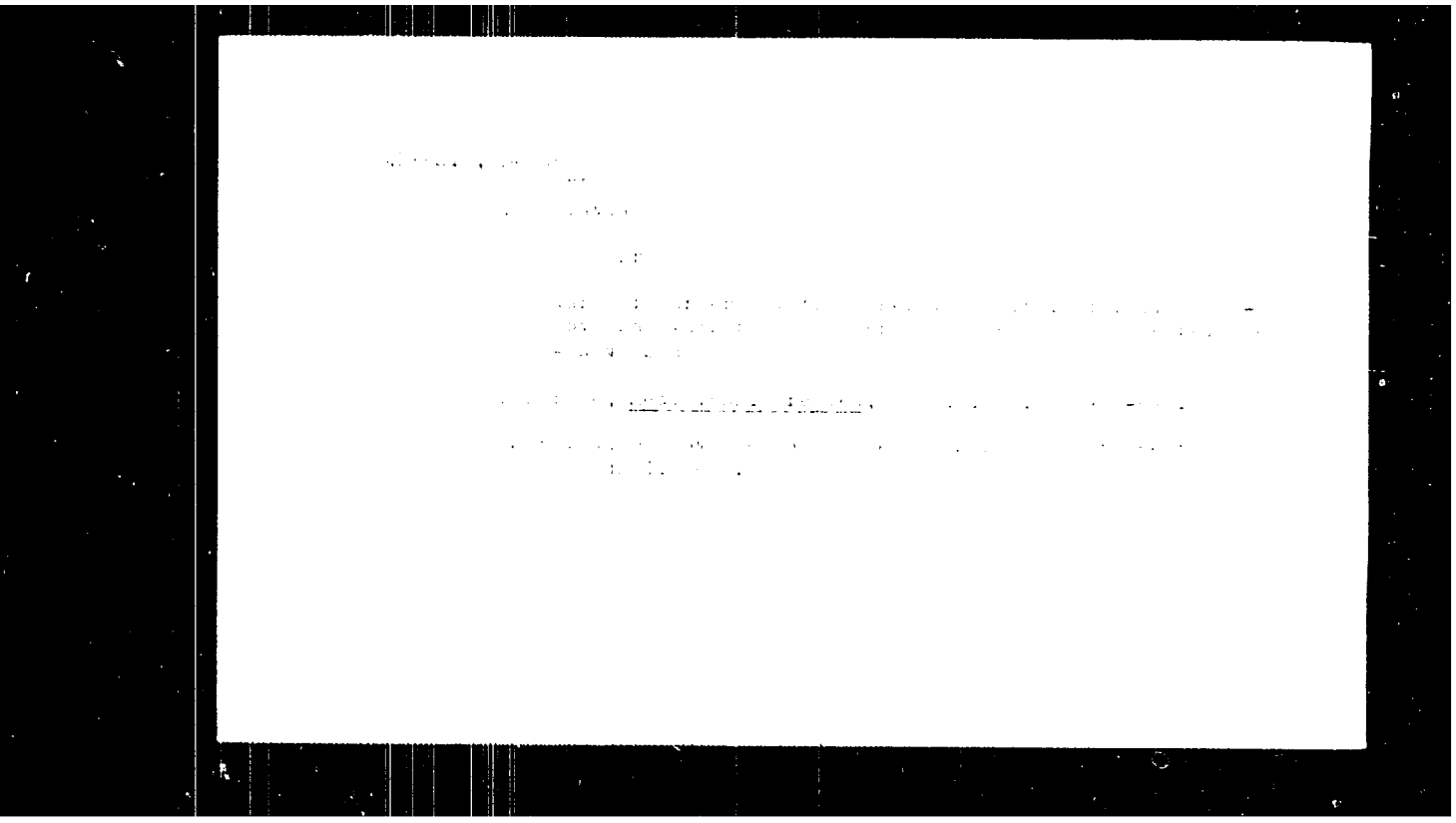
1. Hirursko odeljenje Glavne pokrajinske bolnice u Novom Sadu (Suf: prim. dr. Vladimir Jakovljevic).
(CHOLELITHIASIS, etiol. & pathogen.
changes in funct. of liver cells (Ser))
(LIVER DISEASES, compl.
cholelithiasis caused by changes in liver cell funct. (Ser))

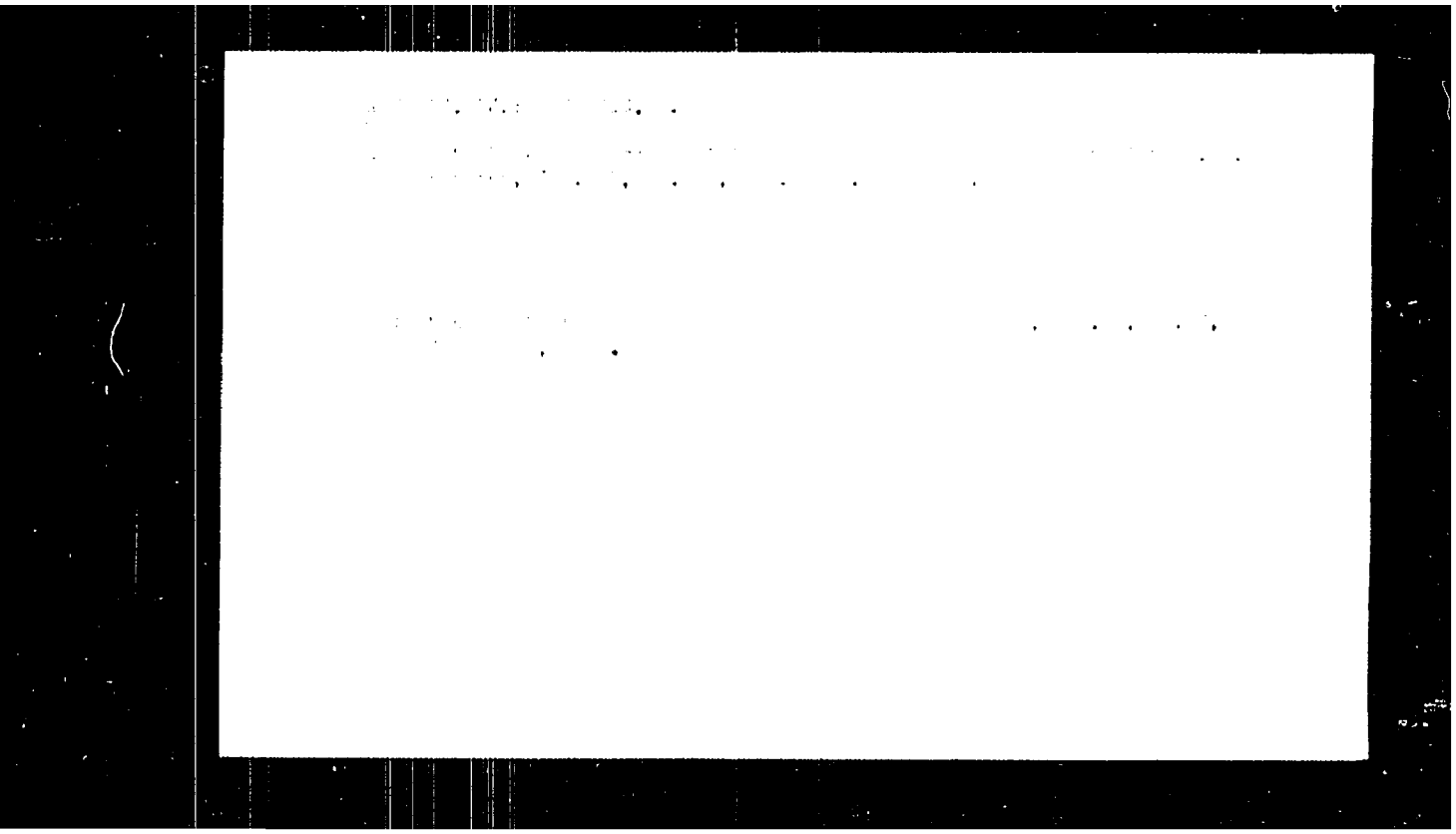


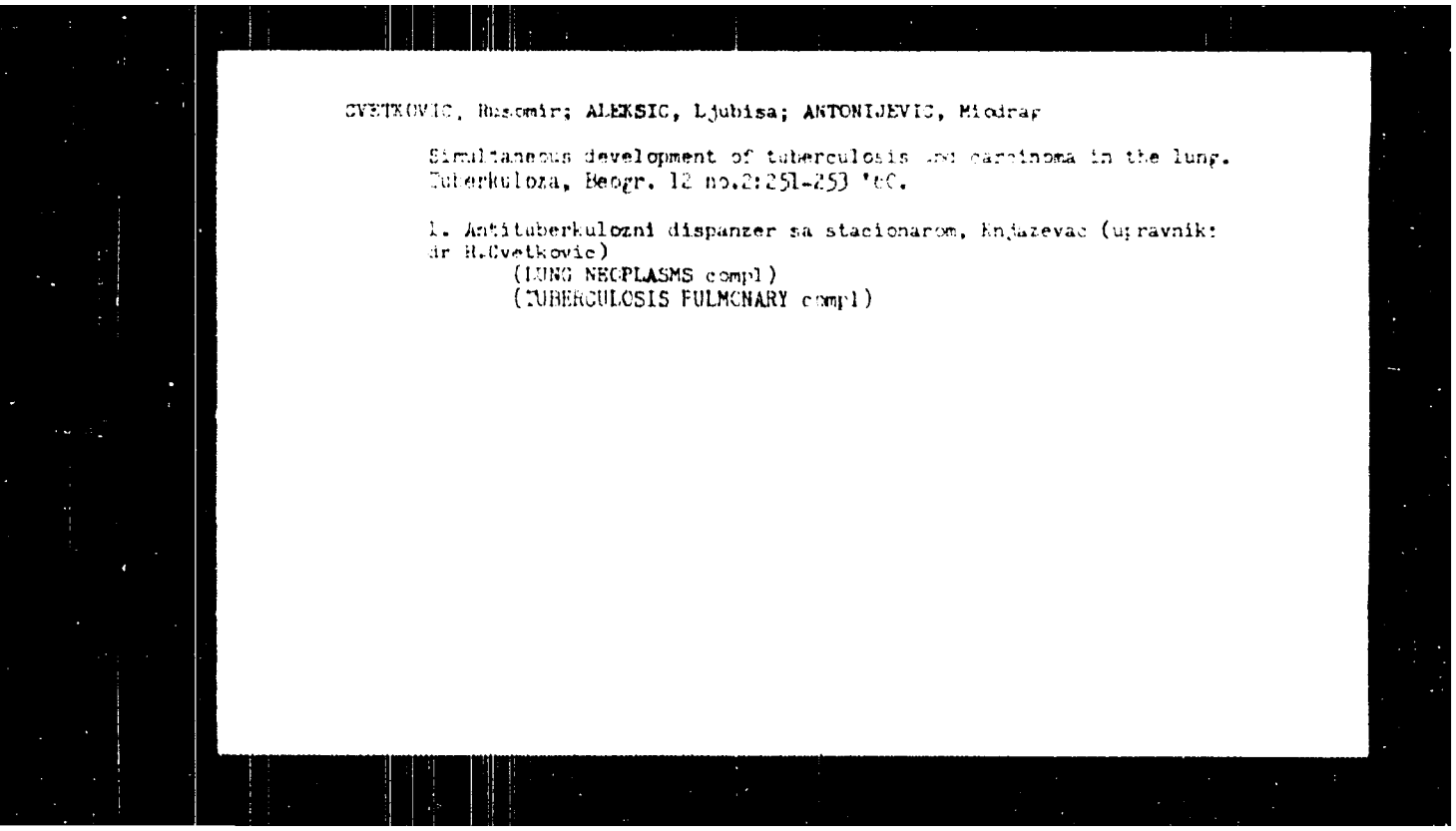
ALEKSIC, D.; ALEKSIC, A.

Surgical treatment of hemorrhagic postbulbar ulcus. Acta chir. Iugosl. 5 no.1:229-234 1957.

1. Hirurško odeljenje Glavne okružne bolnice u Novom Sadu (Sef: prim. dr. Vladimir Jakovljevic)
(PEPTIC ULCER, surg.
hemorrh. postbulbar ulcer (Ser.))



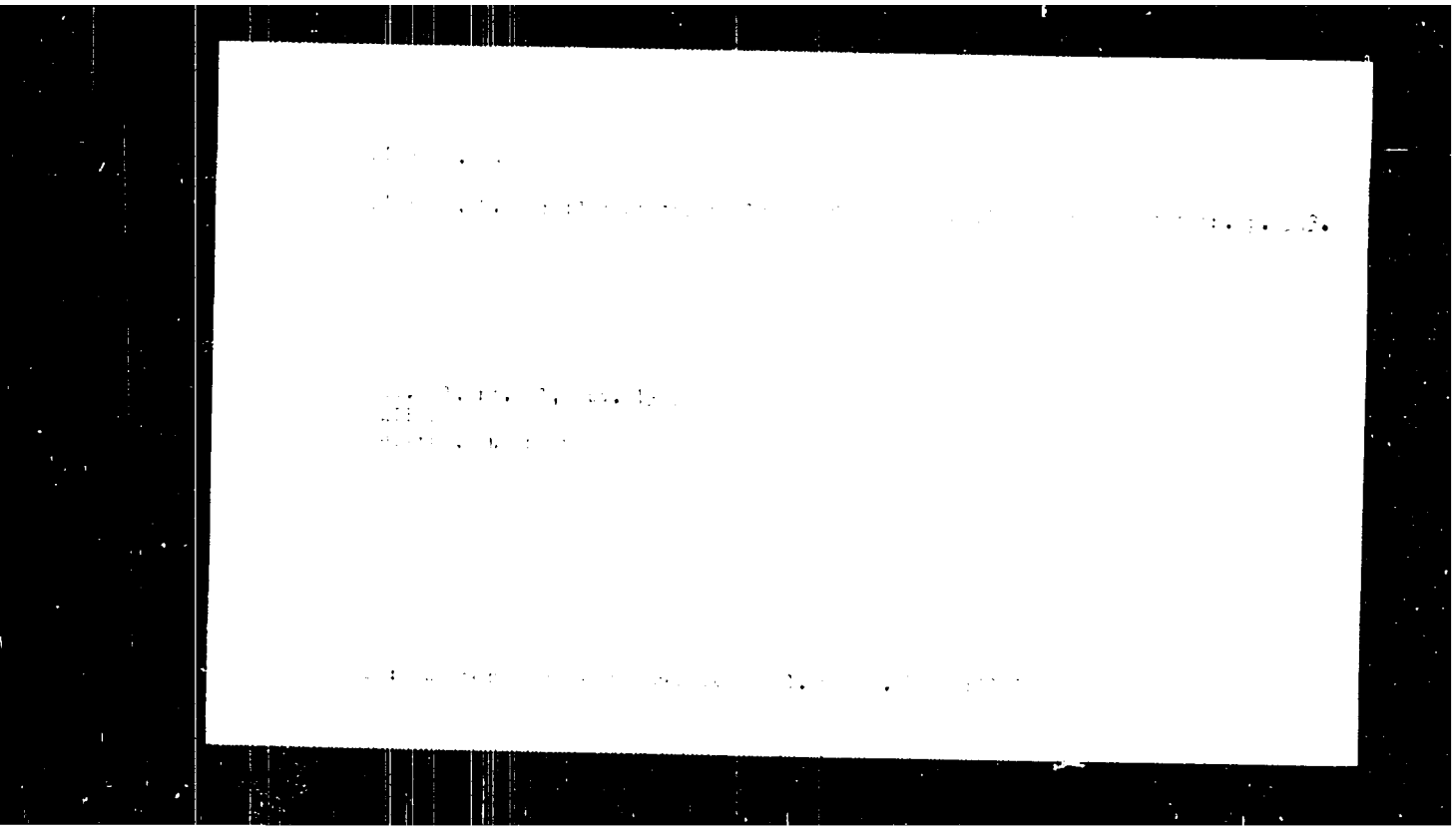


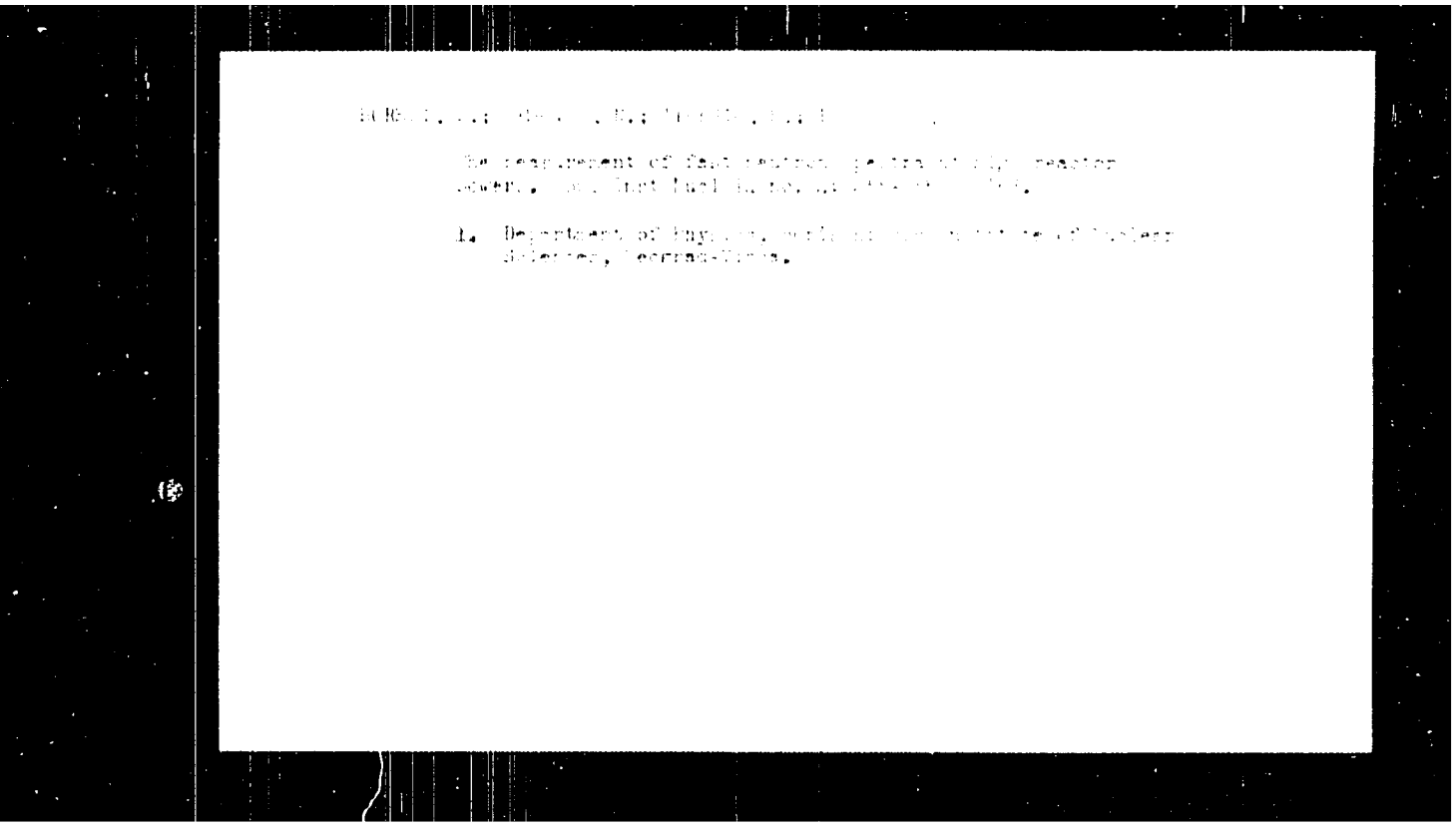


CVETKOVIC, Radomir; ALEKSIC, Ljubisa; ANTONIJEVIC, Miodrag

Simultaneous development of tuberculosis and carcinoma in the lung.
Tuberkuloza, Beogr. 12 no.2:251-253 '60.

1. Antituberkulozni dispanzer sa stacionarom, Knjazevac (upravnik: dr R.Cvetkovic)
(LUNG NEOPLASMS compl)
(TUBERCULOSIS PULMONARY compl)





ALEKSIC, Milutin, inz. (Beograd, Bajranska 12)

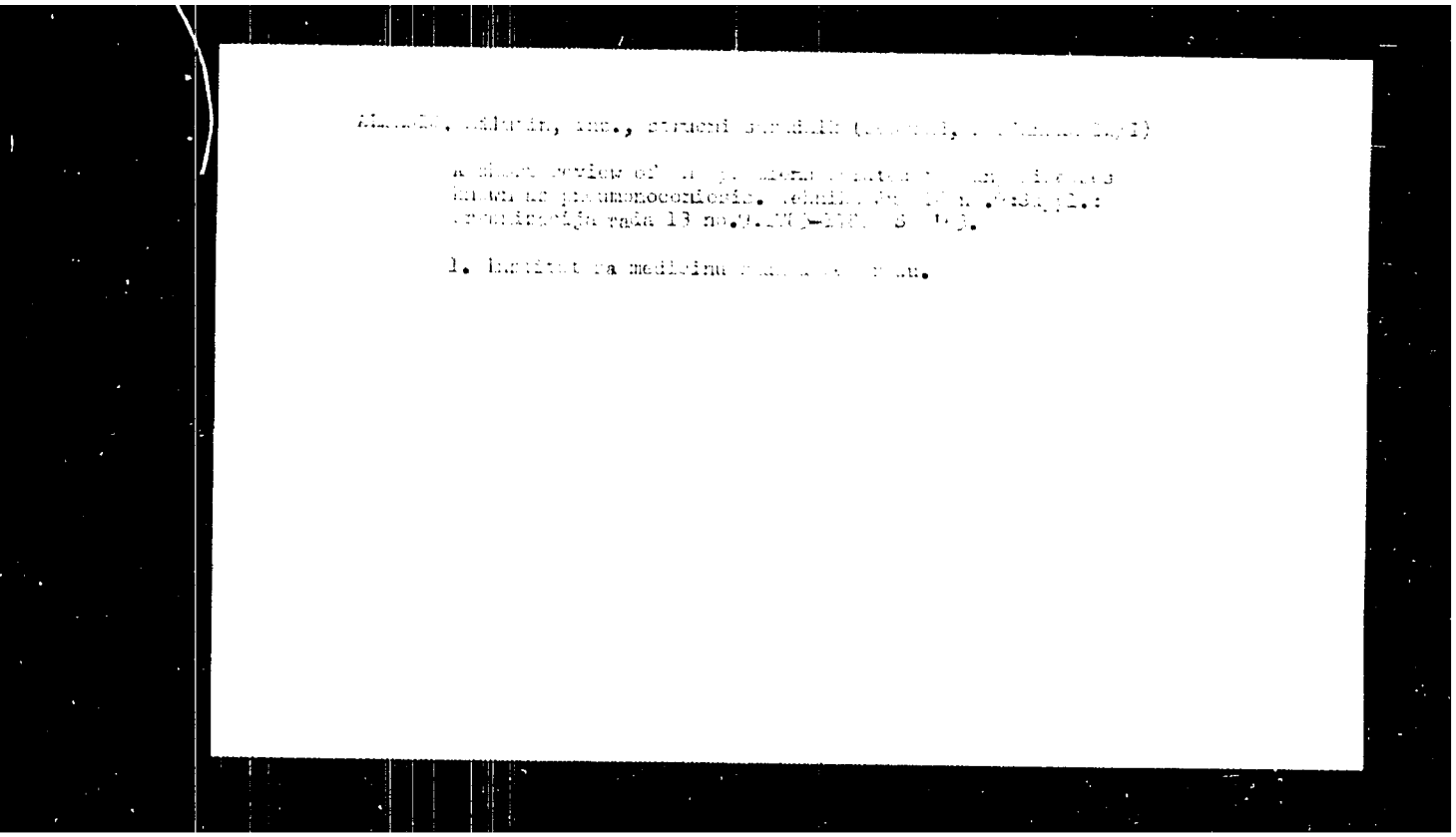
Etiological factors in professional diseases and absence from work in industries and mining. Tehnika Jug 17 no.8: Suppl.: Organizacija rada 12 no.8:1617-1620 Ag '62.

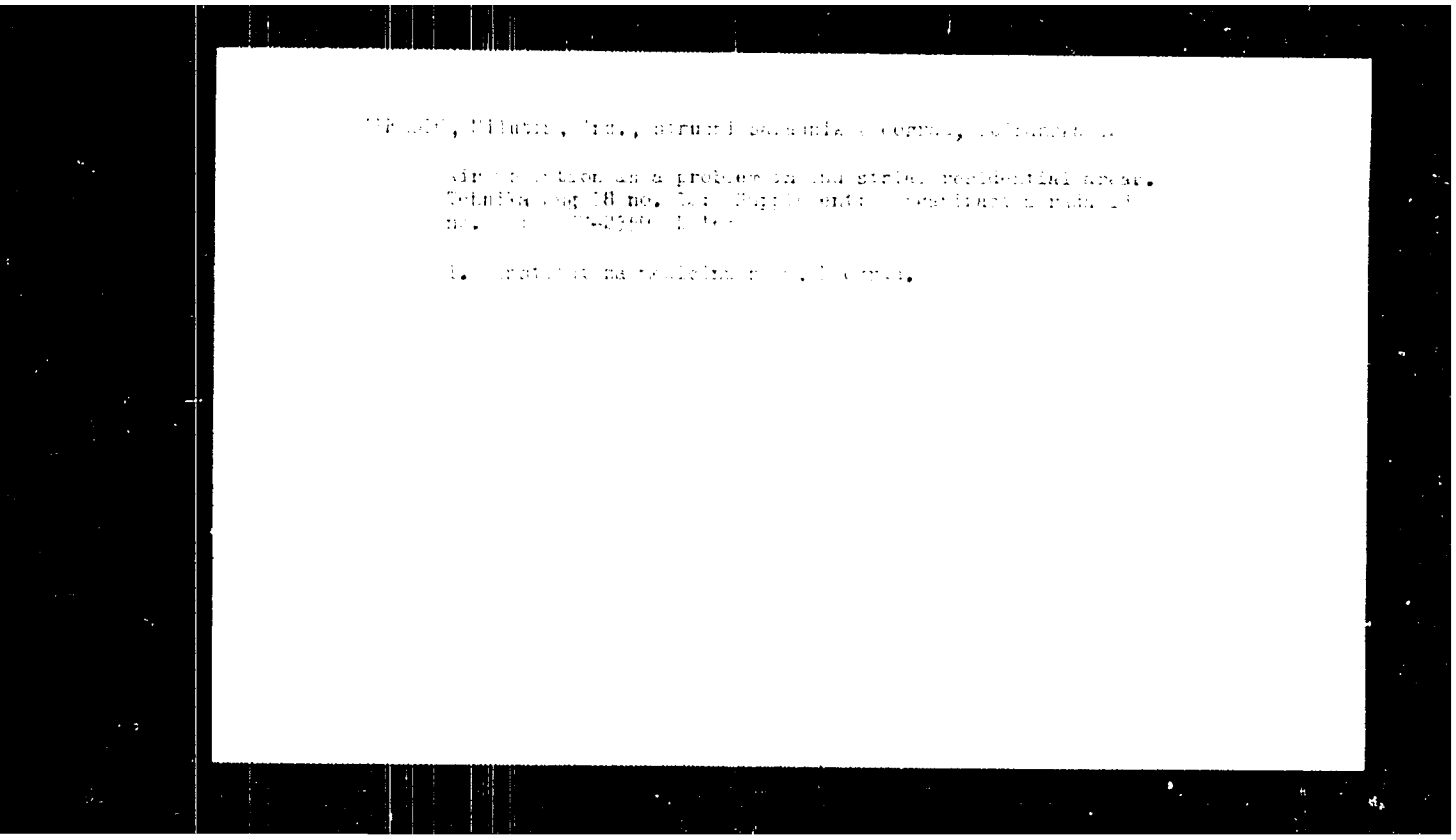
1. Stručni saradnik Instituta za medicinu rada [illegible], Beograd.

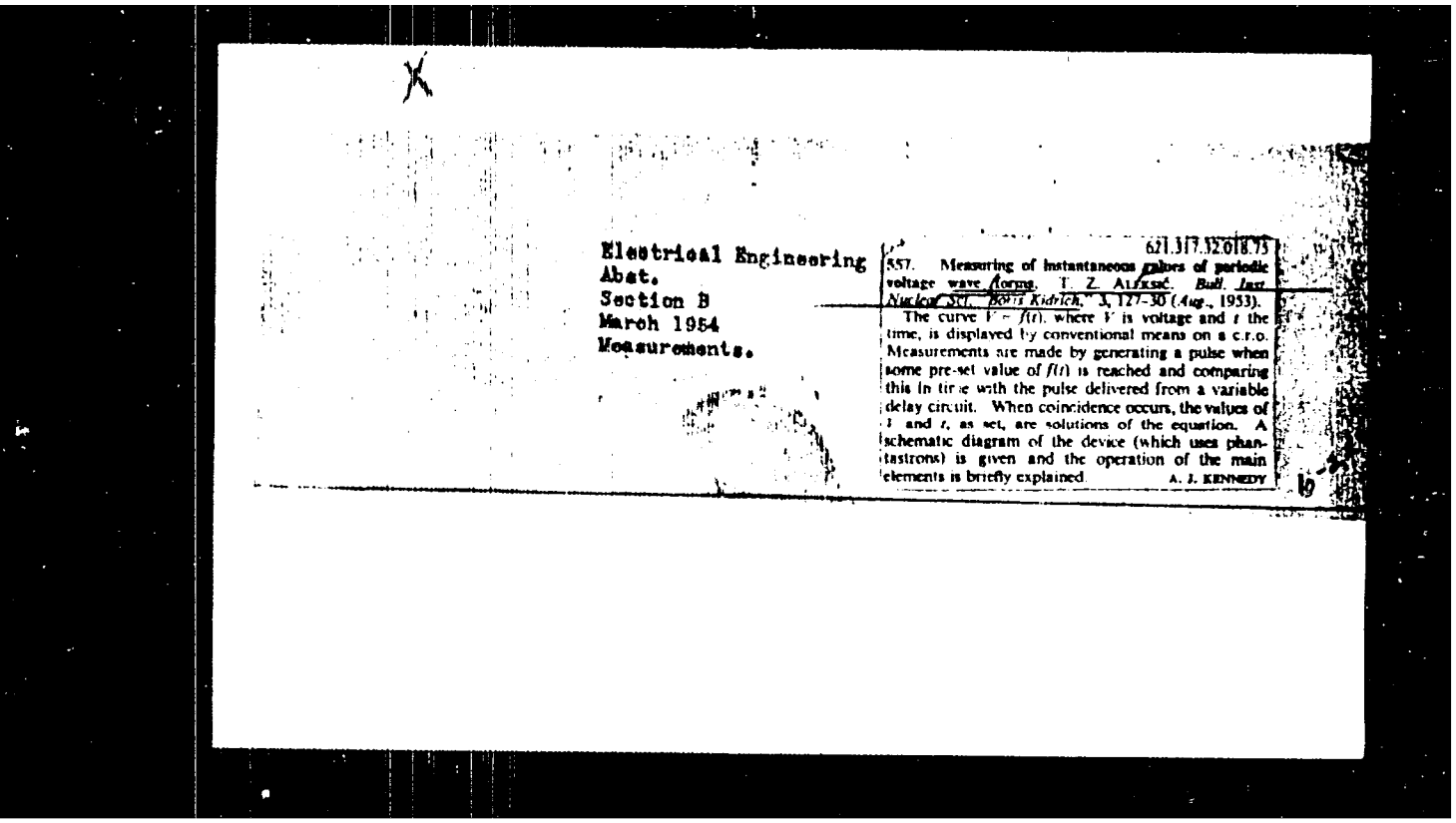
[illegible], [illegible]

From the [illegible] and practice [illegible] in the [illegible] [illegible] [illegible] dusts in the U.S.S.R. [illegible] no.1:[illegible] '63.

1. [illegible]





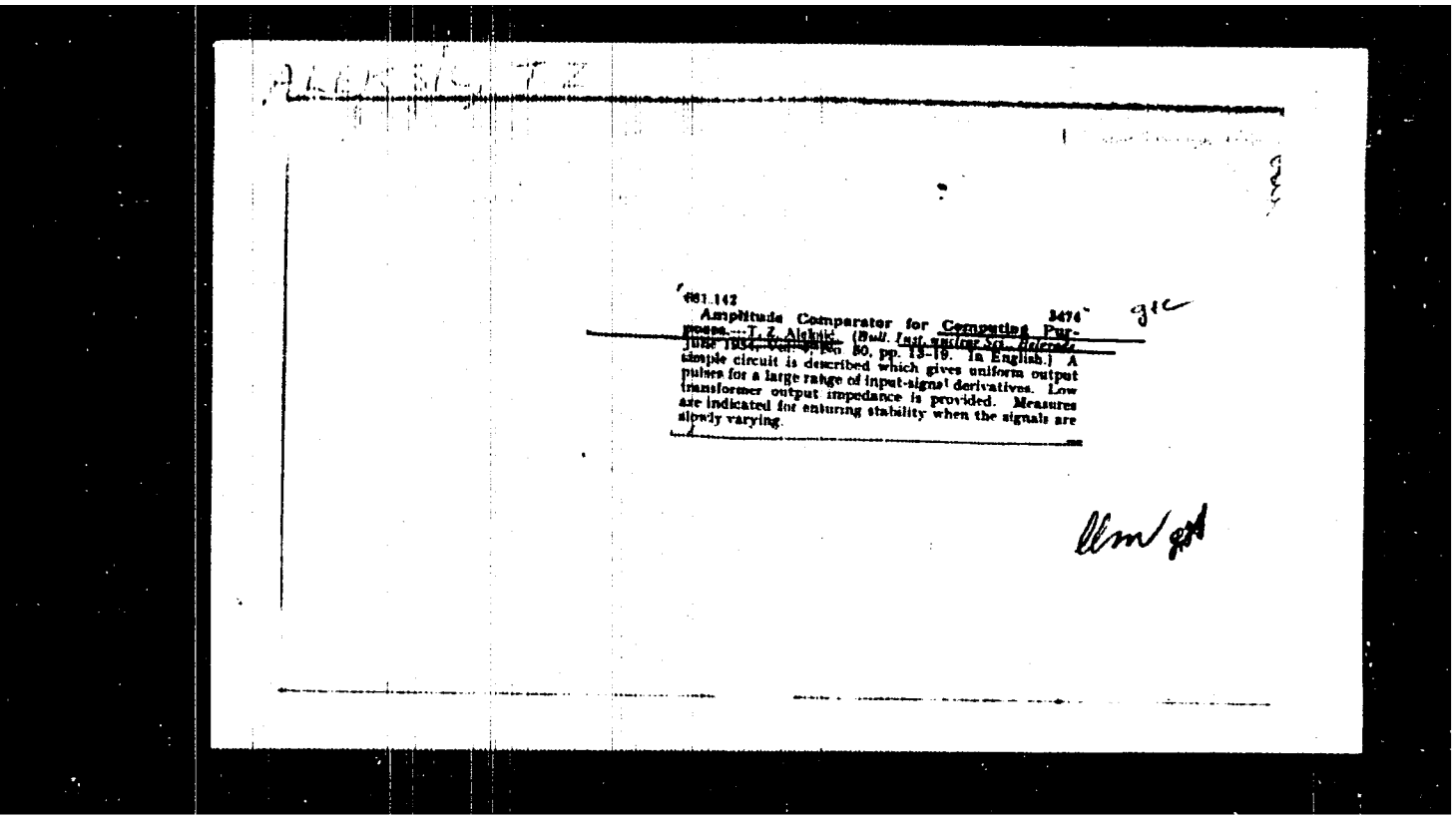


Electrical Engineering
Abst.
Section B
March 1954
Measurements.

621.317.32.018.75

557. Measuring of instantaneous values of periodic voltage wave forms. T. Z. Alexsić. *Bull. Inst. Nuclear Sci. Boris Kidrich*," 3, 127–30 (*Aug.*, 1953).

The curve $V = f(t)$, where V is voltage and t the time, is displayed by conventional means on a c.r.o. Measurements are made by generating a pulse when some pre-set value of $f(t)$ is reached and comparing this in time with the pulse delivered from a variable delay circuit. When coincidence occurs, the values of V and t, as set, are solutions of the equation. A schematic diagram of the device (which uses phantastrons) is given and the operation of the main elements is briefly explained. A. J. KENNEDY



681.142 3474

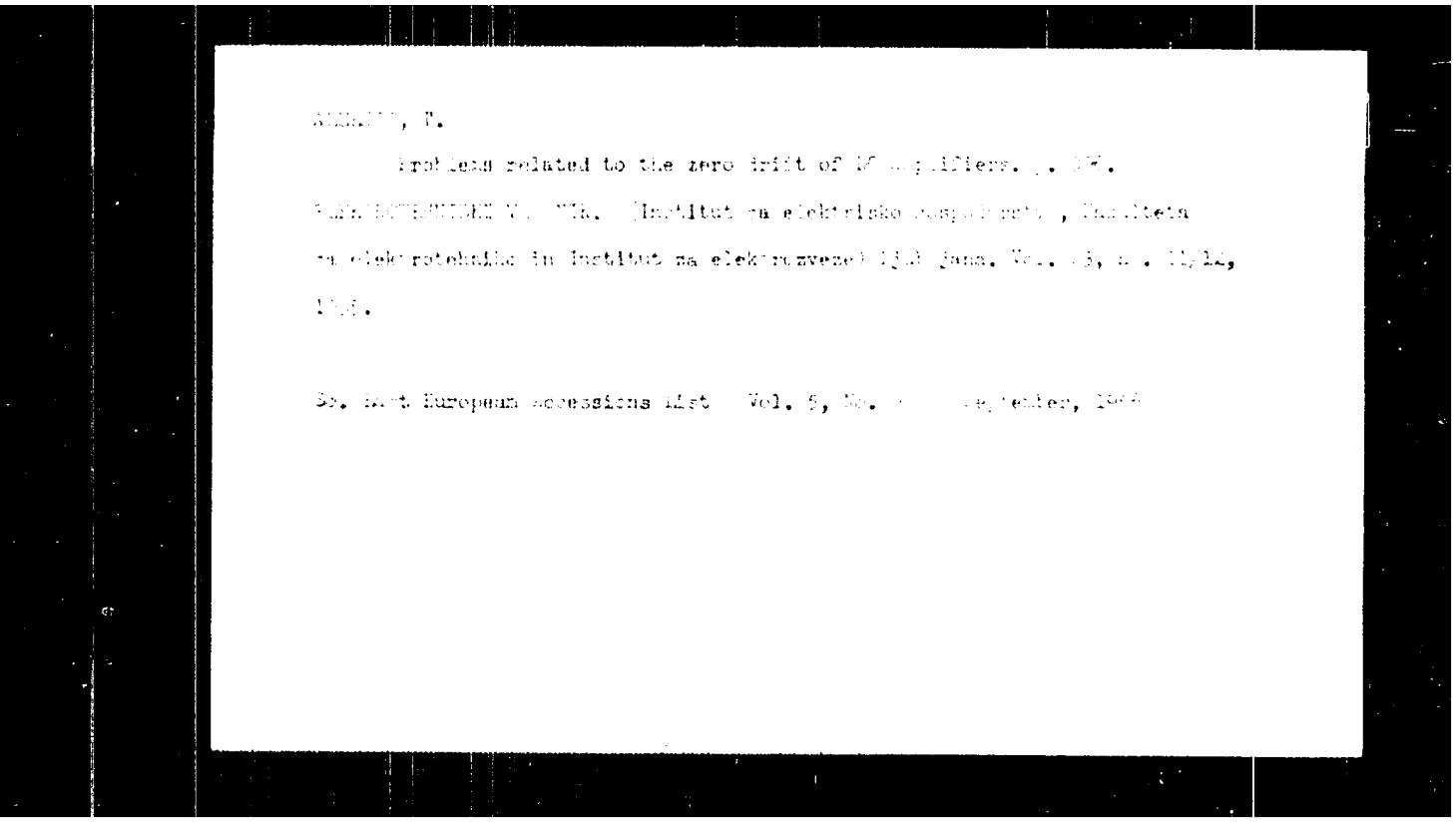
Amplitude Comparater for Computing Purposes.—T. Z. Alshits. (*Bull. Inst. sautier Sci. Ridermat.* June 1954, Vol. [illegible] No. 80, pp. 13–19. In English.) A simple circuit is described which gives uniform output pulses for a large range of input-signal derivatives. Low transformer output impedance is provided. Measures are indicated for ensuring stability when the signals are slowly varying.

Aleksić, Tihomir Z.

YUGO

3104
SIMPLE ELECTRONIC EXTRAPOLATIONS OF SAMPLED DATA. Tihomir Z. Aleksić. Bull. Inst. Nuclear Sci. "Boris Kidrich" (Belgrade) 5, 37-42(1955) Mar.

Simple electronic circuits for extrapolation of sampled data are discussed. The method based on first differences formulae is found to be convenient in proposed analog technique. The circuit developed for generation of first differences can be used in the case of constant and variable sampling intervals. (auth)



[illegible], T.

Problems related to the zero drift of [illegible]. [illegible].

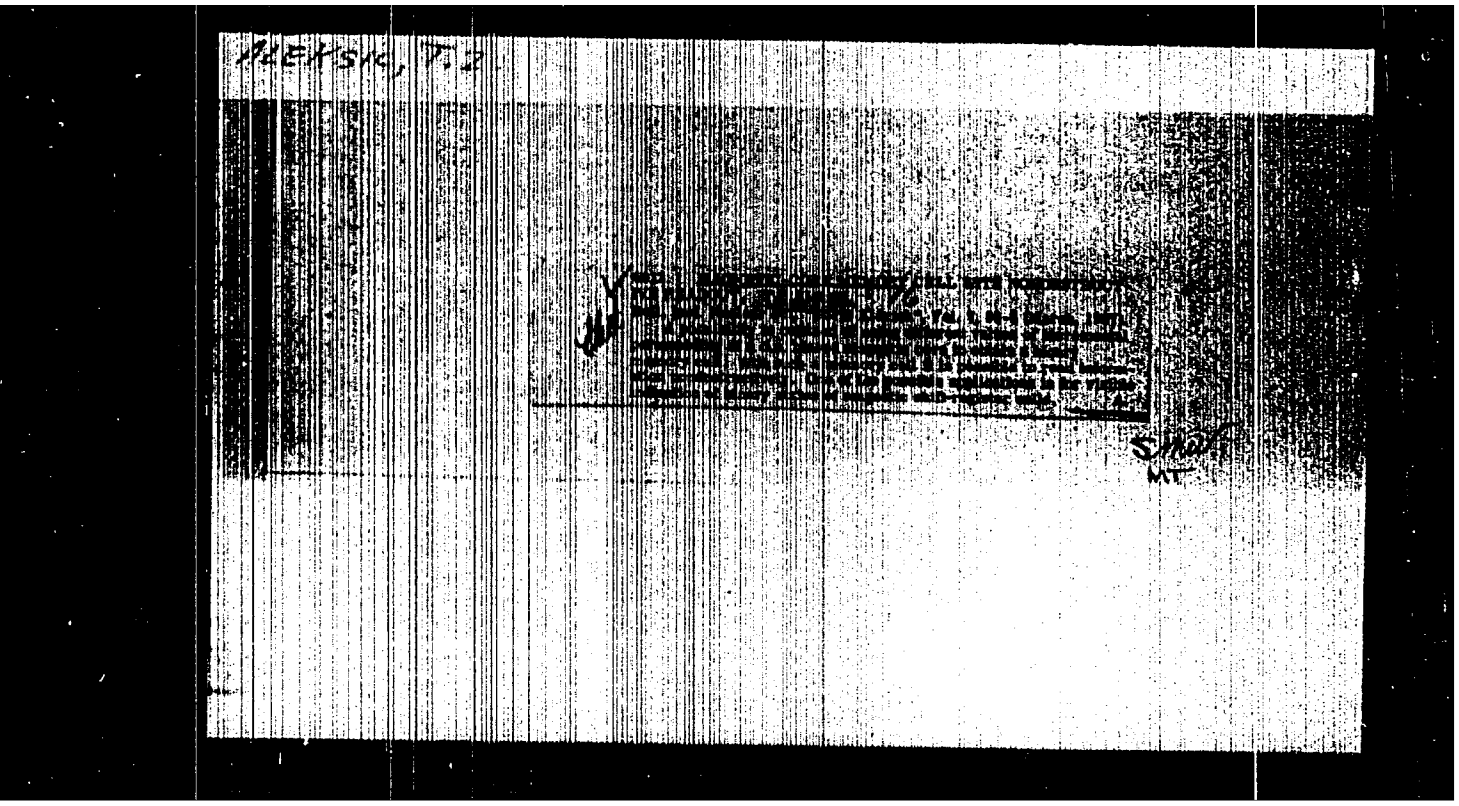
[illegible] Yu. [illegible] Institut za elektronsko [illegible], Zbornik za elektrotehniko in Institut za elektronzveze [illegible], No. [illegible], [illegible].

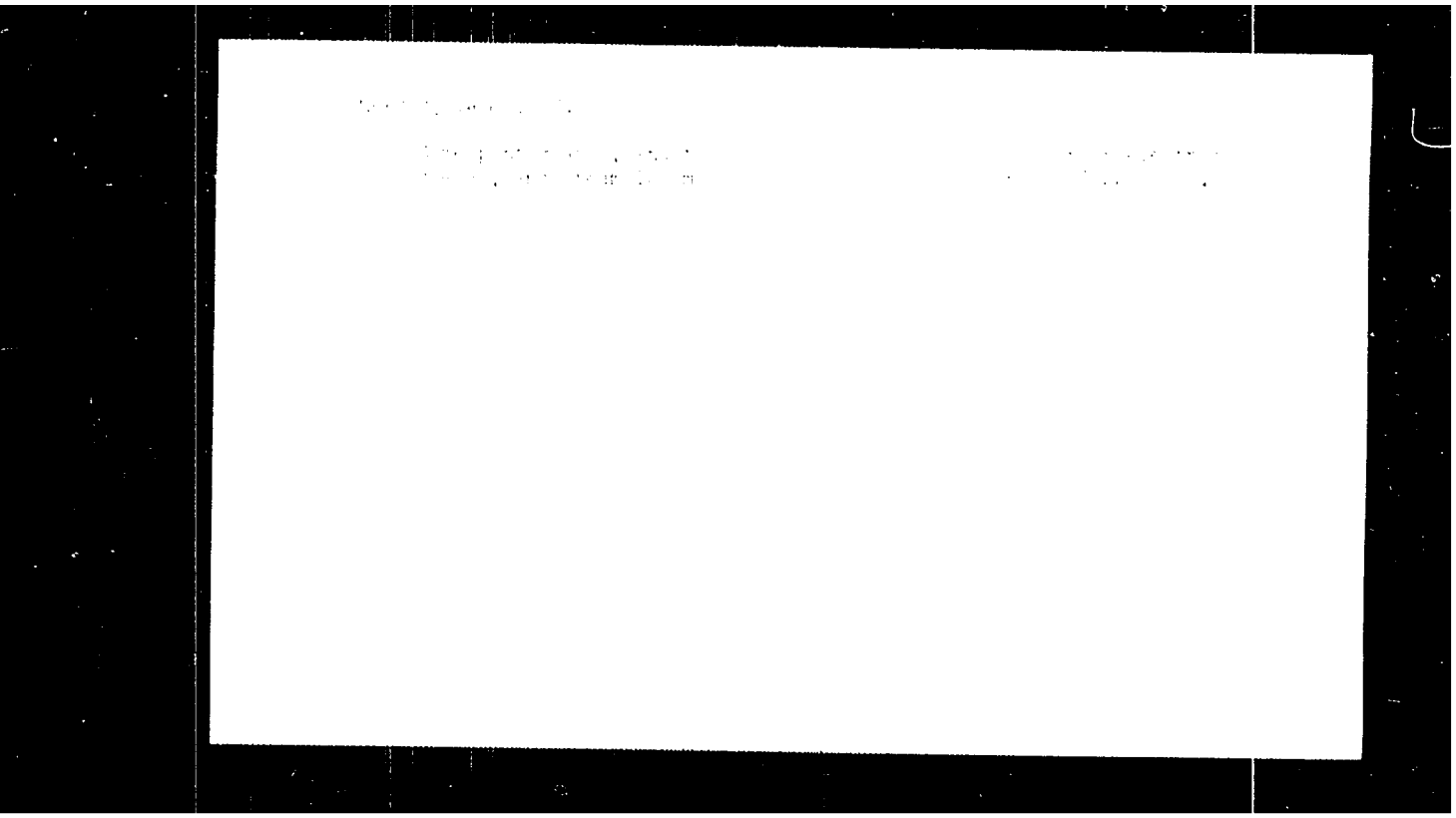
Sp. Int. European accessions list Vol. 9, No. [illegible], September, 1974

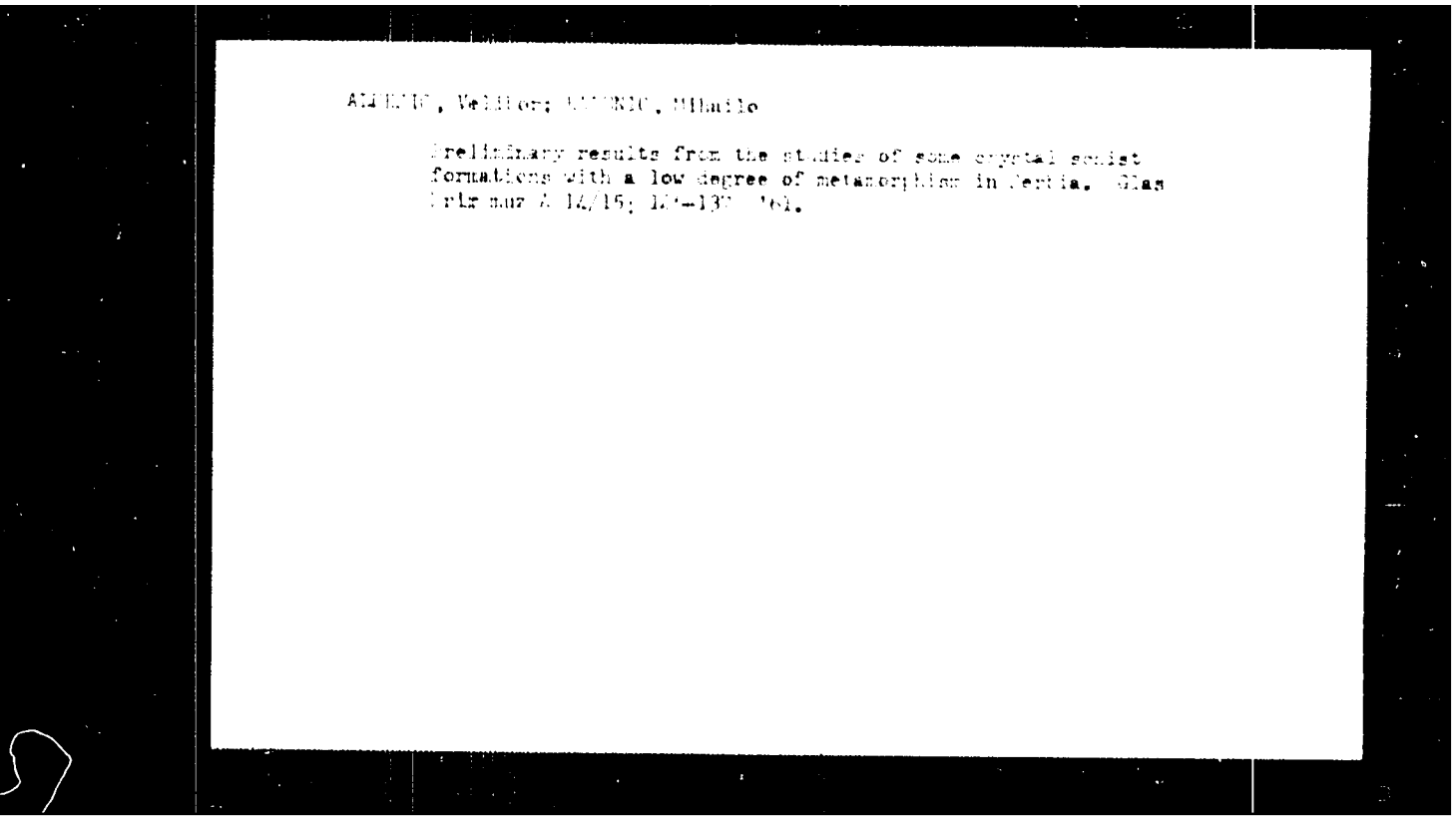
ALEKSIC, T.

Use of electronic counters in industrial production. p. 230. Vol. 11, No. 2, 1956. TEHNIKA. Beograd, Yugoslavia.

SOURCE: East European Accessions List, (EEAI) Library of Congress, Vol. 5, No. 8, August, 1956.

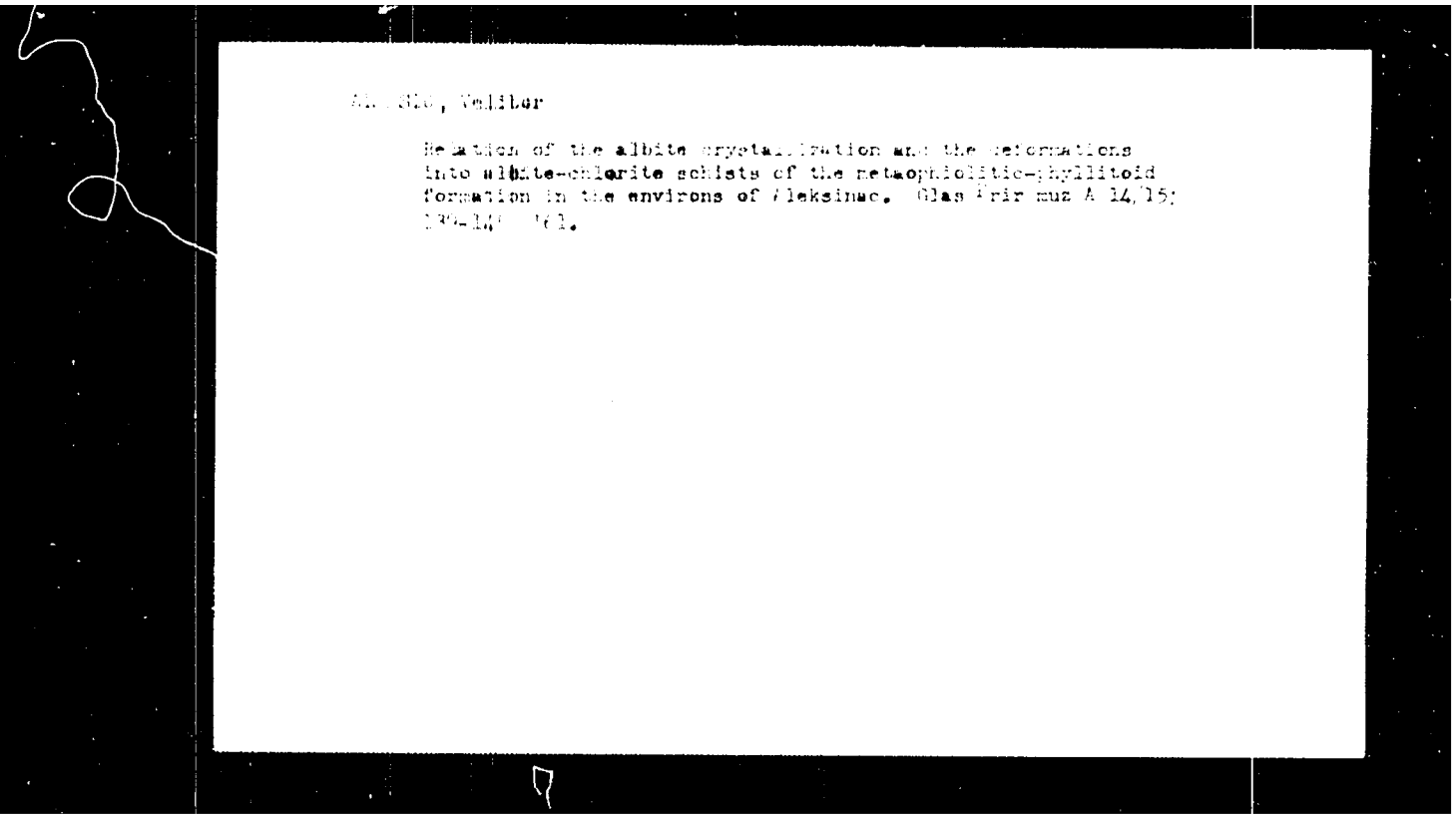






ALIEV, Veliko; [illegible], Mikhailo

Preliminary results from the studies of some crystal schist formations with a low degree of metamorphism in Serbia. Glas Srp akad nauk 14/15; 127-137 '61.



[illegible], Velibor

Relation of the albite crystallization and the deformations into albite-chlorite schists of the metaophiolitic-phyllitoid formation in the environs of Aleksinac. Glas Prir muz A 14/15; 139-146 '61.

[illegible], Z.

Characteristics of the development of a downy mildew (Plasmopara viticola) in Smederevska Palanka in 1955 p. 43. (POLJOPRIVREDA (Drustvo poljoprivrednih inzenjera i tehnicara NR Srbije) Beograd. Vol 4, no. 1, Jan. 1956

SOURCE: East Europe Accessions Lists, (EEAL), Library of Congress Vol. 5, no. 11 Nov. 1956

Aleksich, G.

16(1) PHASE I BOOK EXPLOITATION SOV [illegible]

Vsesoyuznyy matematicheskiy s"yezd. 3rd, Moscow, 1956

Trudy. t. 4: Kratkoye soderzhaniye sektsionnykh dokladov, Doklady inostrannykh uchenykh (Transactions of the 3rd All-Union Mathematical Conference in Moscow, vol. 4: Summary of Sectional Reports, Reports of Foreign Scientists) Moscow, [illegible], 1959. [illegible] p. [illegible] copies printed.

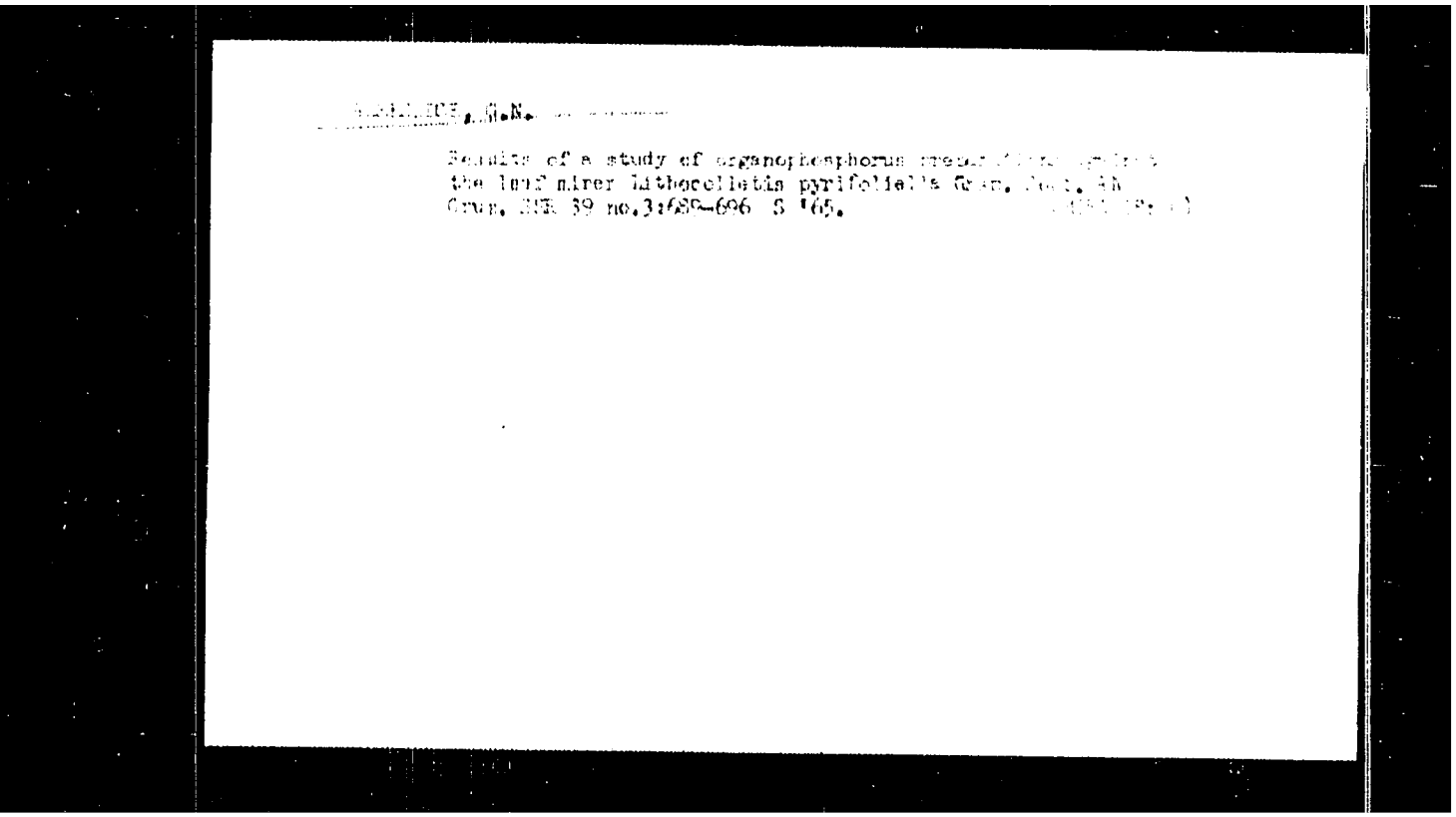
Sponsoring Agency: Akademiya nauk SSSR. Matematicheskiy institut.

Tech. Ed.: G.N. Shevchenko; Editorial Board: A.A. Abramov, V.G. Boltyanskiy, A.M. Vasil'yev, B.V. Medvedev, A.D. Myshkis, S.M. Nikol'skiy (Resp. Ed.), A.G. Postnikov, Yu. V. Prokhorov, K.A. Rybnikov, P.L. Ul'yanov, V.A. Uspenskiy, N.G. Chetayev, G. Ye. Shilov, and A.I. Shirshov.

PURPOSE: This book is intended for mathematicians and physicists.

COVERAGE: The book is Volume IV of the Transactions of the Third All-Union Mathematical Conference, held in June and July 1956. The book is divided into two main parts. The first part contains summaries of the papers presented by Soviet scientists at the Conference that were not included in the first two volumes. The second part contains the text of reports submitted to the editor by non-Soviet scientists. In those cases when the non-Soviet scientist did not submit a copy of his paper to the editor, the title of the paper is cited and, if the paper was printed in a previous volume, reference is made to the appropriate volume. The papers, both Soviet and non-Soviet, cover various topics in number theory, algebra, differential and integral equations, function theory, functional analysis, probability theory, topology, mathematical problems of mechanics and physics, computational mathematics, mathematical logic and the foundations of mathematics, and the history of mathematics.

Card 29/34



[illegible] G.N. [illegible]

Results of a study of organophosphorus [illegible]
the leaf miner Lithocolletis pyrifoliella Gram. [illegible]
Gran. NY 39 no.3:685-696 S '65. [illegible]

L 11982-66 EWT(1)/EWA(1)/EWA(h)-2 RO

ACC NR: AP6000735 SOURCE CODE: UR/0251/65/039/003/0695/0696

AUTHOR: Aleksidze, G. N.

ORG: None.

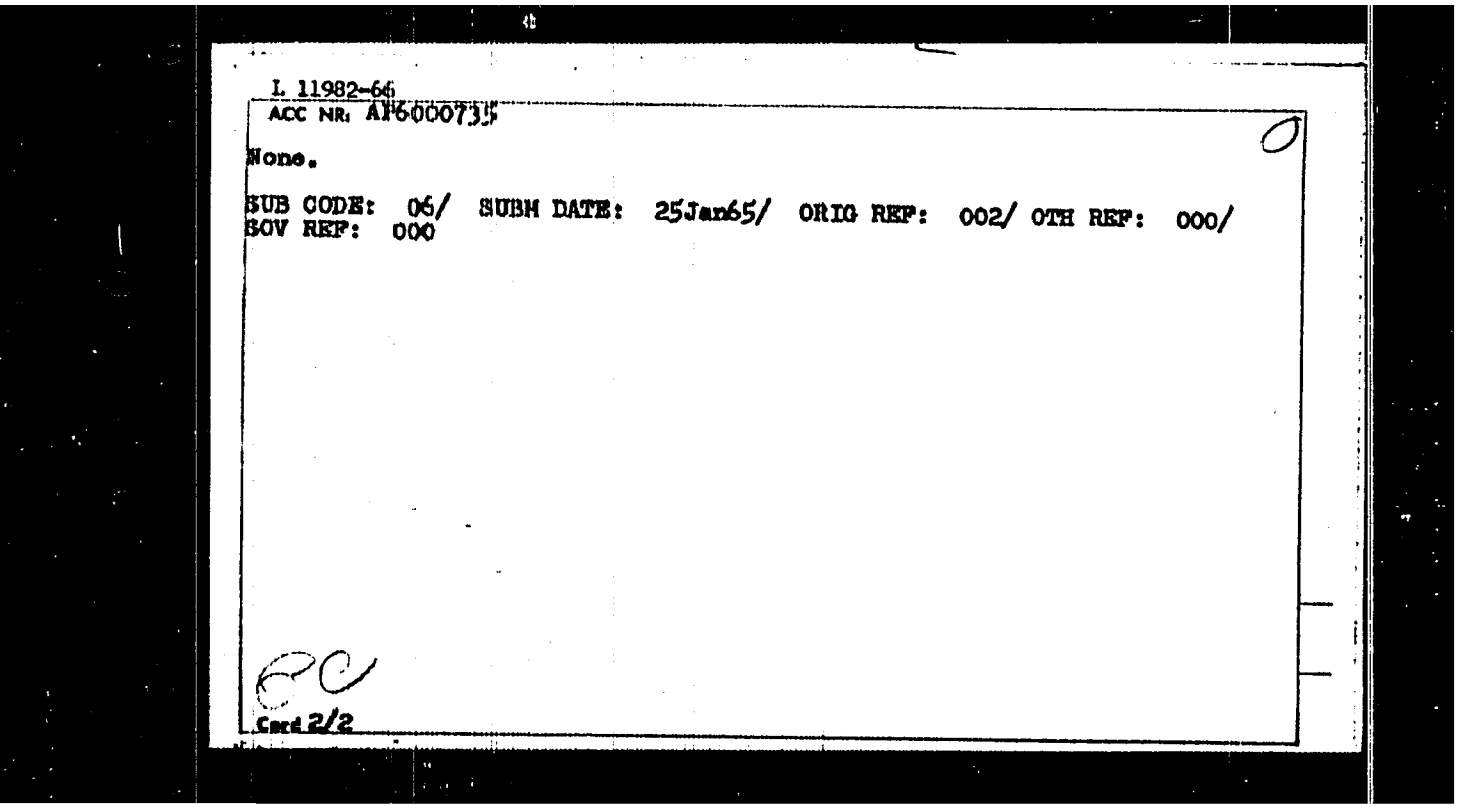
TITLE: Results of investigations of organic phosphorus preparations used against the mining moth Lithocolletis pyrifoliella GRSM. Resume.

SOURCE: AN GruzSSR. Soobshcheniya, v. 39, no. 3, 1965, 695-696.

TOPIC TAGS: horticulture, plant disease control, insecticide, organic phosphorus compound

ABSTRACT: In recent years the number of leaf mining moths highly injurious to apple trees has greatly increased in some parts of the Georgian SSR. The moth larvae feeds on the parenchyma of the leaves and this causes premature drying and falling of leaves. Several organic phosphorus preparations have been used on 3 yr old trees in experiments under natural conditions. On the basis of treatment results, the preparations can be divided into three groups. Highly toxic effects are produced in descending order by methyl ethyl thiophos, thiophos, and guzathion; moderate toxic effects are produced by carbophos (Malathion), rodocide, and trichlormetaphos; and, weak toxic effects are produced by chlorophos, chlorophos with OP-7, and merphotex oil. Orig. art. has:

Card 1/2



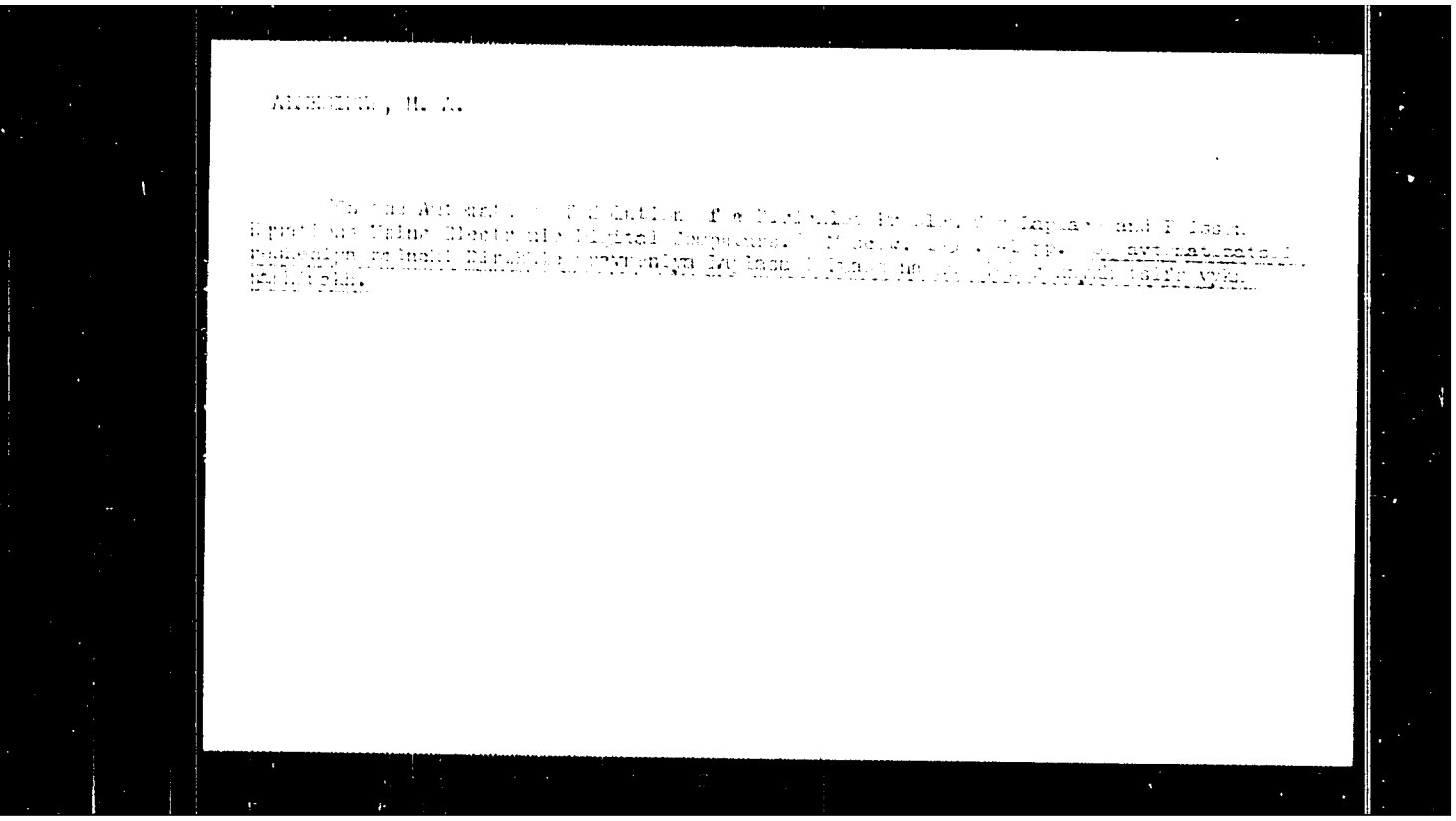
I. 11982-66
ACC NR: AP6000735

None.

SUB CODE: 06/ SUBM DATE: 25Jan65/ ORIG REF: 002/ OTH REF: 000/
SOV REF: 000

Card 2/2

ABESIDZE, M. A., Cand Phys-Math Sci -- (diss) "Study of certain points in the solution of liminal problems by the method of terminal differences [illegible] automatization of [illegible] solution of the Dirichlet problem for [illegible] Laplace and Poisson equations." Mos, 1958. 5 pp (Inst of Precision Mechanics and Computer Engineering, Acad Sci USSR, Math Inst im A. M. Razmadze, Acad Sci Georgian SSR), 150 copies. Bibliography at end of text (10 titles) (KL, 16-58, 94)



20-119-5-1/[illegible]

AUTHOR: Aleksidze, M.A.

TITLE: On an Algorithm for the Automatization of the Numerical Solution of the Plane Dirichlet Problem for the Equation of Laplace (Ob odnom algoritme avtomatizatsii chislennogo resheniya ploskoy zadachi Dirikle dlya uravneniya Laplasa)

PERIODICAL: Doklady Akademii Nauk SSSR, 1958, Vol 119, Nr 5, pp 847-8[illegible] (USSR)

ABSTRACT: The author proposes a universal program for the solution of the Dirichlet problem for the Laplace equation with the aid of electronic digit machines. A complete automatization of the process can be obtained by a very exact arrangement of the points of the approximating net lying in the considered domain and on its boundary. In the considered example these points are subdivided not only in inner and boundary points but in eight different categories. The establishment of the described universal program was made under the guidance of

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On an Algorithm (Cont.)

E.A. Volkov. There are 2 figures.

ASSOCIATION: Institut tochnoy mekhaniki i vychislitel'noy tekhniki Akademii nauk SSSR (Institute of Precision Mechanics and Computing Technics of the Academy of Sciences USSR) Matematicheskiy institut im. A.M. Razmadze Akademii nauk Gruz SSR (Mathematical Institute im. A.M. Razmadze of the Academy of Sciences Gruz SSR).

PRESENTED: November 27, 1957, by S.L. Sobolev, Academician

SUBMITTED: November 25, 1957

Card 2/2

AUTHOR: Alekseidze, M.A. SOV/20-120-1-1/63

TITLE: On the Convergence Velocity of the Iteration Process for the Solution of the Dirichlet Problem for the Laplace Equation With the Difference Method (O skorosti skhodimosti iteratsionnogo protsessa raznostnogo resheniya zadachi Dirikhle dlya uravneniya Laplasa)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 120, Nr 1, pp 9-12 (USSR)

ABSTRACT: Lyusternik [Ref 1] introduced an operator D_α which is connected with the operator

$$Du_{ij} = \frac{1}{4}(u_{i,j+1} + u_{i,j-1} + u_{i+1,j} + u_{i-1,j})$$

by the relation

$$D_\alpha u = \frac{1}{1+\alpha}(Du + \alpha u) .$$

For $\alpha = \frac{1}{4}$ it is obtained $D_{1/4} = \frac{4}{5}(D+1)$,

$$D_{1/4}\, u_{i,j} = \frac{1}{5}(u_{i,j+1} + u_{i,j-1} + u_{i+1,j} + u_{i-1,j} + u_{i,j}) .$$

Since this operator is not much more complicated than D and the division by 5 is equal to a multiplication with 2 and a displacement of the decimal point, which is favorable in most cases for

Card 1/3

On the Convergence Velocity of the Iteration Process for the Solution of the Dirichlet Problem for the Laplace Equation With the Difference Method

SOV/ 20-120-1-1/63

the application on computers, the question arises whether it is suitable to use $D_{1/4}$. Investigating this problem the author states among others: 1. D_α gives a convergent method for $\alpha > 0$. 2. For $\alpha = -\frac{1}{4}$ one obtains for the iteration process of Liebmann a very compact iteration scheme and very quick convergence (twice quicker than for the iteration of Richardson), 3. $D_{-1/4}$ requires a smaller number of arithmetic operations than D_0. A fully automatic solution of the Dirichlet problem for the Laplace equation on the Soviet computer BESM is considered in detail. There are 2 tables, and 4 references, 3 of which are Soviet, and 1 American.

ASSOCIATION: Institut tochnoy mekhaniki i vychislitel'noy tekhniki Akademii nauk SSSR (Institute for Precision Mechanics and Computation Technics at the Academy of Sciences of the USSR), Matematicheskiy institut imeni A.M. Razmadze Akademii nauk Gruzinskoy SSR (Mathematical Institute imeni A.M. Razmadze of the Academy of Sciences of the Georgian SSR)

Card 2/3

SOV/
On the Convergence Velocity of the Iteration Process for the Solution of the Dirichlet Problem for the Laplace Equation With the Difference Method 20-120-1-1/63

PRESENTED: November 27, 1957, by S.L.Sobolev, Academician

SUBMITTED: November 25, 1957

1. Functions--Theory 2. Operators (Mathematics) 3. Mathematical computers--Applications

Card 3/3

AUTHOR: Aleksidze, M A

TITLE: The [illegible] of the Application of the Method for Digital Electronic Computers (O tselesoobraznosti primeneniya al'ternirovannogo metoda Shvartsa na elektronnykh tsifrovykh mashinakh)

PERIODICAL: Doklady Akademii nauk SSSR 1958 Vol 120, Nr 2, pp 231-234 (USSR)

ABSTRACT: With the example of the Dirichlet problem for the Laplace equation on a rectangular domain a comparison of the Libman iterations and the alternating method of Schwartz is carried out. A combination of both methods and an additional use of the method of superrelaxation according to Young [Ref 1] are discussed. Numerical data for the application of the considered methods for Soviet computers (BESM) are given. There are 1 table and 4 references, 3 of which are Soviet and 1 American.

ASSOCIATION: (Institute for Fire Mechanics and Computing Technics at the Academy of Sciences of the USSR) Institut tekhniy mekhaniki i vychislitel'noy tekhniki Akademii nauk SSSR. Matematicheskiy Institut imeni A M Razmadze Akademii nauk Gruzinskoy SSR (Mathematical Institute imeni A M Razmadze of the Academy of Sciences of the Gruzinskaya SSR)

Card 1/2

[illegible] of the Application of the [illegible] Digital Electronic Comp[illegible] [illegible] 20 [illegible] 6

PRESENTED: December 13, 1957 by S L Sob[illegible]ev Academician

SUBMITTED: December 12, 1957

1. Mathematical computers--Performance

Card 2/2

S/774/60/001/000/008/012

AUTHOR: Aleksidze, M. A.

TITLE: Contribution to the solution by the network method of equations of the elliptic type with edge conditions containing derivatives.

SOURCE: Akademiya nauk Gruzinskoy SSR. Vychislitel'nyy tsentr. Trudy, v. 1. 1960, 201-210.

TEXT: The paper deals with the difficult problem of the solution of equations of the elliptic type with edge conditions containing derivatives by means of the network method. Existing difference schemes result in an exceedingly crude solution. Application of Batschelet's method (Zeitschrift f. Angew. Math. & Physik, v. [illegible] no. 3, 1952, 156) with a normal derivative results in an error of the order of magnitude of the network step h. Volkov's method (AN SSSR, Dokl., v. 102, no. 3, 1955) utilizing a finite-difference approximation of the edge conditions with a skew and a normal derivative for curvilinear regions and polygons permits the solution of many problems with an error of the order of h^2, under the assumption that the coefficient of the normal derivative does not go to zero (otherwise the error is of the order of magnitude of h). The present paper derives network approximations of the elliptic differential operator in the boundary nodes which offers the possibility of solving

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the boundary problems with a skew and a normal derivative with an accuracy of the order of h^2 without any imposition of a limit on the coefficients before the derivatives in the boundary conditions. Three cases are examined, depending on how many adjacent nodal points are missing to a boundary point: (a) one point, (b) two points, (c) three points missing. All 3 cases can be encountered in instances in regions the boundary of which has limited derivatives of extremely high order and a radius of curvature much greater than the step h in all points of the boundary. Formulas are developed and the rate of convergences of the Gauss-Seidel iteration process is verified. The Neumann problem is solved for the Laplace equation in a square with a side equal to 20·h. The number of iterations required to reduce the initial error by an amount of 2^{-20}, when the value of the function in the node ($i=10$, $j=10$) was fixed, was 1,552. This number increased when the fixed point was moved toward the periphery. The computations were performed on a БЭСМ (BESM) computer. There are 5 figures and 8 references (5 Russian-language Soviet, 1 German, and 2 English-language).

SUBMITTED: 29 November 1958.

Card 2/2

S/774/60/001/000/011/012

AUTHOR: Aleksidze, M.A.

TITLE: Mathematical problems of the creation of a digital network analyzer.

SOURCE: Akademiya nauk Gruzinskoy SSR. Vychislitel'nyy tsentr. Trudy. v. 1. 1960, 263-282.

TEXT: The purpose of the present paper is an investigation of the advisability of the application of various iteration processes in specialized digital computers to reduce the computing time. It is shown that the previously proposed parallel processing of all columns (rows) increases the equipment requirements substantially and yet does not yield hardly any gain in the most promising iteration process, namely, that of overrelaxation. The basic problem, in the solution of boundary problems of the equations of mathematical physics by means of the network method, namely, a substantial attainment of elevated accuracy, appears to be the comparatively small memory of existing digital electronic computers. Therefore, in the solution of these problems, it becomes necessary to divide the network region into parts and, for each iteration, turn to an external memory equipment or employ the alternating Schwarz method. The latter method is preferable in the instance when the network region is divided into two parts. However, with an increase in the

Card 1/3

Mathematical problems of the creation of a digital network analyzer.

number of component submultiples of points, the rate of convergence of the Schwarz iteration process deteriorates sharply, and the method loses much of its effectiveness. Programming difficulties, also, arise. Therefore, the use of a specialized digital machine with an operative memory circuit, either on a magnetic drum or on a magnetic tape, that would be especially designed for the solution of problems involving Laplace, Poisson, wave, and diffusion equations, appears very inviting. The mathematical premise of this idea is the simplicity of bringing about the iteration process either with a simple or with a 9-point Laplacian network approximation which enters into all the equations mentioned above. To clarify the possible usefulness of the application of the various iteration processes it is indispensable to determine the asymptotic relationships between the local and the integral errors occurring under various iteration processes. These relationships are derived in detail. Further on, the various iteration processes are analyzed from the point of view of the convenience of the computing circuitry and the computing time. A network approximation of the Laplace operator is examined, and a single effective iteration process is proposed for the solution of the first boundary problem. A derivation is made of optimal boundary problems of the relationship between the number of digits in the machine and the capacity of the operative memory equipment from the point of view of a difference solution. There are 16 references (11 Russian-language Soviet, 4 English-language, and 1 of unknown original language

Card 2/3

Mathematical problems of the creation of a digital ... S/774/60/001/000/011/012

by V. Visin, presented at the National Czechoslovakian Conference on Mathematical Machine in November 1955.

SUBMITTED: 29 November 1958.

Card 3/3

S/020/62/145/002/002/018
B112/B180

Author: [illegible]

Title: Differential properties of the solution to the Dirichlet problem for regions with angles

Publication: [illegible] SSSR. Doklady, v. 145, no. 2, 1962, 259-260

Text: The boundary value problems: $\Delta u = 0$ in the rectangular region R with the vertices A,B,C,D; $u|_{AB} = P_{n_1}(s)$, $u|_{BC} = P_{n_2}(s)$, $u|_{CD} = P_{n_3}(s)$, $u|_{AD} = P_{n_4}(s)$; $\Delta v = P_m(x,y)$ in R, $v|_{AB} = v|_{BC} = v|_{CD} = v|_{AD} = 0$ are considered. The functions P are polynomials whose degrees are denoted by their subscripts. Three theorems are derived: 1. From $u \in \overset{n_1}{\underset{n_4}{}} H^2(R)$ it follows that u is a harmonic polynomial. 2. From $v \in \overset{n_1+2}{\underset{n_4+2}{}} H^2(R)$ it follows that v is a polynomial of the degree m+2. The

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S/020/62/145/002/032/018
B112/B180

Differential properties of the ...

... solutions ... from the results of V. V. Rafayev [D.A., 141, No. 1, 37 (1962)], which concern the boundary value problem ... on Γ, where $\Gamma \in H^{r+2+1/p}$.

ASSOCIATION: Vychislitel'nyy tsentr Akademii nauk GruzSSR (Computer Center of the Academy of Sciences GSSR)

... February 27, 1962, by S. L. Sobolev, Academician

... February 21, 1962

S/020/62/147/006/001/034
B112/B186

AUTHOR: Aleksidze, M.

TITLE: Numerical solution of Dirichlet problem for Poisson equations

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 147, no. 6, 1962, 1271-1273

TEXT: The following theorem is derived: Let the function u be the solution of the boundary value problem

$$\Delta u = f(M) \text{ in } G, \quad u = \psi(s) \text{ on } S, \qquad (1)$$

where $f \in H(P,A,\lambda)$ in a domain $G' \supset G$ the minimum distance of which from the boundary Γ is equal to $\varepsilon > 0$, and where $u \in H(P_1,A_1,\lambda_1)$ in G; let $\bar{u}$ be the solution of the corresponding difference problem

$$L_\alpha^h \bar{u}_\alpha = Ch^2 f_\alpha + \sum_{\gamma=1}^{k} h^m \gamma G_{\gamma,\alpha}, \qquad (2)$$

where C is a constant, $G_{\gamma,\alpha}$ are functionals in terms of f, ψ, and of their derivatives, L_α^h is a difference operator having the residual term $O(h^s)$

Card 1/2

for sufficiently smooth functions and satisfying the propositions of the fundamental lemma of N. S. Bakhvalov (Vestn. Mosk. univ., No. 5 (1959)); then the error $\eta = u - \bar{u}$ has the absolute value

$$|\eta| = c(L^h, F_1, A_1', A_1) + O(h^{\min(P+\lambda, s-2)}),$$

where (L^h, F_1, A_1', A_1) is the error of the solution to the Dirichlet problem for harmonical functions $u \in H(F_1, A_1', A_1)$, this solution being calculated by means of the operator L^h.

ASSOCIATION: Vychislitel'nyy tsentr Akademii nauk GruzSSR (Computer Center of the Academy of Sciences GSSR)

PRESENTED: February 24, 1962, by S. L. Sobolev, Academician

SUBMITTED: February 21, 1962

KUPRADZE, V.D., akademik; ALEKSIDZE, M.A.

Approximate method for solving certain boundary value problems. Soob. AN Gruz. SSR 30 no.5:529-536 My '63. (MIRA 16:11)

1. Vychislitel'nyy tsentr AN GruzSSR i Tbilisskiy gosudarstvennyy universitet. 2. Akademiya nauk Gruzinskoy SSR (for Kupradze).

ALEKSIDZE, M.A.

Calculation of freely supported plates. Soob. AN Gruz. SSR 32 no. 1:23-26 O '63. (MIRA 17:9)

1. Vychislitel'nyy tsentr AN GruzSSR, Tbilisi. Predstavleno akademikom V.D.Kupradze.

ACCESSION NR: AP4011580 S/0251/63/032/003/0521/0526

AUTHOR: Aleksidze, M. A.

TITLE: Remark on the solution of boundary value problems on electro-integrators of the EI-12 type

SOURCE: AN GruzSSR. Soobshcheniya, v. 32, no. 3, 1963, 521-526

TOPIC TAGS: boundary value problem, electro-integrator, approximate solution, five-point approximation, Laplace operator, square grid, integrator grid resistance, node resistance, remainder term

ABSTRACT: Electro-integrators of the EI-12 type can be very useful for obtaining an approximate solution of boundary value problems with low accuracy. For solving the problem

$$\Delta u = f(x, y) \text{ in } G, \quad (1)$$

$$u = \phi(S) \text{ on } \Gamma \quad (2)$$

it is usual to use an elementary five-point approximation of the Laplace operator on a square grid. Only for boundary nodes does one select appropriately the

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ACCESSION NR: AP4011580

resistances of the integrator grid. However, the possibility of varying the resistances for all nodes is built into the EI-12, and in certain cases this possibility can be used for increasing the accuracy of the solution of (1)-(2). The author gives formulas which have advantages over the formulas of L. I. Gutenmakher, N. V. Korol'kov, L. S. Klabukova, N. S. Nikolayev, and T. I. Maruashvili (Rukovodstvo k elektrointegratoram tipa EI-12. Izd. AN SSSR, 1953). Orig. art. has: 10 formulas and 1 table.

ASSOCIATION: Akademiya Nauk Gruzinskoy SSR Vychislitel'nyy tsentr, Tbilisi (Academy of Sciences, Georgian SSR, Computing Center)

SUBMITTED: 26Mar62 DATE ACQ: 10Feb64 ENCL: 00

SUB CODE: CP, MM NO REF SOV: 006 OTHER: 001

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ACCESSION NR: AP4042756 S/0208/64/004/004/0683/0715

AUTHORS: Kupradze, V. D.; Aleksidze, M. A. (Tiflis) (Tiflis)

TITLE: Method of functional equations for approximate solution of certain boundary value problems

SOURCE: Zhurnal vy*chislitel'noy matematiki i matematicheskoy fiziki, v. 4, no. 4, 1964, 683-715

TOPIC TAGS: functional equation, approximate solution, boundary value problem, Dirichlet problem, Neumann problem, linear algebraic equation, harmonic function, elasticity theory, elliptic equation, Lyapunov surface, Laplace equation

ABSTRACT: The authors extend and apply previous work (Ob odnom priblizhennom metode resheniya nekotory*kh granichny*kh zadach. Soobshch. AN GruzSSR, 1963, 30, 529-536) on applying functional equations to the Dirichlet and Neumann problems, on solvability of the obtained systems of linear algebraic equations, and on convergence of the two proposed methods for approximate solution of the basic functional equation. Their method is at least as universal as existing ones, being applicable to basic boundary value problems in the theory of harmonic functions and elasticity theory, which is done in this paper, as well as to other boundary value problems for

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elliptic equations and systems of elliptic equations, and also for solving limit problems of parabolic and hyperbolic equations and equations with discontinuous coefficients. It can also be applied to problems which are reducible to singular integral equations. Let B_i be a region bounded by the closed Lyapunov surface S, $\overline{B}_i = B_i + S$, and let B_e be the exterior infinite region with boundary S. Let $u(x)$, $x \in B_i$, be the twice continuously differentiable solution of the Laplace equation in B_i with continuous first derivatives in $\overline{B}_i$. Then

$$u(x) = \frac{1}{4\pi}\iint_S \frac{\partial}{\partial n_y}\left(\frac{1}{r(x,y)}\right)\psi(y)\,dS - \frac{1}{4\pi}\iint_S \frac{1}{r(x,y)}\varphi(y)\,dS, \quad x \in B_i, \qquad (1)$$

where

$$u|_S = \psi(y), \qquad \frac{\partial u}{\partial n}\Big|_S = \varphi(y), \qquad (2)$$

and

$$0 = \frac{1}{4\pi}\iint_S \frac{\partial}{\partial n_y}\left(\frac{1}{r(x,y)}\right)\psi(y)\,dS - \frac{1}{4\pi}\iint_S \frac{1}{r(x,y)}\varphi(y)\,dS, \quad x \in B_e, \qquad (3)$$

where $\partial/\partial n_y$ is the derivative along the interior normal at the point $y \in S$. From (3) the unknown function $\varphi(y)$ can be determined for the Dirichlet problem and

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$\gamma(y)$ for the Neumann problem by one of two methods. The first method is to construct the coefficients of expansion of a Fourier series in some complete orthonormalized system of functions. The second method is to replace (3), using mechanical cubature formulas, by a system of algebraic equations whose solution gives approximate values of the unknown function at separate points of the boundary S. The authors find an approximate solution of the Dirichlet and Neumann problems at any point of B_i by substituting the obtained values into (1). They prove theorems formulated in their previous paper and also study the first and second basic boundary value problems in elasticity theory. Orig. art. has: 10 tables and 76 formulas.

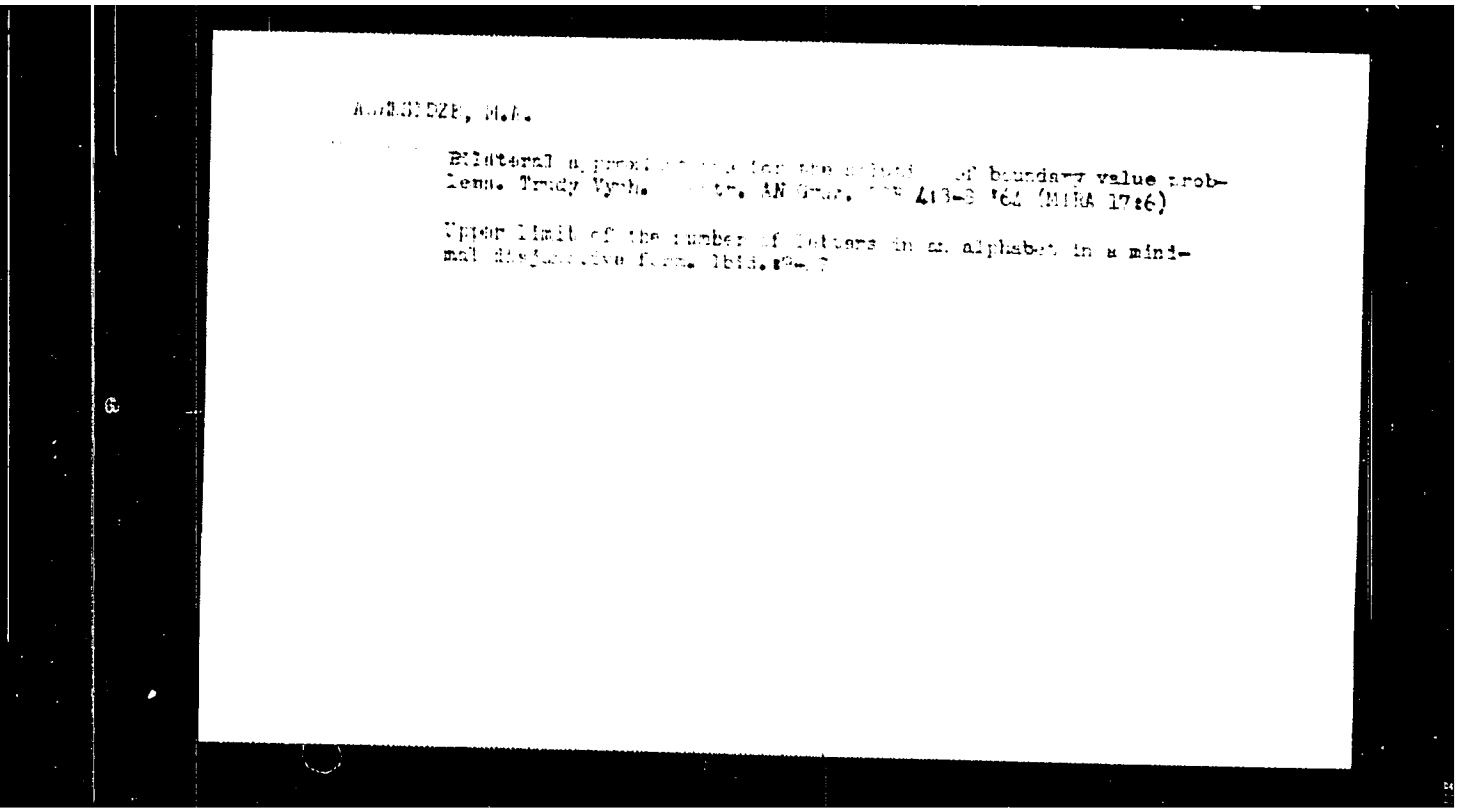
ASSOCIATION: none

SUBMITTED: 01Jun63

SUB CODE: MA NO REF SOV: 011 ENCL: 00

OTHER: 002

Card 3/3



A...ZE, M.A.

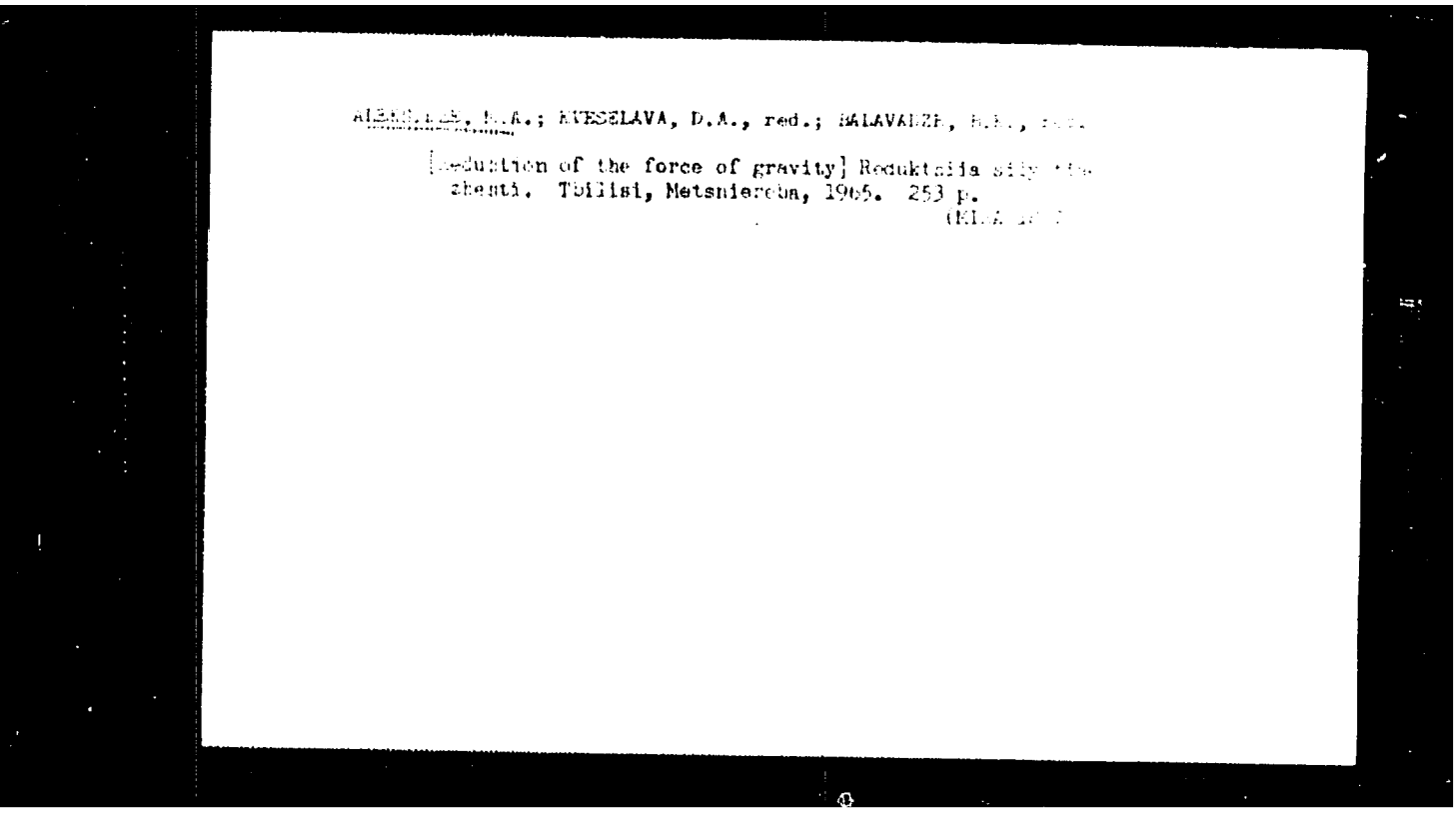
Bilateral a...ximation for the solution of boundary value problems. Trudy Vych. ...tr. AN Gruz. ... 413-3 '64 (MIRA 17:6)

Upper limit of the number of letters in an alphabet in a minimal distinctive form. Ibid. ...

ALEKSIDZE, M.A.

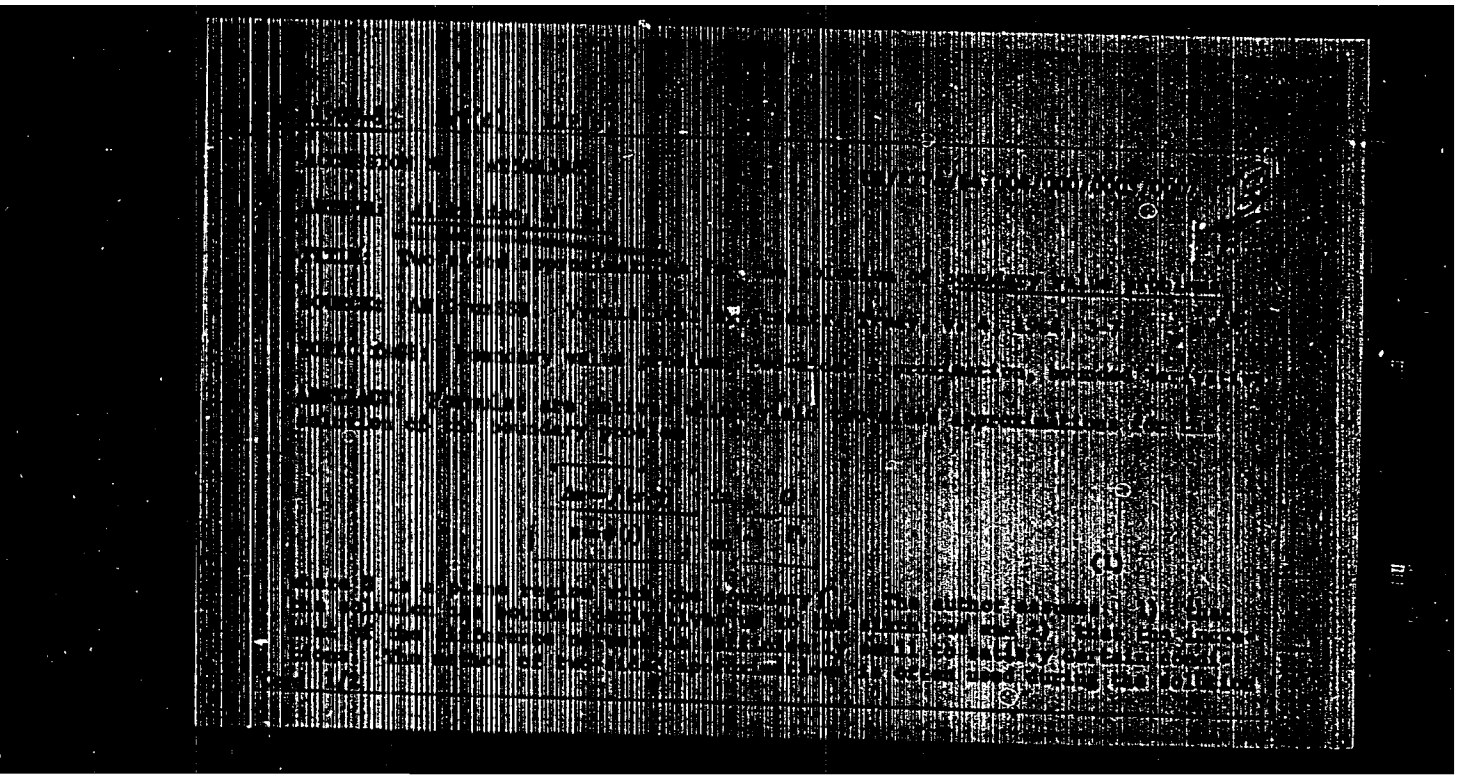
Remarks on Bartholet's majorizing method. Soob. AN Gruz. SSR 34 no.3:513-518 Je '64 (MIRA 18:1)

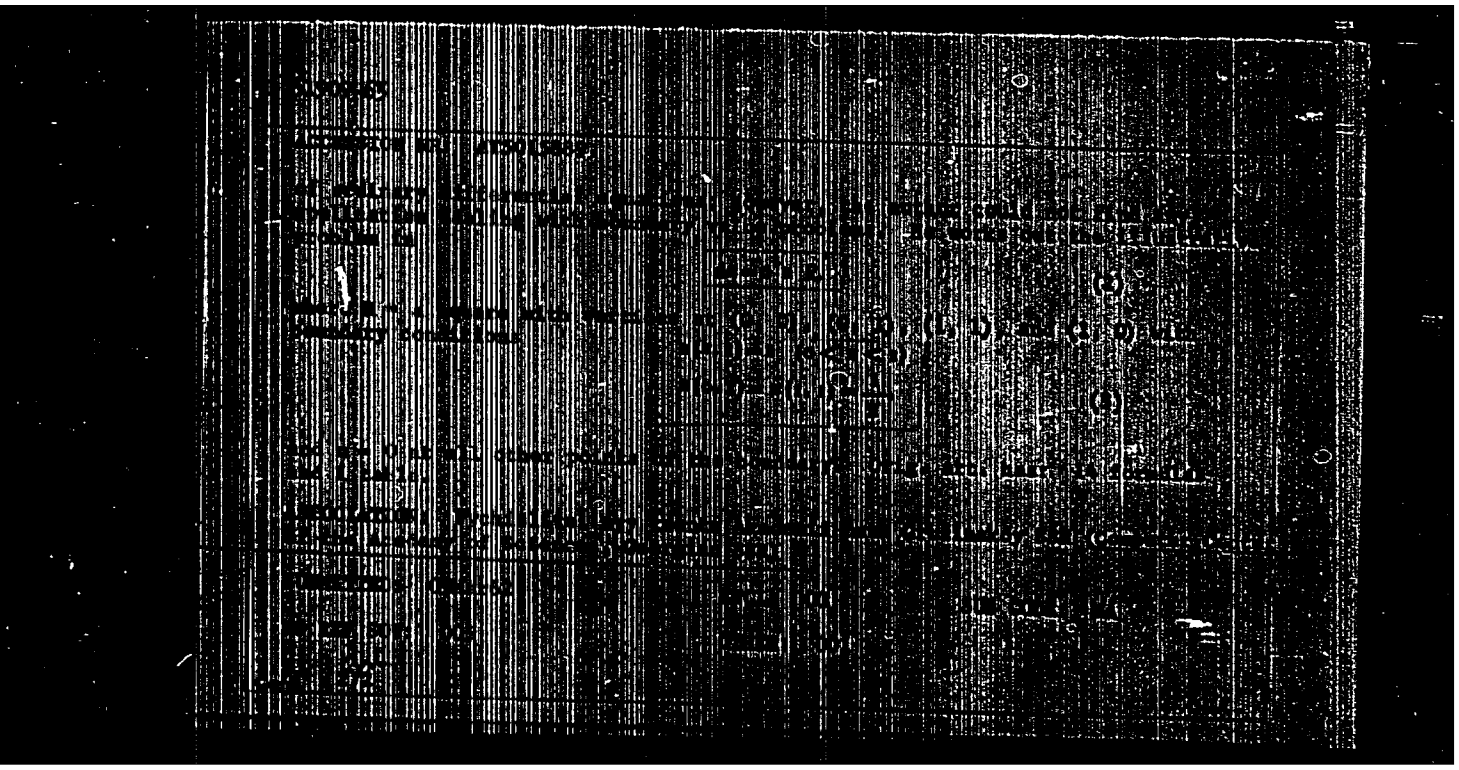
1. Vychislitel'nyy tsentr, AN Gruzinskoy SSR, Tbilisi. Submitted August 12, 1963.



[illegible], L.A.; KVESELAVA, D.A., red.; MALAVAIZE, N.I., [illegible]

[Reduction of the force of gravity] Reduktsiia sily [illegible] zhenii. Tbilisi, Metsniereba, 1965. 253 p.
(KIRA [illegible])



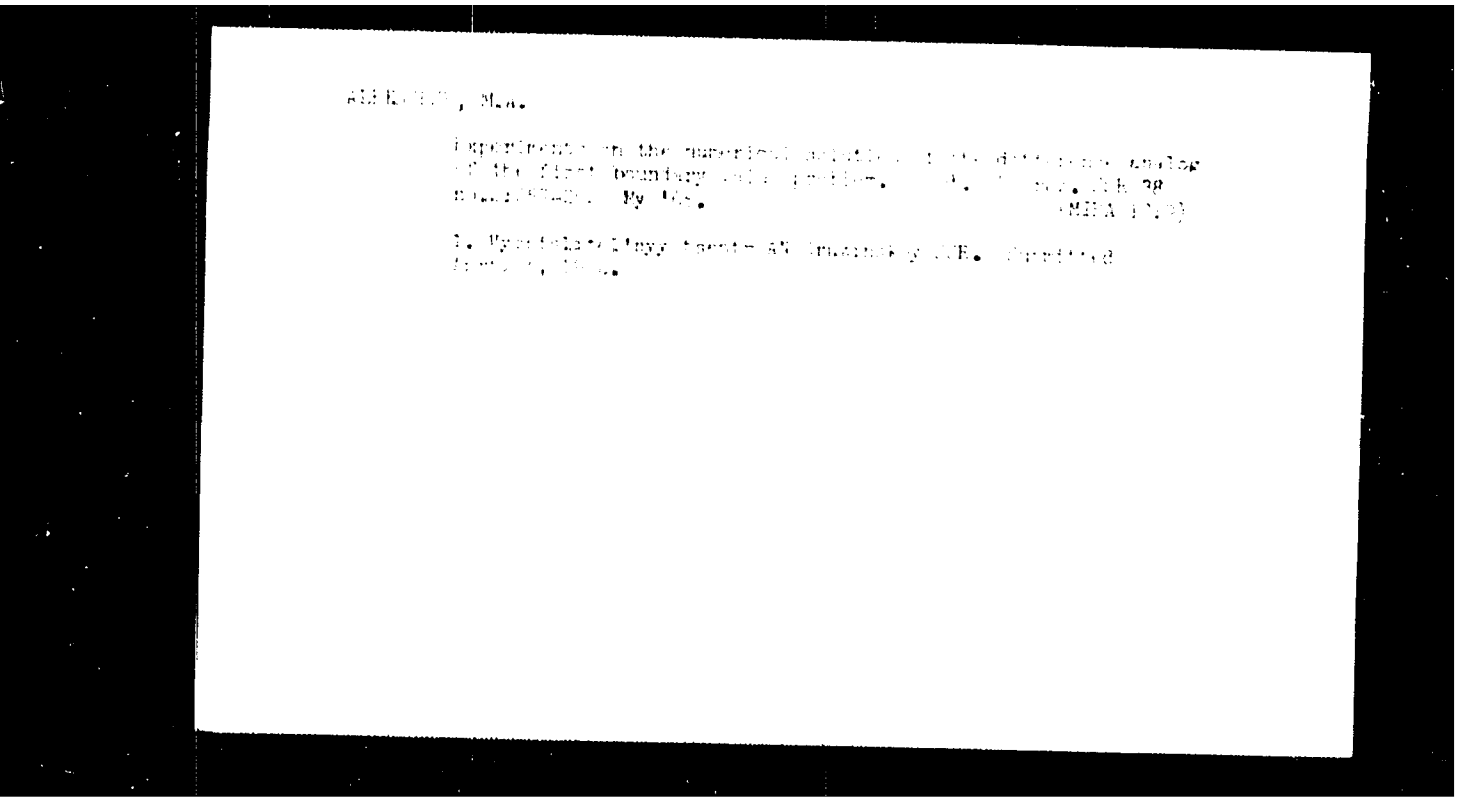


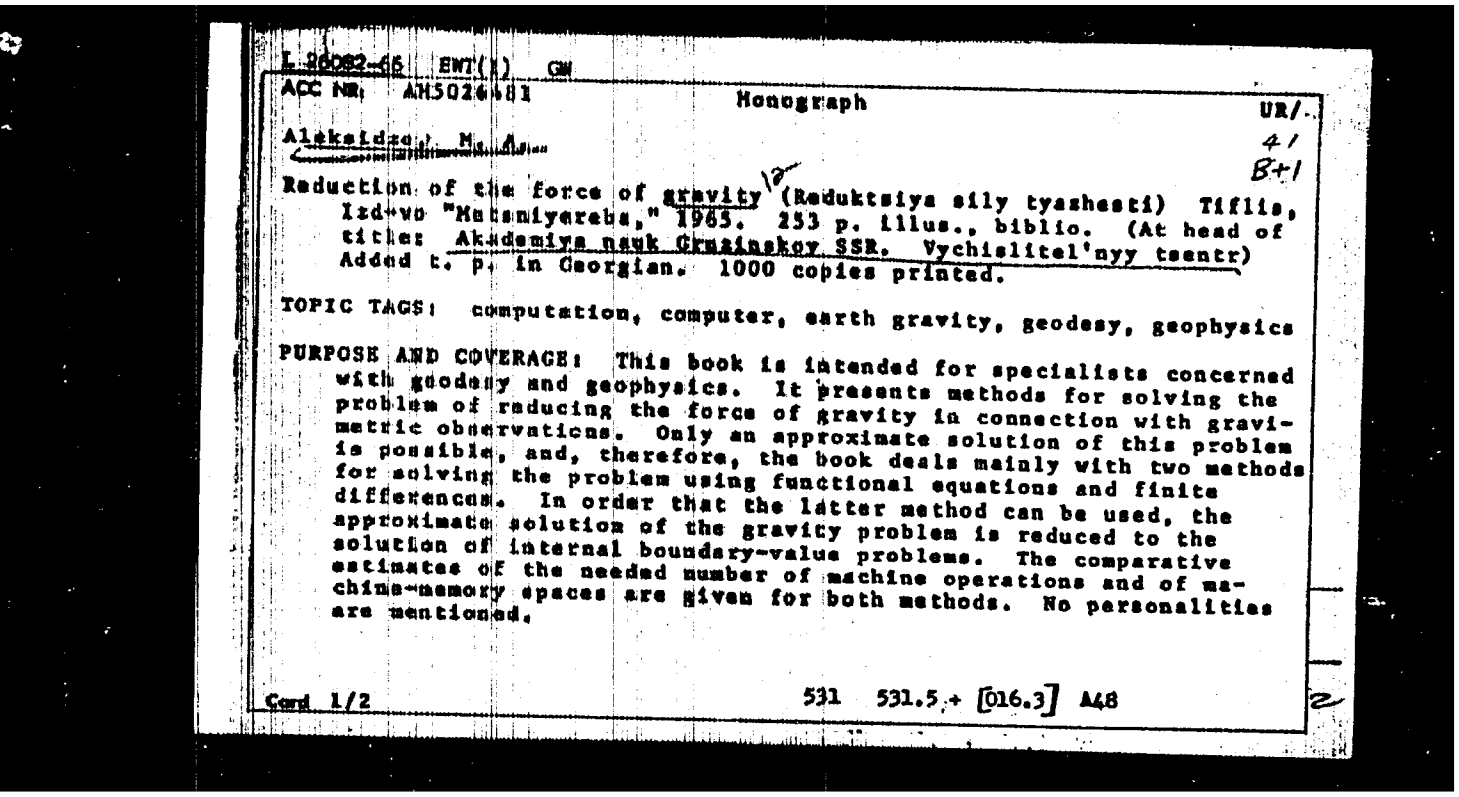
APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000101010015-2"

ALEKSIDZE, M.A.

Reduction of gravity and its application to the solution of internal boundary value problems. Izv. AN SSSR, Fiz. zem. no.4:52-59 '65.
(MIRA 18:8)

1. Vychislitel'nyy tsentr AN GruzSSr.





L 26082-65 EWT(1) GW

ACC NR: AM5026811 Monograph UR/

Alekseidze, M. A.

Reduction of the force of gravity (Reduktsiya sily tyazhesti) Tiflis, Izd-vo "Metsniyereba," 1965. 253 p. illus., biblio. (At head of title: Akademiya nauk Gruzinskoy SSR. Vychislitel'nyy tsentr) Added t. p. in Georgian. 1000 copies printed.

TOPIC TAGS: computation, computer, earth gravity, geodesy, geophysics

PURPOSE AND COVERAGE: This book is intended for specialists concerned with geodesy and geophysics. It presents methods for solving the problem of reducing the force of gravity in connection with gravimetric observations. Only an approximate solution of this problem is possible, and, therefore, the book deals mainly with two methods for solving the problem using functional equations and finite differences. In order that the latter method can be used, the approximate solution of the gravity problem is reduced to the solution of internal boundary-value problems. The comparative estimates of the needed number of machine operations and of machine-memory spaces are given for both methods. No personalities are mentioned.

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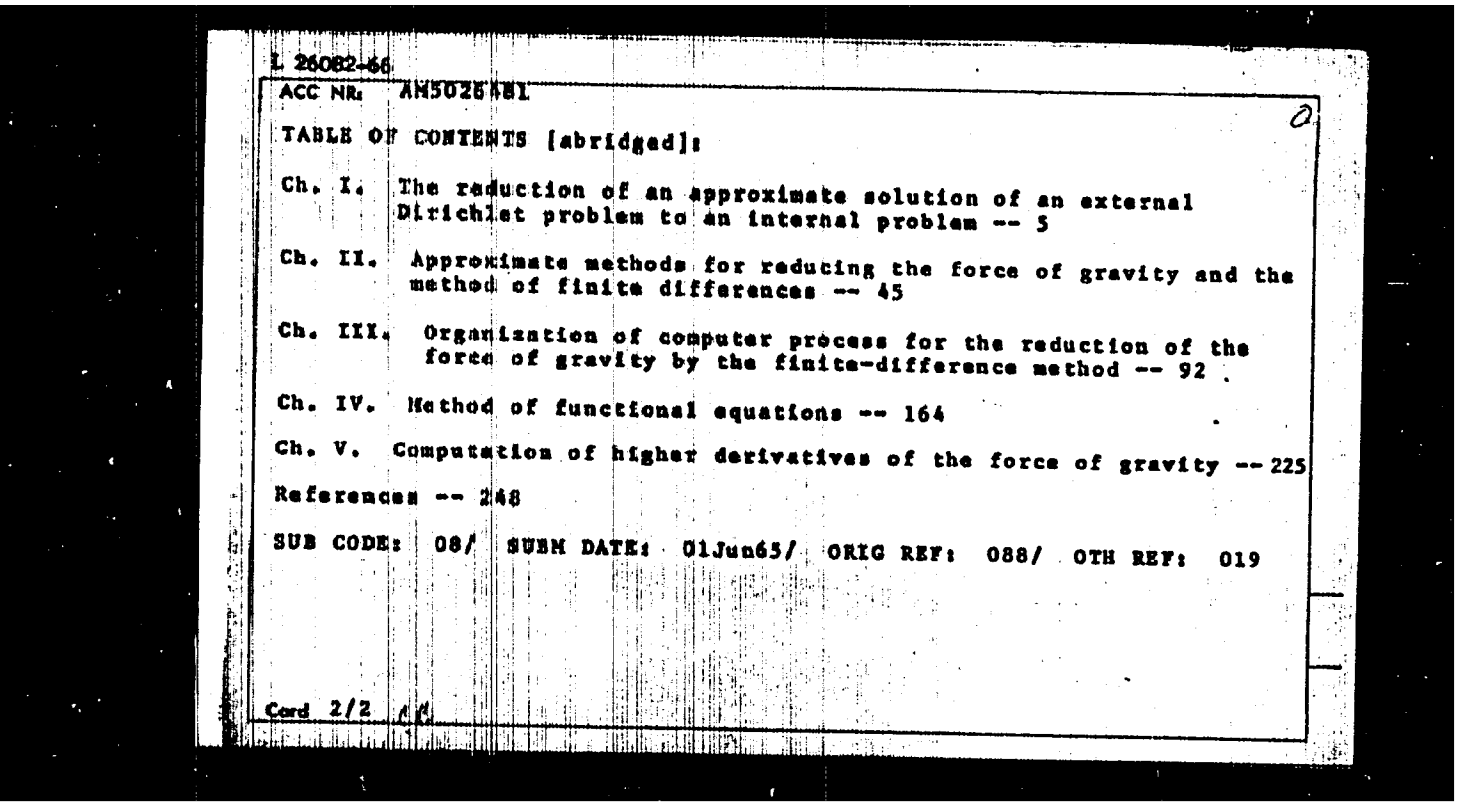

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ACC NR: AM5026481

TABLE OF CONTENTS [abridged]:

SUB CODE: 08/ SUBM DATE: 01Jun65/ ORIG REF: 088/ OTH REF: 019

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L 08059-67 EWT(d)/EWP(1) LJP(c) BB/GG

ACC NR: AP6031948 SOURCE CODE: UR/0251/66/043/003/0555/0560

AUTHOR: Aleksidze, M. A.

ORG: Computer Center, Academy of Sciences, Georgian SSR (Akademiya nauk Gruzinskiy SSR, vychislitel'nyy tsenter)

TITLE: Affine image recognition

SOURCE: AN GruzSSR. Soobshcheniya, v. 43, no. 3, 1966, 555-560

TOPIC TAGS: algorithm, electronic image, mathematic transportation, image recognition

ABSTRACT: The author discusses the problems concerning affine image recognition and those of development of algorithms, for training personnel to operate machines for recognition of electronic images. He proposes a specific method for mathematical transformation and comparison of images. The algorithm stated in the article has been programmed on a BESM-2 high-speed computer. The paper was presented by Gokiyeli, L. P., Corresponding Member, AN GruzSSR, on 2 December 1965. Orig. art. has: 9 formulas.

SUB CODE: 12/ SUBM DATE: 02Dec65/ ORIG REF: 007/

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ACC NR: AP7006063 SOURCE CODE: UR/0251/66/043/001/0063/0069

AUTHOR: Aleksidze, N. A.; Beltadze, T. G.

ORG: Computation Center, AN GruzSSR (Vychislitel'nyy tsentr AN GruzSSR)

TITLE: Method for checking geological interpretations of gravity anomalies

SOURCE: AN GruzSSR. Soobshcheniya, v. 43, no. 1, 1966, 63-69

TOPIC TAGS: algorith, geophysics

SUB CODE: 08

ABSTRACT:

The Computation Center Academy of Sciences Georgian SSR has prepared a program for solving the direct problem in gravimetry using the algorithm

$$U(M) = \tilde{U}(M) + k \iiint_{G_1-R} \frac{\rho\tilde{z}}{(x^2-y^2+z^2)^{3/2}}\, dx\, dy\, dz.$$

The basis for, and derivation of this algorithm are given. This program was used in interpretation of an incomplete anomaly in a rectangular region. The triple interpretation method was used, that is, it was assumed that the earth is three-layered (sedimentary, basalt, granite). The application and effectiveness of this algorithm is demonstrated. For example, Table 1 gives the depths of the sedimentary layer at 33 x 14 points. A 10-km vertical interval and a 25-km horizontal interval were used. The same table gives the corresponding anomalous densities. Table 2 gives the depths of the discontinuities of the basalt and granite layers, read from the plane z = -22.5 km. The table also gives

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ACC NR: AP7006063

the depths of the discontinuities of the subcrustal substrate and the basalt layers read from the plane z = -40 km. Table 3 gives a considerable discrepancy between the observed field and the field computed on the basis of a corresponding geological interpretation. This indicates a need for a careful use of the method of constructing profiles of gravimetric interpretations. This paper was presented by Academician V. D. Kupradze on 5 November 1965. Orig. art. has: 5 formulas and 3 tables.
[JPRS: 38,677]

Card 2/2

ACC NR: AP6033270 SOURCE CODE: UR/0020/66/170/004/0828/0830

AUTHOR: Alekhidze, M. A.

ORG: Calculating Center of the Academy of Sciences, GruzSSR (Vychislitel'nyy tsentr Akademii nauk Gruz SSR)

TITLE: Concept of an anomalous gravity field

SOURCE: AN SSSR. Doklady, v. 170, no. 4, 1966, 828-830

TOPIC TAGS: ~~subminimal~~, ~~subsurface~~, integral equation, gravity field, earth gravity, gravity

ABSTRACT: The potential of the real earth is considered to consist of two parts, T and ST. The first part in that which is determined by the Stokes' formula, and the second variable part relates to a layer of variable density, expressed by an integral equation. M. G. Molodenskiy proposed solving the integral equation by selecting values of anomalies on a sphere σ which satisfy the real anomalies on the surface S of the real earth G. This solution is performed by M. A. Alekhidze determining on the surface of a sphere σ a system of anomalies which coincided with the gravity field of the earth and the external field of the variable layer. In this system ΔT equals zero. A given function T(S) on the surface of the real earth must be solved by aid of a value t(τ) on the sphere σ under the condition that $\Delta T' = 0$ in the space G_1; $T' = 0$ in infinity. G_1 is an exterior space connected with the sphere σ, a subset of G. The solution is possible under the condition

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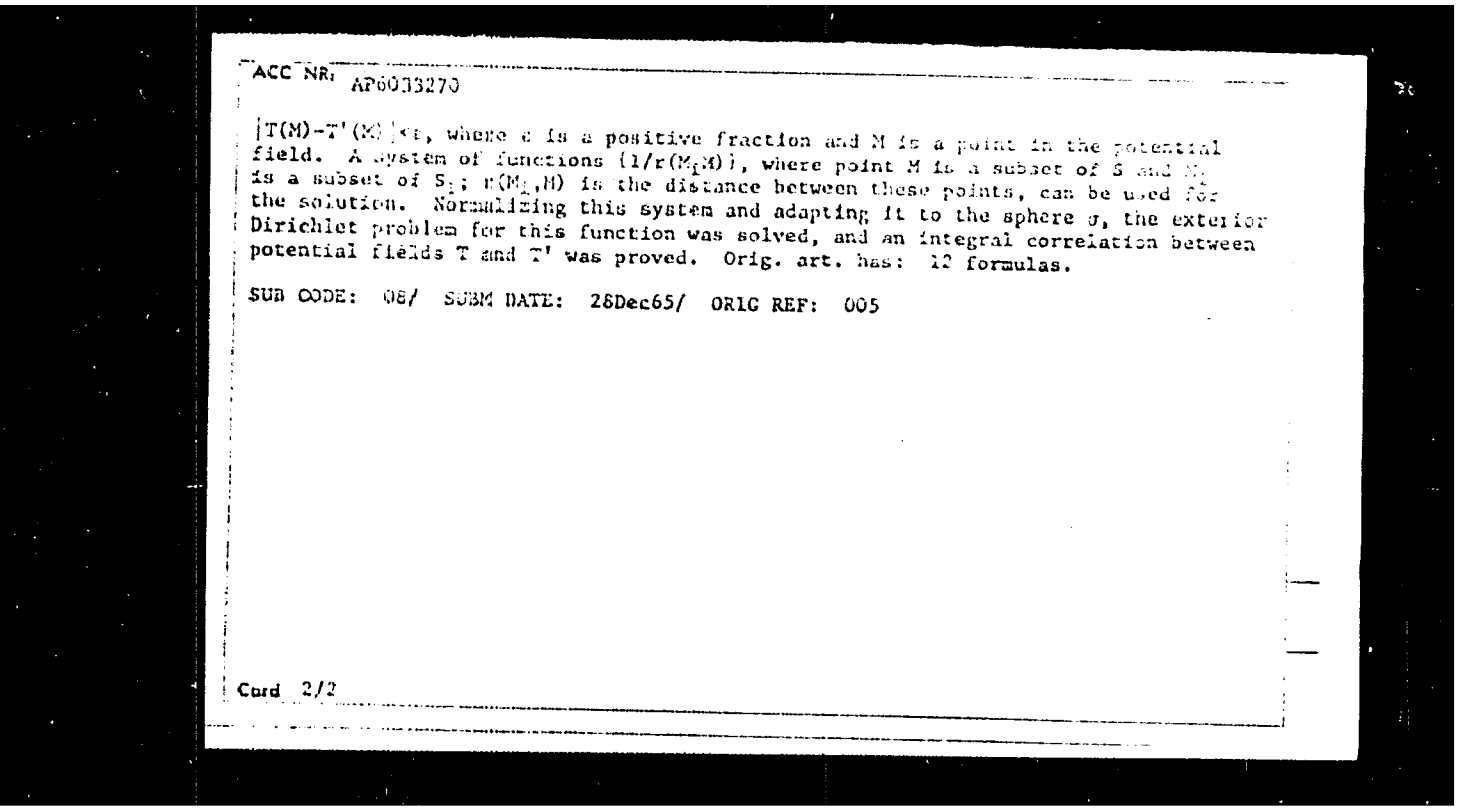

ACC NR: AP6033270

$|T(M)-T'(M)|<\varepsilon$, where ε is a positive fraction and M is a point in the potential field. A system of functions $\{1/r(M_i,M)\}$, where point M_i is a subset of S and M_i is a subset of S_i; $r(M_i,M)$ is the distance between these points, can be used for the solution. Normalizing this system and adapting it to the sphere σ, the exterior Dirichlet problem for this function was solved, and an integral correlation between potential fields T and T' was proved. Orig. art. has: 12 formulas.

SUB CODE: 08/ SUBM DATE: 28Dec65/ ORIG REF: 005

Card 2/2

ACC NR: AP6034252 SOURCE CODE: UR/0251/66/044/001/0113/0114

AUTHOR: Alekaidze, N. G.

ORG: none

TITLE: Effect of the oxidation reduction system of the mouse brain on its cholinesterase activity

SOURCE: AN GruzSSR. Soobshcheniya, v. 44, no. 1, 1966, 113-114

TOPIC TAGS: cholinesterase [redacted], CNS, BIOCHEMISTRY, medical experiment, MOUSE

ABSTRACT: Various oxidizing and reducing dyes were used in experiments designed to show the relationship between enzyme activity and degree of redox potential in the mouse brain. Lowering redox potential from +11 to -30 mv produced maximum inhibition of cholinesterase activity (as judged by the standard potential of the dyes). Increasing the redox potential to +335 mv or lowering it to -125 mv caused the cholinesterase activity to return to normal. Along with cholinesterase inhibition some dyes lowered the number of SH groups in the brain homogenates. The most effective dyes produced changes in the redox potential of the enzyme as a result of oxidation of sulfhydril groups. [W.A. 50]

SUB CODE: 06/ SUBM DATE: none/ ORIG REF: 008/ OTH REF: 003

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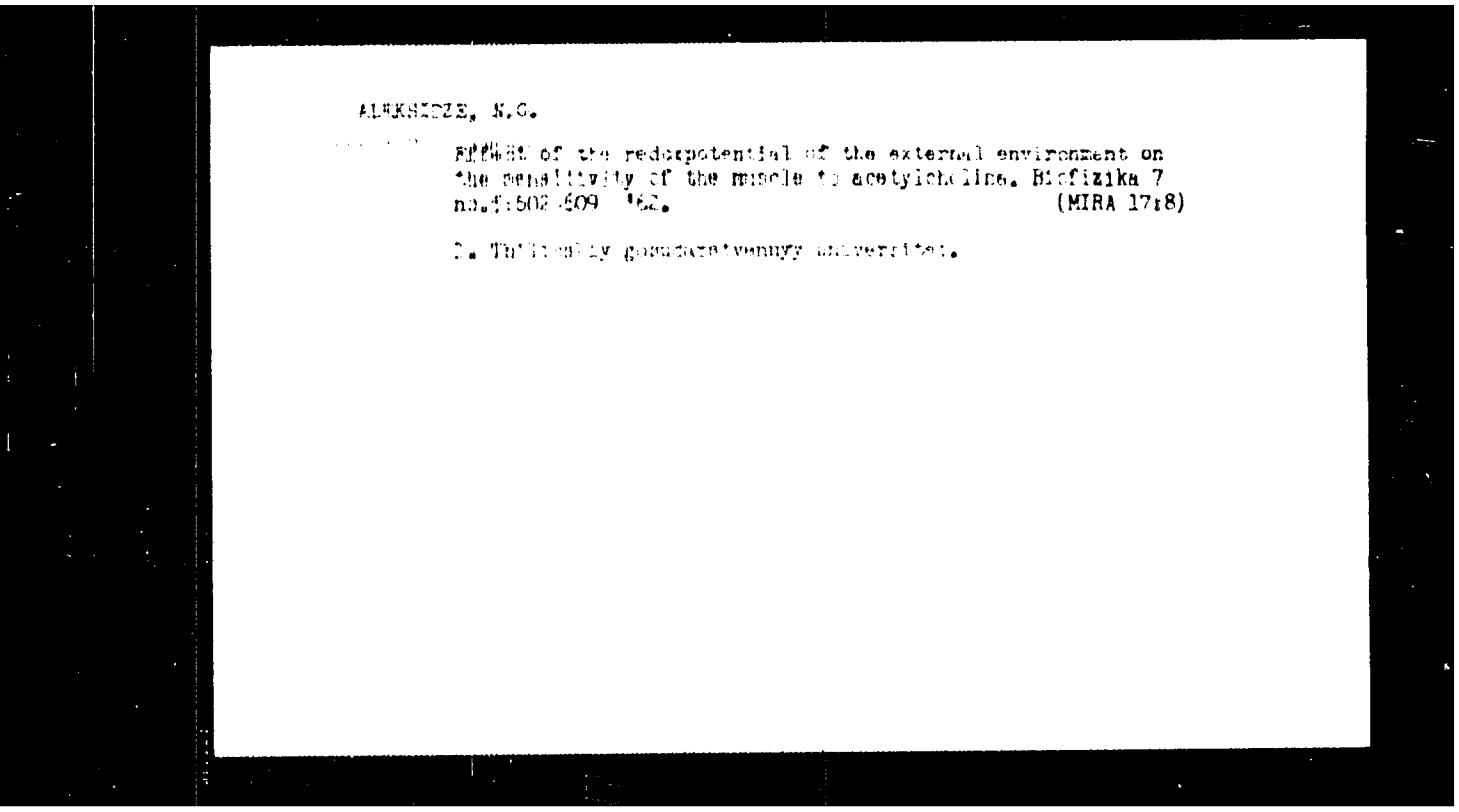


ALEKSIDZE, N.G.

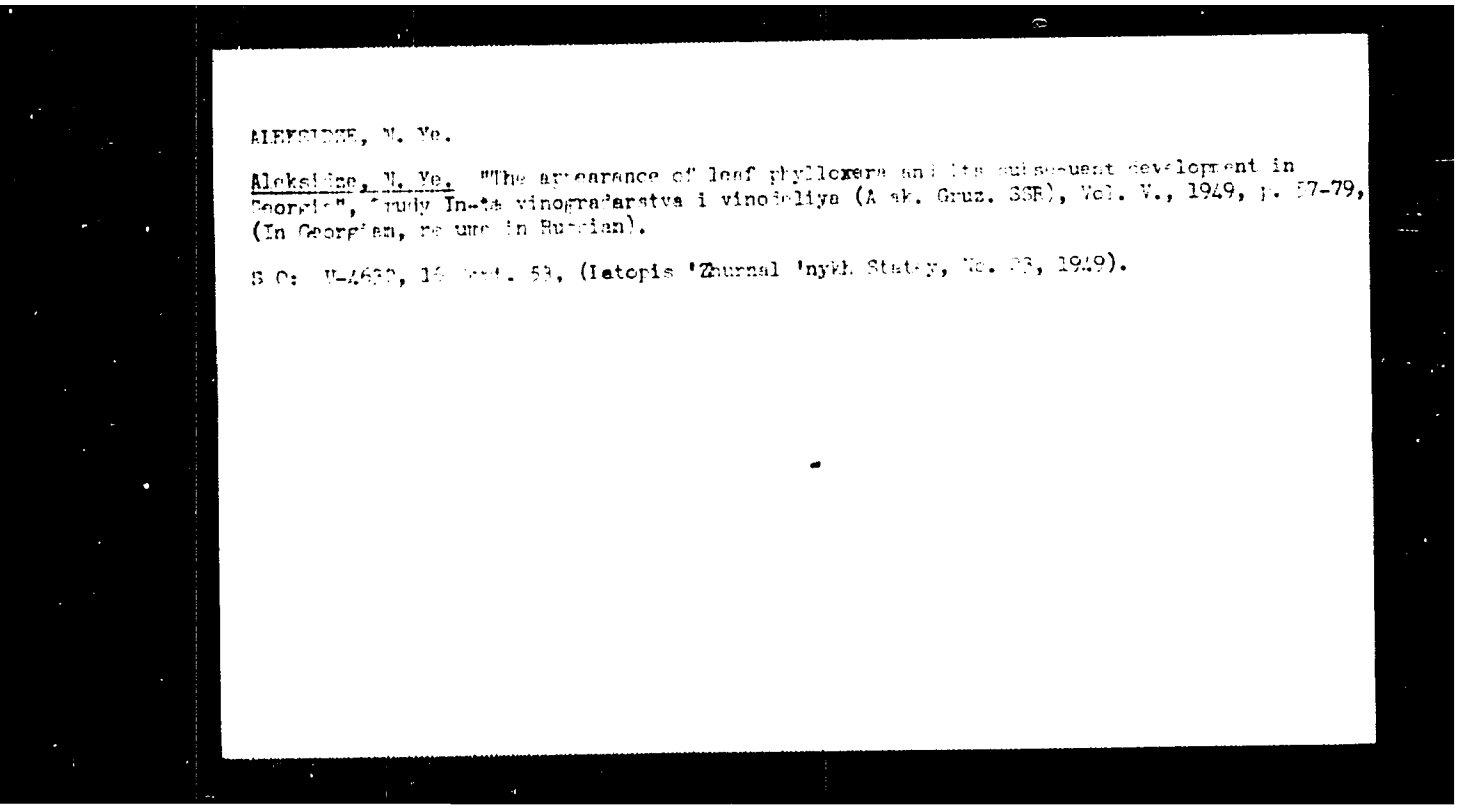
Effect of the redox-potential of the external environment on the sensitivity of the muscle to acetylcholine. Biofizika 7 no.4:502-509 '62. (MIRA 17:8)

1. Tbilisskiy gosudarstvennyy universitet.

ALEKS IDZE, N.G.

Effect of methylene blue and ascorbic acid on acetylcholine activity. Soob. AN Gruz. SSR 29 no. 4:421-426 O '62 (MIRA 19:1)

1. Tbilisskiy gosudarstvennyy universitet. Submitted June 29, 1961.



ALEKSIDZE, N. Ye.

Alekside, N. Ye. "The appearance of leaf phylloxera and its subsequent development in Georgia", Trudy In-ta vinogradarstva i vinodeliya (Akad. Gruz. SSR), Vol. V., 1949, p. 57-79, (In Georgian, resume in Russian).

SO: U-4630, 16 Sept. 53, (Letopis 'Zhurnal 'nykh Statey, No. 33, 1949).

1. AINSIDZE, N. Ye.

2. USSR (600)

4. Phylloxera

7. Practical resistance of Georgian grape varieties to root Phylloxera /In Georgian with Russian summary/. Trudy Inst. vin. AN Gruz. SSR 7, 1951.

9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.