80833

S/149/60/000/03/03/009

18.3100

AUTHORS: Baymakov, Yu.V., Kamenetskiy, M.V., Smirnov, V.V.

TITLE: Investigation Into Processes Occurring on Electrodes in Electrolytic Titanium Refinement

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Tsvetnaya metallurgiya, 1960, No 3, pp 81 - 89

TEXT: Studies on the crystallization of metal on the cathode in electrolytic refinement of titanium are still at a stage of preliminary research. Crystallization of titanium on the cathode is complicated by the reaction developing on the surface of forming crystals. $2TiCl_3 + Ti \rightleftarrows 3TiCl_2$ The authors investigated the preparation of melts containing $TiCl_3$ and carried out analyses. The method described in Refs 5 and 6 was employed. The experiments were performed in a medium of purified argon on an installation shown in Figure 1. Results of the experiments are given in a table. The dependence of the current efficiency and the composition of the final electrolyte on the volume current density at 800°C is represented by a set of graphs. It appears that highest current efficiency is obtained if the melt contains 5 to 12%

n
Ti
re
ca
tra
The
effe
It wa
the e
conseq

...athode.
...gure 5. The
...series of experiments.
...$TiCl_2$ contained in the volume of
...maintain a constant composition. As a
...rrent density was revealed, whose optimum value

Card 1/3

Card 2/

SEMENKO, Yuriy Lukich; KOROLEV, A.A., kand. tekhn. nauk, retsenzent; BYKOV, V.A., inzh., retsenzent; SMIRNOV, V.V., kand. tekhn. nauk, dots., red.; GOLYATKINA, A.G., red. izd-va; KLEYNMAN, M.R., tekhn. red.

[Machines for the straightening of rolled products] Mashiny dlia pravki prokata. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1961. 207 p. (MIRA 14:11)
(Rolling mills--Equipment and supplies)

KHAN, G.A.; SMIRNOV, V.V.

Investigating the system of automatic control of a single-stage crushing cycle. TSvet. met. 34 no.6:1-9 Je '61. (MIRA 14:6)

(Crushing machinery)
(Automatic control)

SMIRNOV, V. V.

32

PHASE I BOOK EXPLOITATION SOV/5985

Rokotyan, Ye. S., Doctor of Technical Sciences, ed.

Prokatnoye proizvodstvo; spravochnik (Rolling Industry; Handbook) v. 1. Moscow, Metallurgizdat, 1962. 743 p. Errata slip inserted. 9250 copies printed.

Authors of this volume: B. S. Azarenko, Candidate of Technical Sciences; V. D. Afanas'yev, Candidate of Technical Sciences; M. Ya. Brovman, Engineer; M. P. Vavilov, Engineer; A. B. Vernik, Engineer; K. A. Golubkov, Engineer; S. I. Gubkin, Academician, Academy of Sciences BSSR; A. Ye. Gurevich, Engineer; V. I. Davydov, Candidate of Technical Sciences; V. G. Drozd, Engineer; N. F. Yermolayev, Engineer; Ye. A. Zhukovich-Stopha, Engineer; N. M. Kirilin, Candidate of Technical Sciences; M. V. Kovynev, Engineer; A. M. Kogos, Engineer; A. A. Korolev, Professor; M. Ye. Kuguyenko, Engineer; A. V. Laskin, Engineer; B. A. Levitanskiy, Engineer; V. M. Lugovskoy, Engineer; I. M. Meyerovich, Candidate of Technical Sciences; M. S. Ovcharov, Engineer; V. I. Pasternak, Engineer; I. L. Perlin, Doctor of Technical Sciences; I. S. Pobedin, Candidate of Technical Sciences; Ye. S. Rokotyan, Doctor of Technical Sciences; M. M. Saf'yan, Candidate of Technical Sciences; V. V. Smirnov, Candidate of Technical Sciences; V. S. Smirnov, Corresponding Member, Academy of Sciences USSR; O. P. Sokolovskiy,

Card 1/10

SOV/5985

Rolling Industry; Handbook

Engineer; O. P. Solov'yev, Engineer; M. A. Sidorkevich, Engineer; Ye. M. Tret'yakov, Engineer; I. S. Trishevskiy, Candidate of Technical Sciences; G. N. Khenkin, Engineer; and A. I. Tselikov, Corresponding Member, Academy of Sciences USSR. Introduction: A. I. Tselikov, Corresponding Member, Academy of Sciences USSR; Ye. S. Rokotyan, Doctor of Technical Sciences; and L. S. Al'shevskiy, Candidate of Technical Sciences.

Eds. of Publishing House: V. M. Gorobinchenko, N. M. Golubchik, and V. A. Rymov; Tech. Ed.: L. V. Dobuzhinskaya.

PURPOSE: This handbook is intended for technical personnel of metallurgical and machine-building plants, scientific research institutes, and planning and design organizations. It may also be useful to students at schools of higher education.

COVERAGE: The fundamentals of plastic deformation of metals are discussed along with the theory of rolling and drawing. Methods of determining the power consumption and the forces in rolling with plane surface or grooved rolls are

Card 2/12

Rolling Industry; Handbook SOV/5985

Card 10/19

S/271/63/000/003/007/049
A060/A126

AUTHORS: Khan, G.A., Smirnov, V.V., Zaznobin, M.G.

TITLE: Method for the automatic turbidity control of decantation from coagulator (For discussion)

PERIODICAL: Referativnyy zhurnal, Avtomatika, telemekhanika i vychislitel'naya tekhnika, no. 3, 1963, 29, abstract 3A162 (Obogashcheniye rud, 1962, no. 2 (38), 39 - 42)

TEXT: The article cites dependence curves for the capacitance of the transducer as a function of the turbidity of quartz of various sizes, of the turbidity of a suspension of various minerals, of the particle size at constant concentration, of the turbidity of decantation from coagulator under varying size of the solid phase (of a scheelite concentrate), and of the concentration of various reagents. A diagram and description is given of an electronic metering unit, as well as results of experiments, according to which the turbidity meter with capacitance transducer may be utilized in a system for automatic feeding of coagulating agents supplied to a coagulator, and for the control of the

S/271/63/000/003/007/049
A060/A126

Method for the automatic turbidity control of ....

height of the irradiated layer of the coagulator. There are 6 figures and 5 references.

A. V.

[Abstracter's note: Complete translation]

Card 2/2

KHAN, G.A.; FED'KOVSKIY, I.A.; SMIRNOV, V.V.

Oxidizability of molybdenite during flotation. Izv. vys. ucheb. zav.; tsvet. met. 5 no.4:54-59 '62. (MIRA 16:5)

1. Moskovskiy institut stali, kafedra obogashcheniya rud redkikh i radioaktivnykh metallov.

(Flotation) (Molybdenite)

KHAN, G.A.; GUHAN, M.; BAULOV, V.I.; SMIRNOV, V.V.

Testing automatic photometric equipment for the continuous measurement of residual xanthate ion concentrations in flotation pulp. TSvet.met. 35 no.8:79-81 Ag '62. (MIRA 15:8)
(Flotation--Equipment and supplies)
(Photometers--Testing)

KALMAKOV, A. A.; POLKIN, S. I.; KHAN, G. A.; SMIRNOV, V. V.

"The use of radioisotopes for the determination of the contents of certain metals in the Products of ore dressing."

paper to be presented at the Sixth International Mineral Processing Congress, Cannes, France, 26 May 2 Jun 63

RIMSKIY-KORSAKOV, A.A.; SMIRNOV, V.V.

Dependence of the angular distribution of photoelectrons on the γ-radiation energy. Izv. AN SSSR, Ser. fiz. 26 no.9:1169-1171 S '62. (MIRA 15:9)

(Photoelectricity) (Gamma-ray spectrometry)

SMIRNOV, V. V.

AM4036546 BOOK EXPLOITATION S/

Gerasimov, V. V.; Gromova, A. I.; Golovina, YE. S.; Moskvichev, G. S.; Pavlova, F. S.; Smirnov, V. V.; Shapovalov, E. T.

Corrosion and irradiation (Korroziya i obluchenlye), Moscow, Gosatomizdat, 1963, 267 p. illus., biblio. 3,000 copies printed.

TOPIC TAGS: corrosion, irradiation, nuclear reactor, nuclear reactor material, metallurgy, stainless steel, chromium steel, carbon steel, low alloy steel, aluminum alloy, protective coating, electrochemical behavior

PURPOSE AND COVERAGE: The basis of this monograph was the research conducted by the authors in recent years that has been published in the periodical literature and the work of Soviet and foreign authors on the problems of the corrosion resistance of structural materials. The monograph consists of ten chapters in which corrosion and the protection of structural materials used in reactors, the interaction of radiation of the nuclear reactor with a substance and the effect of radiation on the corrosion and electrochemical behavior of metals are examined. The general and systematized material on the corrosion resistance of metals used in reactors will be useful to a wide circle of designers, researchers, and engineers

Card 1/3

AM1036546

concerned with problems of reactor construction. Chapters I, VII, IX, and X were written by V. V. Gerasimov, Chapters II, IV -- E. T. Shapovalov, Chapter III -- A. I. Gromova, Chapter V -- V. V. Smirnov, Chapter VI -- G. S. Moskvichev, Chapter VIII -- F. S. Pavlova and Ye. S. Golovina. The authors express their gratitude to I. Ye. Zimakov for assistance in writing Chapter IX and their associates who participated in the research.

TABLE OF CONTENTS:

Card 2/3

AM4036546

Ch. VIII. Protective coatings in reactor construction -- 167
Ch. IX. Radiation of a nuclear reactor -- 199
Ch. X. Effect of radiation on the electrochemical behavior of materials -- 229

SUB CODE: ML, NS SUBMITTED: 11Mar63 NR REF SOV:0179

OTHER: 308 DATE ACQ: 07May64

Card 3/3

L 41073-66 EWT(m)/T/EWP(t)/ETI/EWP(k) IJP(c) JD/HW/WB/DJ

ACC NR: AP6027299 SOURCE CODE: UR/0133/66/000/008/0752/0755

56
54
B

AUTHOR: Doronin, V. M.; Smirnov, V. V.; Klyuyev, M. M.; Alekseyenko, M. F.; Orekhov, G. N.

ORG: none

TITLE: Stainless heat-resistant 15Kh16N2M steel

SOURCE: Stal', no. 8, 1966, 752-755

TOPIC TAGS: CORROSION RESISTANT STEEL, stainless steel, martensitic ~~stainless~~ steel, ~~martensitic~~ heat resistant steel, SOLID mechanical property, ~~steel heat resistance, steel corrosion resistance~~/15Kh16N2M stainless steel

ABSTRACT: A new stainless and heat-resistant steel designated 15Kh16N2M has been developed for use in parts operating under stresses at elevated temperatures up to 500C in marine or tropical atmospheres. The steel is intended to replace previously used 1Kh12N2VMF, 13Kh14NVFRA, Kh17N2, and DI-1 steels. The two former are heat resistant at temperatures up to 500—600C but are susceptible to corrosion in marine and tropical atmospheres. The latter two have a high corrosion resistance but are not suitable for operation at temperatures over 400C. In addition, Kh17N2 steel has a poor forgeability owing to a two-phase structure with a delta-ferrite content of up to 40%. 15Kh16N2M steel has none of the above disadvantages. It contains 0.12—0.18% carbon, 15.0—16.5% chromium, 2.0—2.5% nickel, 1.2—1.5%

UDC: 669.14.018.45.8

Card 1/3

molybdenum, and 0.005—0.12% nitrogen. Steel austenitized at 1040—1050C (optimum temperature) and oil quenched has a martensitic structure with 5—10% deltaferrite. The best combination of strength and ductility (for elevated temperature service) is achieved by tempering at 500-550C or 660-680C (see Fig. 1) At 500C, steel

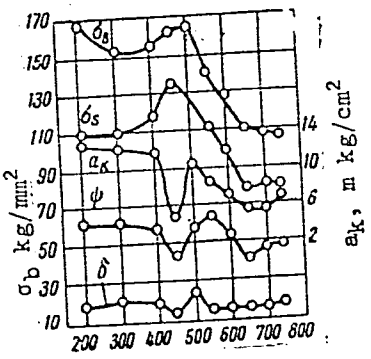


Fig. 1. Tempering temperature dependence of tensile strength (σ_b), yield strength (σ_s), elongation (δ), reduction of area (ψ), and notch toughness (a_k) of 15Kh16N2M steel, oil quenched from 1050C.

tempered at 580C had a 100 hr rupture strength of 45 kg/mm^2, a 500 hr rupture strength of 40 kg/mm^2, a creep strength of 27 kg/mm^2 (for 0.2% total creep in 100 hr), and a fatigue strength of 45 kg/mm^2 for smooth specimens and 26 kg/mm^2 for notched specimens. Conventionally arc-melted steel has a rather high anisotropy of

L 41073-66
ACC NR: AP6027299

mechanical properties, which can be greatly reduced by electroslag melting. The corrosion resistance of 15Kh16N2M steel is close to that of Kh17N2 steel, but the former is not susceptible to pitting. Orig. art. has: 5 figures and 4 tables. [DV]

SUB CODE: 11/ SUBM DATE: none/ ORIG REF: 004/ OTH REF: 001/ ATD PRESS: 5057

Card 3/3 11b

Smirnov, V. V.

USSR

Photographic effect of γ-rays. K. K. Aglintsev and V. V. Smirnov. *Zhur. Tekh. Fiz.* 23, 1727-33(1953). The sensitivity of x-ray film types X and XX toward γ-rays from Cr^{51}, Zr^{95}, Cs^{137}, and Co^{60} was experimentally detd. Blackening is detd. by electron emission of the surrounding layers of photoemulsion substance. The results of expt. agree with calcn. based on the theory of ionization in granules.

V. N. Bednarski

SMIRNOV, V. [illegible], KASATKIN, V. P., and AGLINTSEV, K. K.

"Investigations of functioning electronic spectra in the dosymetry of β- and γ-radiations," a paper submitted at the International Conference on Radio-isotopes in Scientific Research, Paris, 9-20 Sep 57.

"On the Activating Action of Electron Spectra in Ionization Chambers," by K. K. Aglintsev, V. V. Mitrofanov and V. V. Smirnov, Atomnaya Energiya, Vol 2, No 1, Jan 57, pp 66-68

The article analyzes the Bragg-Gray relation

$$Q = \Delta E / s\mathcal{E}$$

where Q is the number of vaporized ions per cm^3 of gas in an ionization chamber, ΔE is the amount of radiation absorbed per cm^3 of the material in the walls of the chamber, s is the ratio of the stopping power of the wall material to that of the gas, and $\mathcal{E}$ is the work of ionization.

Conditions necessary in order that the relation may be applied without error are enumerated.

An experiment is described in which electron spectra in ionization chambers and counters were systematically studied. A magnetic spectrometer was used to determine the spectra of electrons. The electrons were knocked out by γ-rays at various angles to a target analogous to the ionization chamber walls. A graph shows the degree of ionization caused by electrons knocked out at various angles. (U)

SOV/89-5-5-12/27

21(1)
AUTHORS: Aglintsev, K. K., Mitrofanov, V. V., Smirnov, V. V.

TITLE: The Relative Effectiveness of Ionization Chambers Made of Various Materials (Otnositel'naya effektivnost' ionizatsionnykh kamer iz razlichnykh materialov)

PERIODICAL: Atomnaya energiya, 1958, Vol 5, Nr 5, pp 566-568 (USSR)

ABSTRACT: The thimble-ionization chambers were made from plexiglass, aluminum, copper, cadmium, and lead. The angular distribution and the energy spectrum of the secondary electrons were experimentally determined. Secondary electrons are produced by the interaction between the γ-radiation of Cs^{137} (662 keV) and Co^{60} (1170 and 1330 keV) and the various materials of which the walls of the ionization chamber are made. The secondary electrons were measured by means of a 270° magnetic spectrometer (Ref 1). An additional sluable device made it possible to carry out separate measurements of the secondary electrons emitted at angles of 0, 15, 30, 45, 60, 80, 105, 130, 150, 165 and 180°.
The relative effectiveness of the thimble-ionization chambers

Card 1/3

The Relative Effectiveness of Ionization Chambers Made of Various Materials

was determined as amounting to:

E_γ in keV	Material of the walls of the chamber	Relative effectiveness
1250	plexiglass	1,0 ± 0,1
	Al	1,0
	Cu	1,1 ± 0,1
	Cd	1,3 ± 0,2
	Pb	1,6 ± 0,2
662	plexiglass	1,0 ± 0,1
	Al	1,0
	Cu	1,5 ± 0,2
	Cd	1,9 ± 0,3
	Pb	2,7 ± 0,4

The values obtained, with the exception of those for Pb, agree well with the data supplied by reference 2. The effect of the ionization by electrons scattered on the opposite wall of the chamber is taken into account by the above data. There are 3 figures, 2 tables, and 2 references,

APPROVED FOR RELEASE: 08/24/2000 CIA-RDP86-00513R001651610020-9"

21(1) SOV/89-5-5-13/27

AUTHOR: Smirnov, V. V.

TITLE: The Absolute Effectiveness of Ionization Chambers for γ-Rays (Absolyutnaya effektivnost' ionizatsionnykh kamer dlya γ-luchey)

PERIODICAL: Atomnaya energiya, 1958, Vol 5, Nr 5, pp 568-569 (USSR)

ABSTRACT: On the basis of the experimentally determined energy- and angular distribution of secondary electrons liberated from thick targets (Ref 3) by Co^{60} γ-radiation, the absolute effectiveness of an ionization chamber of a certain type is determined.
By comparing the surface of the total spectrum of secondary electrons with the area which corresponds to known β-spectra (at the same experimental conditions), the absolute number of secondary electrons is obtained.
In a flat ionization chamber with an area of 100 cm^2 and a depth of 0,1 mm in $(4,8 \pm 0,5).10^6$ ion pairs are produced per cm^3 and second.
This value agrees very well with a value calculated from the ratio between the dose in r and the number of γ-quanta

Card 1/2

The Absolute Effectiveness of Ionization Chambers for γ-Rays

causing this dose.
This method can also be employed for larger chambers. In this way it might be possible to find out the maximum dimensions of chambers to which the Bragg-Gray (Bragg-Gray) law is applicable. There are 2 figures and 4 references, 2 of which are Soviet.

SUBMITTED: July 16, 1958

SMIRNOV, V. V.

SOV/89-5-5-14/27

21(1)
AUTHOR: Smirnov, V. V.

TITLE: Spectra of Secondary Electrons and the Sensitivity of Counting Tubes With Respect to γ-Rays (Spektry vtorichnykh elektronov i chuvstvitel'nost' schetchikov k γ-luchan)

PERIODICAL: Atomnaya energiya, 1958, Vol 5, Nr 5, pp 570-572 (USSR)

ABSTRACT: The γ-rays emitted by Cs^{137} and Co^{60} impinge upon an aluminum semicylinder which is used as a counting tube and has a diameter of 20 mm and a wall-thickness of 1 mm. The spectrum of secondary electrons produced is measured by means of a magnetic spectrometer (Ref 1) for each of the angles of 0, 15, 30, 60, 80, 105, 130, 150 and 165° a spectrum recording was made vertical and parallel to the aluminum cylinder. The angular- and energy distribution of the secondary electrons is given in form of a graph.
The relative effectiveness of the aluminum counting tube for Co^{60}- and Cs^{137} γ-radiation was determined as amounting to 2,1 ± 0,2. This result agrees well with the data supplied by reference 3.
The absolute effectiveness of the aluminum counting tube was

Card 1/2

Spectra of Secondary Electrons and the Sensitivity of Counting Tubes With Respect to γ-Rays

determined by comparing the surfaces of known β-spectra with those of the measured secondary electrons. The following values were obtained:

E_γ in keV	Absolute effectiveness
1250	$(8 \pm 2) \cdot 10^{-3}$
662	$(4 \pm 1) \cdot 10^{-3}$

These values agree well with the data supplied by reference 3. K. K. Aglintsev displayed constant interest in this work. V. V. Mitrofanov took part in experiments. There are 4 figures, 1 table, and 3 references, 2 of which are Soviet.

SUBMITTED: July 16, 1958

9(6)
AUTHORS: Krasheninnikov, I. I., Smirnov, V. V., SOV/119-58-12-12/13
Engineers

TITLE: Pulse Counter Relay of the Type Ye-531
(Schetno-impul'snoye rele tipa Ye-531)

PERIODICAL: Priborostroyeniye, 1958, Nr 12, pp 30 - 30 (USSR)

ABSTRACT: This relay of the type Ye-531 has been developed in the Kiyevskiy zavod rele i avtomatiki (Kiyev Relay and Automation Works). It automatically counts the number of processes of a mechanism and, after counting to a certain predetermined number, it gives an order to the power element to initiate the next process cycle. The relay is quoted to have a life time of at least 5 million pulses and is provided to be fed by a.c. The magnets,however,are fed by d.c. through a rectifier (germanium diode) from an a.c. source, which is incorporated in the device. The device itself is mounted on a plastics ground plate. The case is in front fitted with a window, thus providing for a simple adjustment, which can be varied between 1 and 75 pulses. The relay operates only at a pulse repetition frequency less than 4 per second. If an extension

Card 1/2

SMIRNOV, V.V.

(4) PHASE I BOOK EXPLOITATION SOV/2713

International Conference on the Peaceful Uses of Atomic Energy. 2nd, Geneva, 1958

Doklady sovetskikh uchenykh; polucheniye i primeneniye izotopov (Reports of Soviet Scientists; Production and Application of Isotopes) Moscow, Atomizdat, 1959. 388 p. (Series: Its: Trudy, vol. 6) 8,000 copies printed.

Eds. (Title page): G.V. Kurdyumov, Academician, and I.I. Novikov, Corresponding Member, USSR Academy of Sciences; Ed. (Inside book): Z.D. Andreyenko; Tech. Ed.: Z.D. Andreyenko.

PURPOSE: This book is intended for scientists, engineers, physicians, and biologists engaged in the production and application of atomic energy to peaceful uses; for professors and graduate and nongraduate students of higher technical schools where nuclear science is taught; and for the general public interested in atomic science and technology.

COVERAGE: This is volume 6 of a 6-volume set of reports delivered by Soviet scientists at the Second International Conference on the Peaceful Uses of Atomic Energy held in Geneva from September 1 to 13, 1958. Volume 6 contains 32 reports on: 1) modern methods for the production of stable radioactive isotopes and their labeled compounds, 2) research results obtained with the aid of isotopes in the field of chemistry, metallurgy, machine building, and agriculture, and 3) dosimetry of ionizing radiation. Volume 6 was edited by: S.V. Levinskiy, Candidate of Medical Sciences; V.I. Prusakov, Candidate of Chemical Sciences; and V.Y. Sedov, Candidate of Medical Sciences. See Sov/2081 for titles of volumes of the set. References appear at the end of the articles.

SMIRNOV, V.V., Cand Phys-Math Sci -- (diss) "Secondary electrons and the effectiveness of recording of gamma-radiation." Len[illegible], 1959. 11 pp (Acad of Sci USSR. Radium Inst im V.G. Khlopin). 175 copies (KL,40-59, 101)

AGLINTSEV, K.K.; MITROFANOV, V.V.; SMIRNOV, V.V.

Active electron spectra in air-equivalent ionization chambers. Trudy Radiev.inst.AN SSSR 9:253-257 '59. (MIRA 14:6)
(Ionization chambers) (Electrons--Spectra)

69069

S/120/60/000/01/004/051

E032/E314

21.5300

AUTHORS: Mitrofanov, V.V. and Smirnov, V.V.

TITLE: The Construction of a Magnetic Spectrometer for Studying Angular Distribution of Electrons

PERIODICAL: Pribory i tekhnika eksperimenta, 1960, Nr 1, pp 22 - 24 (USSR)

ABSTRACT: The spectrometer has been designed for use in studies involving energy spectra and angular distributions of electrons having energies between 0.02 and a few MeV. The angular interval is 0 - 180°. The spectrometer is based on the design reported by Dzhelepov et al (Ref 1). Electrons of given energy emitted in a direction perpendicular to the source are doubly focused by a uniform magnetic field and are recorded by two counters in coincidence. By varying the magnetic field and noting the number of coincidences, it is possible to obtain the energy spectrum of the electrons emitted by the source in the forward direction. By rotating the source of electrons through an angle about the vertical axis, it is possible to analyse those electrons which correspond to the rotation angle. The authors have studied the energy spectra and

Cardl/4

69069

S/120/60/000/01/004/051
E032/E314

The Construction of a Magnetic Spectrometer for Studying Angular Distribution of Electrons

angular distributions of secondary electrons ejected by Cs^{137} and Co^{60} gamma-rays from thick targets of different atomic number. Moreover, a study was made of the electron spectra of W^{185}, Y^{91} and P^{32} scattered in backward directions at various angles to the targets. Figure 1 gives a schematic drawing of the apparatus employed. In Figure 1, 1 is the target; 2 is the body of the spectrometer; 3 is a collimator; 4 is the gamma-ray source; 5 is the counter-holder; 6 is the counter chamber; 7 is a slit-carrying frame; 8 is the moveable jaw of the exit slit; 9 and 10 is the device for adjusting the slit width; 11 is a diaphragm; 12 is a screening block; 13 is the lid; 14 is a connection to the vacuum pump; 15 is the electron counter; 16 is the counter chamber; 17 is a pipe used to evacuate the counter chamber; 18 are glass-metal seals; 19 is the entrance slit; 20 and 21 is a device for rotating the target; 22 is a window for changing the targets.

Card2/4

69069

S/120/60/000/01/004/051

E032/E314

The Construction of a Magnetic Spectrometer for Studying Angular Distribution of Electrons

The chamber is so constructed that the electron spectra can be obtained in steps of 15^{o} between o^{o} and 180^{o}. The overall dimensions of the spectrometer are $410 \times 370 \times 110$ mm^3. The counters were cylindrical (12 mm diameter, working length 35 mm) and were filled with a mixture of argon and methane (60% and 40%, respectively, at a total pressure of 10 cm Hg). Resolution of the coincidence circuit was 10^{-6} sec. Figure 2 shows the spectra of electrons ejected by Cs^{137} gamma-rays from cadmium. The vertical axis gives the number of pulses in arbitrary units and the horizontal axis the electron energy in KeV. Figure 3 gives the spectra emitted by Co^{60} gamma-rays from the same target. Acknowledgment is made to K.K. Aglintsev who directed this work.

4

Card3/4

69069

S/120/60/000/01/004/051
E032/E314

The Construction of a Magnetic Spectrometer for Studying Angular Distribution of Electrons

There are 3 figures, 1 table and 4 Soviet references.

ASSOCIATION: Radiyevyy institut AN SSSR (Radium Institute of the Ac.Sc., USSR)

SUBMITTED: January 14, 1959

4

Card 4/4

S/115/60/000/05/24/034
B007/B011

AUTHOR: Smirnov, V. V.

TITLE: On the Measurement of the Dose of Gamma and Beta Radiations With the Aid of Thimble Ionization Chambers

PERIODICAL: Izmeritel'naya tekhnika, 1960, No. 5, pp. 47-50

TEXT: For a right interpretation of processes taking place in thimble chambers the author systematically examined the spectra and the angular distributions of secondary electrons released from the targets (simulating ionization chamber walls) by means of Cs^{137} and Co^{60} gamma rays (Ref. 3). The investigation was conducted by means of a magnetic spectrometer in an angular range of from 0 to 180°. The targets used consisted of graphite, plexiglass, aluminum, copper, cadmium, and lead. The results are shown in the diagrams of Figs. 1, 2, 3, and 4. Fig. 5 shows the complete spectra, calculated from formula (2), of electrons released by means of Cs^{137} and Co^{60} gamma rays from the plexiglass target. The relative change in the total number of secondary electrons released by means of

Card 1/3

Cs^{137} and Co^{60} gamma rays as dependent on the atomic number of the target is shown in Fig. 6. On the strength of obtained spectra and angular distributions of secondary electrons, the author calculated the relative and absolute efficiencies of flat-slit ionization chambers of different materials (Refs. 4, 5). The values obtained fit experimental results published by various authors (Refs. 6, 7). It is pointed out that when measuring the gamma radiation dose, one must consider not only the ionization caused by the electrons released from the chamber walls by means of gamma rays, but the electrons scattered from the opposite walls as well. Experiments showed that such electrons constitute 5% in the case of 700 kev electrons. In order to determine the magnitude of ionization produced by secondary electrons in the chamber unit volume, one must know the volume of the entire space out of which the ions collect. The ionization volume of the chamber can be accurately determined by calibrating the chamber with a calibrated gamma radiation source. This procedure is described here as well. The author studied the change in the total number of secondary electrons and their ionization effect in dependence on the chamber wall thickness,

On the Measurement of the Dose of Gamma and Beta Radiations With the Aid of Thimble Ionization Chambers

S/115/60/000/05/24/034
B007/B011

and shows the corresponding results in Fig. 7. If there is a thin front wall, the secondary electrons released by the gamma rays from the source envelope and the air layer between source and chamber enter the ionization volume of the chamber. This leads to a certain indefiniteness in the material layer thickness which plays the part of the front wall in the chamber in the measurement of the gamma radiation dose. There are 7 figures and 8 references: 5 Soviet and 3 English.

Card 3/3

AGLINTSEV, K.K.; SMIRNOV, V.V.; CHUBAROV, M.N.

Investigating the sensitivity of "Roentgen-X" and "Roentgen-XX" films to electrons. Zhur.nauch.i prikl.fot.i kin. 7 no.6:444-446 N-D '62. (MIRA 15:12)

1. Radiyevyy institut AN SSSR imeni V.G. Khlopina.
(Radiography)
(Photographic sensitometry)

AGLINTSEV, K.K.; MITROFANOV, V.V.; RIMSKIY-KORSAKOV, A.A.; SMIRNOV, V.V.

Investigation of the angular distribution of photoelectrons knocked out of Ag and Bi targets by gamma rays from Cs 137. Izv. AN SSSR. Ser. fiz. 26 no.9:1141-1145 '61. (MIRA 14:8)

(Electrons—Spectra)
(Gamma rays)

S/048/62/026/009/007/011
B125/B186

AUTHORS: Rimskiy-Korsakov, A. A., and Smirnov, V. V.

TITLE: Study of the dependence of the angular distribution of photoelectrons on the γ-radiation energy

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya, v. 26, no. 9, 1962, 1169-1171

TEXT: Determinations were made of the angular distributions of K-photoelectrons knocked out from Ag, Nd, Bi, and U targets by Cs^{137} γ-radiation, from Bi and U targets by Au^{198} (412 kev) and Co^{60} (1331 kev) γ-radiation (Fig. 1). From these, the dependence of the ratio I_0/I_{max} on the nuclear charge number Z of the target (Fig. 2) and on the energy of the incident γ-quanta was derived. I_0 denotes the photoelectron intensity at $\Theta = 0^\circ$ and I_{max} is the intensity at the angle with the maximum photoelectron intensity. The photoelectron scattering in the target itself was calculated by the Monte Carlo method. The spectrometers used were

Card 1/4

Study of the dependence of the...

described among others by K. K. Aglintsev et al. (Izv. AN SSSR, Ser. fiz., 25, 1141 (1961)). The substances to be studied were sputtered onto colloid or aluminum backings. The angular distributions of an electron beam scattered in Bi layers (0.1; 0.2; and 0.4 $mgcm^{-2}$ thick) calculated by the Monte Carlo method are given in Fig. 4. These calculations were based on the formula $\cot(\theta/2) = Mv^2p/Z'e^2$ (1) where θ is the deflection angle, M is the mass of the incident particle, v is its velocity, p is the collision parameter, e the electron charge; the Thomas-Fermi function $\phi(p)$ characterizes the weakening of the Coulomb interaction between nucleus and electron at a distance p from the nucleus owing to the screening of the nuclear field by the electrons. $Z' = Z\,\phi(p)$. The calculations give the quantitatively correct angular distribution and state the nature of its dependence on the nuclear charge number Z of the target nucleus and on the energy of the incident γ-quanta. The "anomalous" intensity I_o is due to the term which is proportional to $(\alpha Z)^3$. The increasing deviation from Sauter's explanation of the photoelectric effect with increasing energy of γ-radiation is very interesting for the theory of the photoelectric effect. There are 4 figures.

Card 2/4

Study of the dependence of the...

Fig. 1. Angular distribution of the K-photoelectric electrons knocked out from the Bi-target (0.052 mg cm^{-2}): (1) by the Co^{60} γ-radiation; (2) by the Au^{198} γ-radiation; (3) distribution according to Sauter for Bi and Co^{60} γ-radiation.

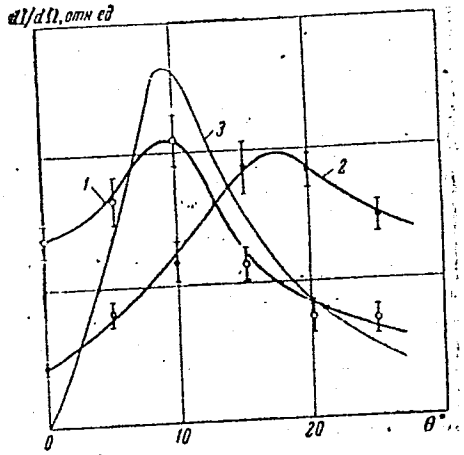


Fig. 1

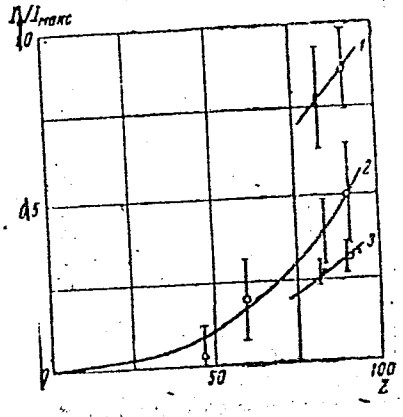


Fig. 2

Card 3/4

33996

S/056/62/042/001/010/048
B125/B108

24.6410
26.2541

AUTHORS: Rimskiy-Korsakov, A. A., Smirnov, V. V.

TITLE: Angular distribution of photoelectrons released by Cs^{137} γ-rays from targets with various atomic numbers

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 42, no. 1, 1962, 67 - 68

TEXT: The angular distribution of photoelectrons knocked out of the K shell by Cs^{137} γ-rays was investigated with a magnetic spectrometer (K. K. Aglintsev et al., Izv. AN SSSR, seriya fiz., 25, 1141, 1961). Thin targets and the good angular resolution of the apparatus made it possible to obtain the angular distribution in the photoeffect. Fig. 2 shows the change of the ratio I_o/I_{max} (I_o = intensity at the angle $\theta = 0^o$, I_{max} = maximum intensity corresponding to the angle $\theta = 15^o$ for $h\nu = 662$ kev) with Z, Fig. 1 shows the angular distribution of K-photoelectrons released from Nd and U targets. The release of electrons at $\theta = 0^o$ is the most interesting deviation from F. Sauter's results (Zs. Physik, 11, 454, 1931).

Card (1/3)

33996
S/056/62/042/001/010/048
B125/B108

Angular distribution of...

According to the empirical relation $I_0/I_{max} = 2.59 \cdot 10^{-6} \cdot Z^{2.7}$ established by the authors, the intensity at $\theta = 0^o$ is caused by that term in the expansion which is proportional to $(\alpha Z)^3$. This is of interest for the theory of the photoeffect and will have to be studied quantitatively. Professor K. K. Aglintsev is thanked for his interest, M. N. Chubarov for assistance. There are 2 figures and 8 references: 3 Soviet and 5 non-Soviet. The two references to English-language publications read as follows: A. Hedgran, S. Hultberg. Phys. Rev., 14, 498, 1954; S. Hultberg. Ark. Physik, 15, 307, 1959.

ASSOCIATION: Radiyevyy institut Akademii nauk SSSR (Radium Institute of the Academy of Sciences USSR)

SUBMITTED: July 28, 1961

Fig. 1. Angular distribution of photoelectrons released by Cs^{137} γ-rays ($h\nu$ = 662 kev) from an Nd target (•) and a U target (-) with a surface density of 0.05 and 0.04 mg/cm^2, respectively. Solid line = Sauter curve. Legend: (1) $dI/d\Omega$ in conventional units; (2) θ, degrees.

Card 2/5

L 02403-67 EWT(d)/FSS-2 GD

ACC NR: AT6022318 SOURCE CODE: UR/0000/66/000/000/0022/0025

67
B71

AUTHOR: Katayev, S. I.; Makoveyev, V. G.; Smirnov, V. V.; Dymnich, E. V.; Avanesov, G. A.

ORG: None

TITLE: Experimental converter of television signal standards

SOURCE: Vsesoyuznaya nauchnaya sessiya, posvyashchennaya Dnyu radio, 22d, 1966. Sektsiya televideniya. Moscow, 1966, 22-25

TOPIC TAGS: signal to noise ratio, TV converter, TV equipment, TV system, vidicon tube, video signal

ABSTRACT: The authors discuss the various problems involved in exchange of television programs due to the existence of four incompatible television signal standards. A brief description is given of an experimental converter developed by the television department of the Moscow Electrotechnical Institute of Communications in 1964-1965. This device converts a television signal from a system with a line frequency of 625 per second at 50 frames per second to a signal with 525 lines per second at 60 frames per second and vice versa. The basic unit in the converter is a device for rephotographing the image containing an optically interconnected kinescope and transmitting tube which operate in different scanning systems.

Card 1/2

Card 2/2

ACC NR: AP7001400 SOURCE CODE: UR/0413/66/000/021/0076/0076

INVENTOR: Smirnov, V. V.; Fomin, Yu. V.; Sud'in, A. P.; Merzenev, M. D.

ORG: none

TITLE: Arc welding attachment. Class 21, No. 187905

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 21, 1966, 76

TOPIC TAGS: arc welding, arc length, automatic arc length control, welding equipment

ABSTRACT: This Author Certificate introduces an attachment for arc welding which includes a welding head and a copying device. To ensure a stable arc length and to improve the welding quality, the welding head carries an additional argon nozzle and is connected to a membrane actuator. The argon jet from the additional nozzle

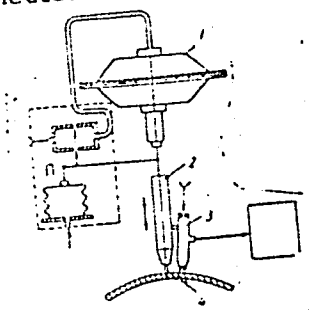


Fig. 1. Welding attachment

1 - Membrane actuator; 2 - welding torch; 3 - nozzle; 4 - argon jet.

UDC: 621.791.753.39.03

Card 1/2

SMIRNOV, V.V., podpolkovnik med.sluzhby.

Effect of hyperventilation and red light on night vision. (MIRA 12:1)
Voen.-med.zhur. no.12:56-58 D '55
(NIGHT VISION)
(RESPIRATION)

SMIRNOV, V. V. (Capt.Med.Serv.) and GORELOV, V. V. (Lt.Col.Med.Serv.)

"Some of the Reasons for Flight Accidents Due to Health Condition," Voyenno-medits. zhur., No.4, pp. 52-55, 1957

Summary of article 1119950

AZIZYAN, A.K., otv. za vypusk; REUT, V.F., otv. za vypusk; SELYUK, S.I., otv. za vypusk; SMIRNOV, V.V., otv. za vypusk; NOVIKOVA, L., tekhn.red.

[The first flight of man into space; materials published in "Pravda."] Pervyi polet cheloveka v kosmos; materialy, opublikovannye v "Pravde." Moskva, Izd-vo "Pravda," 1961, 343 p. (MIRA 14:3)

(Astronautics)

AZIZYAN, A.K., otv. za vypusk; REUT, V.F., otv. za vypusk; SMIRNOV, V.V., otv. za vypusk; NOVIKOVA, L., tekhn. red.

[Twenty five hours of space flight] 25 chasov v kosmicheskom polete; materialy, opublikovannye v "Pravde." Moskva, Izd-vo "Pravda," 1961. 382 p. (MIRA 14:10)

(Astronautics)

IVAN'KOV, Ye.I., podpolkovnik meditsinskoy sluzhby; LYASAKOV, N.A., podpolkovnik meditsinskoy sluzhby; SMIRNOV, V.V., podpolkovnik meditsinskoy sluzhby

Causes for the elimination of students in military flight training institutions for health reasons, Voen.-med.zhur. no.3:57-60 Mr '61. (MIRA 14:7)

(AVIATION MEDICINE)

SHLYAKHOV, V.V., podpolkovnik meditsinskoy sluzhby; KONOBRITSKIY, I.S., kapitan meditsinskoy sluzhby.

Changes of ocular refraction after atropinization in flying school candidates. Voen.-med. zhur. no.8:65-66'62. (MIRA 16:9)
(EYE--ACCOMODATION AND REFRACTION)
(ATROPINE--PHYSIOLOGICAL EFFECT)

MESHKOVSKAYA, V.V.; SMIRNOV, V.Ya.; ANTIPOV, M.M.; TKHILADZE, G.R.

Mobile mechanized machine for preparing paint components. Rats. i izobr. predl.v strei.no.123:6-9 '55. (MLRA 9:7)
(Paint machinery)

SMIRNOV, V.Ya.; PEREPELKINA, M.S.; ANTONOV, M.M.; TKHILADZE, G.R.

Mobile all-purpose machine for parquet floor layers. Rats. i izobr. predl.v strei. no.123:13-17 '55. (MLRA 9:7)
(Parquetry)

SMIRNOV, V.Ya.

Spring planting of trees and shrubbery on avenues and in parks of the capital. Gor.khoz.Mosk. 24 no.5:6-7 My '50.(MLRA 7:11)

1. Zamestitel' nachal'nika Upravleniya ozeleneniya gor.Moskvy.
(Moscow--Tree planting) (Tree planting--Moscow)

SMIRNOV, V. YA., LUNTS, L. B.

MOSCOW - LANDSCAPE GARDENING

Results and perspectives of landscaping in Moscow. Gor. khoz. Mosk., 26, no. 7, 1952.

Monthly List of Russian Accessions, Library of Congress, October 1952. Unclassified.

SMIRNOV, V.Ya.

Economy of funds and tree materials in landscape architecture. Gor. khoz.Mosk. 29 no.2:33-34 F '55. (MLRA 8:5)

1. Zamestitel' nachal'nika Upravleniya ozeleneniya Moskvy.
(Moscow--Tree planting)

L 44133-65 EWT(1)/T/EEC(b)-2 Pi-4 IJP(c) GG

ACCESSION NR: AP5011923 UR/0363/65/001/003/0340/0342

AUTHOR: Mirgalovskaya, M. S.; Kokoshkin, V. A.; Smirnov, V. Ya. 33 32 B

TITLE: Crystal face effect in doped indium antimonide 21 27

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 1, no. 3, 1965, 340-342

TOPIC TAGS: indium antimonide, single crystal, doped semiconductor crystal, single crystal growth, crystal face effect, impurity distribution

ABSTRACT: The face effect R in the B<111> growth direction of indium antimonide single crystals doped with sulfur, selenium, or zinc has been studied in order to establish a correlation between R and the concentrations of the three impurities. R was defined as the ratio $K_a : K_b$, where K_a and K_b are the distribution coefficients "at the crystal face," i.e. in the central region of the crystal where an impurity incorporated by tangential growth of the face, and "beyond the face," i.e. in the peripheral region of normal incorporations of an impurity. The crystals were grown by the Czochralski technique

Card 1/3 2

L 44133-65
ACCESSION NR: AP5011928

under standard conditions. The average carrier (impurity) concentrations "beyond the face," (N_b), as determined from the experimental Hall constant at liquid nitrogen temperature, were in the (1—4) x 10^{17} cm^{-3} range for Se and S and in the (0,9—3) x 10^{19} cm^{-3} range for Zn. The K_a :K_b ratio was assumed to be equal to the $(N_a:N_b)_\alpha$ ratio, where N_a and N_b are the carrier concentrations "at" and "beyond the face" of preferential growth, and α is thermoelectric power. The α values were measured by means of hot probe equidistant points along the diameters of polished cross sections cut from a single crystal. Thus, the ratios $\alpha_b : \alpha_a$ were established and $(N_a : N_b)_\alpha$ ratios, i.e., R, were calculated on the basis of the $\alpha(n)$ dependence established by calibration. The experimental $(N_a : N_b)\alpha$ data were found to be in good agreement with the previously published data for $R_{(111)}$. It was shown that: 1) R for a given impurity varied significantly along the entire length of the crystal as the average impurity concentration N_b increased or decreased even slightly; and 2) for impurities with $K_b(111)<1$ (S,Se) R decreased and for impurities with $K_B(111) \geq 1$ (Zn) R remained nearly constant with increasing N_b within the concentration ranges indicated. Orig. art. has: 1 figure and 1 table. [JK]

Card 2/3 Submitted 07Sept64

SMIRNOV, V. Ye.

SMIRNOV, V. Ye.: "The Natural Restoration and Planting of Pine under a Protective Canopy of Red 'Shelyuga' in the Strip Forests of Altay Kray." Min Higher Education USSR. Voronezh Forestry Engineering Inst. Voronezh, 1956. (Dissertation for the Degree of Candidate in Agricultural Science)

So: Knizhnaya Letopis', No. 19, 1956.

SMIRNOV, V. Ye. K.

USSR/Forestry - Forest Cultures.

Abs Jour : Ref Zhur - Biol., No 21, 1958, 95843

Author : Smirnov, V.Ye.

Inst : West Siberian Affiliate AS USSR

Title : Raising Siberian Larch in the Steppe Area of Altayskiy Kray.

Orig Pub : Tr. po lesn. kh-vu Zap. Sibiri, Zap.-Sib. fil, AN SSSR, 1957, vyp. 3, 223-230.

Abstract : In the shelterbelts of the forest-steppe and steppe regions of Altayskiy Kray, on leached grey forest soils, and southern and average clayey and sandy chernozems, the Siberian larch is a promising species. The Altay and especially the Khakasskaya forms in the existing experimental plantings grow well here and have been preserved; in the 15-17 year plantings, the larch has a

Card 1/2

SMIRNOV, Ye.

Put manpower potentials to work. Metallurg 10 no.3:1-2 Mr '65.
(MIRA 18:5)

1. TSentral'nyy komitet professional'nogo soyuza rabochikh metallurgicheskoy promyshlennosti.

SMIRNOV, V.Ya.

Effect of pneumoencephalography on the functional state of the arteries and veins. Vop. klin. pat. no.3:107-114 '61. (MIRA 14:12)

1. Iz Kliniki nervnykh bolezney (zaveduyushchiy prof. N.A.Popova) Moskovskogo oblastnogo nauchno-issledovatel'skogo instituta imeni M.V.Vladimirksogo.
(BLOOD VESSELS) (ENCEPHALOGRAPHY)

Smirnov, V. Ye.

FD-1917

USSR/Medicine - Pharmacology

Card 1/2 Pub. 38-16/18

Author :

Title : Section of Pharmacology and Toxicology, Leningrad Society of Physiologists Biochemists, and Pharmacologists imeni I. M. Sechenov [Meeting]

Periodical : Farm. i. toks., 17, 57-58, Nov/Dec 1954

Abstract : The 534th meeting of the society took place on October 27, 1953. Three papers were presented. Ye. S. Fedorchuk (Chair of Pharmacology Leningrad State Sanitation-Hygiene Institute) presented a paper "The Participation of Reflex Mechanisms in the Pressor Action of Nicotine". P. Ye. Dyablova (Chair of Pharmacology Leningrad State Pediatric Medical Institute) presented a paper "Preventing the Antidiuretic Effect of Histamine with Dimedrol". L. I. Tank (Division of Pharmacology, Institute of Experimental Medicine) presented a paper "The Endurance of Experimental Animals to the Poisons of Glycolytic Phosphorylation of Various Periods of Postnatal Development." The 539th meeting of the society took place November 26, 1953, and three papers were presented.

I. I. Baryshnikov presented a paper "Concerning the Effect of Certain Phenylalkylamines on the Central Nervous System". V. Ye. Smirnov (First Leningrad Medical Institute) presented a paper "Judging the Anticonvulsive activity of a number of preparations by Their Ability to Prevent Convulsions due to Electric Shock in Mice". [redacted]

EXCERPTA MEDICA Sec 8 Vol 12/12 Neurology Dec 59

6067. EVALUATION OF THE ANTI-CONVULSANT ACTION OF CERTAIN NEW THERAPEUTIC DRUGS BY THEIR ABILITY TO PREVENT ELECTRIC CONVULSIONS IN MICE (Russian text) - Smirnov V.YE. From the Book: FIZIOLOGICHESKAYA ROL ATSETILKHOLINA I IZYSKANIE NOVYKH LEKARSTVENNYKH VESHCHESTV (I. Len. Med. Inst. im. Pavlova) 1957 (126-129) Illus. 2

In the group of drugs (hydrochloride, methiodide and ethiodide of diphazin, α-methyldiphazin and arpenal hydrochloride) investigated, diphazin hydrochloride in a dose of 20 mg./kg. had the strongest anti-convulsant action. A somewhat less but nevertheless valuable effect was shown by arpenal hydrochloride in a dose of 10 mg./kg. Both these drugs are of clinical interest by virtue of the fact that they have a wide therapeutic range of action (LD_{50} for diphazin hydrochloride is 480 mg./kg. and for arpenal hydrochloride 250 mg./kg.). (S)

-M[illegible] V.Y.

Indications for the surgical treatment of some urination disorders in spina bifida occulta. Vop. neirokhir. no.5:55 '64. (MIRA 18:10)

1. Klinika fakul'tetskoy khirurgii (zav. - prof. I.I.Khozhainov) Stavropol'skogo meditsinskogo instituta.

MAKSUDOV, G.A.; SMIRNOV, V.Ye.

Review of scientific studies in 1964 on the problem "Basic diseases of the nervous system." Zhur. nevr. i psikh. 65 no.11:1753-1757 '65. (MIRA 18:11)

SMIRNOV, V.Ye.

Surgical technique in [illegible] stenosis of the pylorus caused by a chemical burn. Khirurgiia 40 no.12:62-66 D '64. (MIRA 17:9)

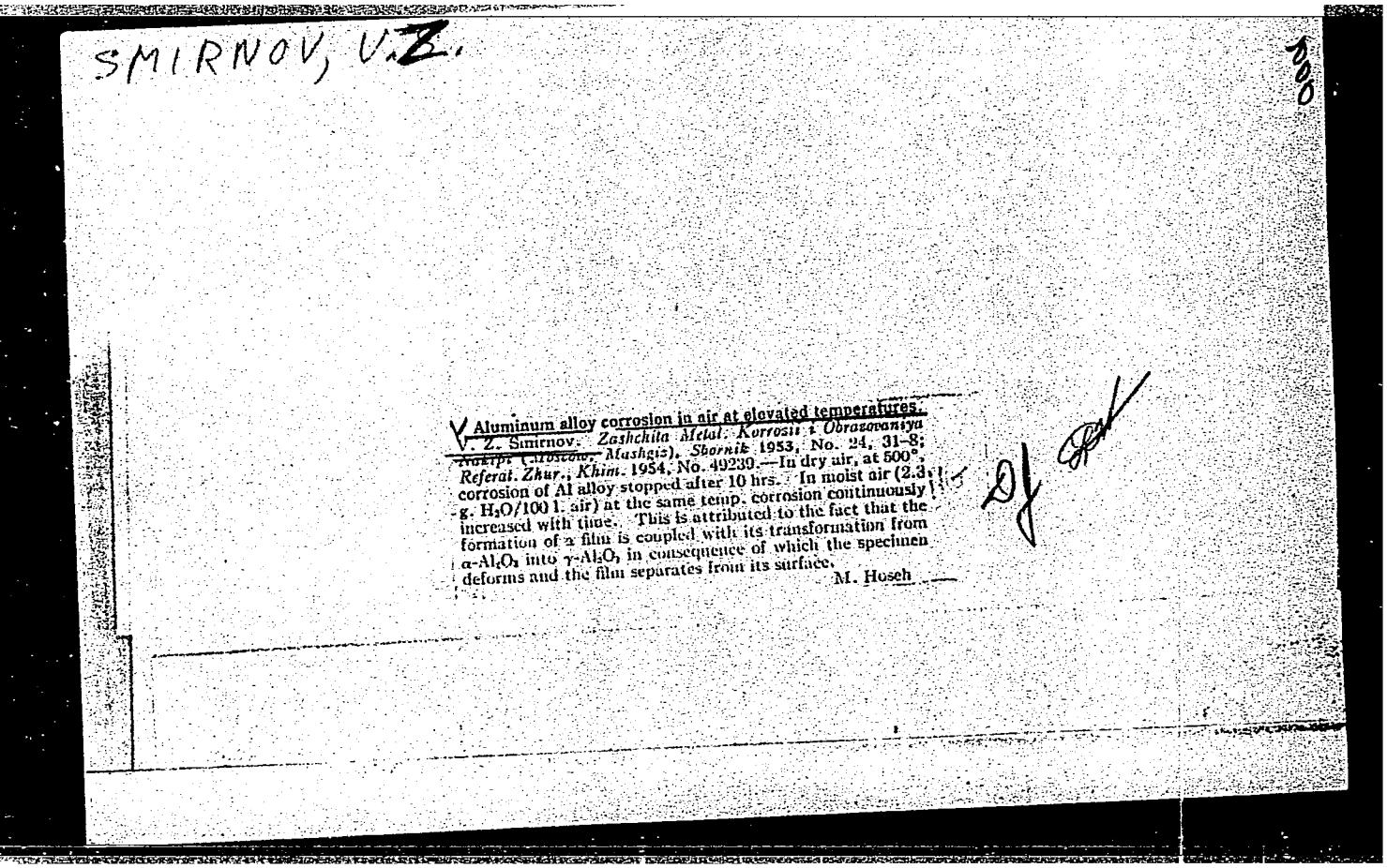
1. Klinika fakul'tetskoy khirurgii (zav.- prof. I.I. Khozhainov) Stavropol'skogo meditsinskogo instituta.

SMIRNOV, V.Ye.

Indications for operative treatment of urinary incontinence in the presence of spinae bifidae occultae. Uch. zap. Stavr. gos. med. inst. 12:247-248 '63. (MIRA 17:9)

1. Klinika fakul'tetskoy khirurgii (zav. prof. I.I. Khozhainov) Stavropol'skogo gosudarstvennogo meditsinskogo instituta.

SMIRNOV, V. Ye., Candidate Med Sci (diss) -- "Changes in the intramural nervous apparatus of the vermiform process in various forms of acute appendicitis". Ryazan', 1959. 16 pp (Ryazan' Med Inst im Acad I. P. Pavlov), 200 copies (KL, No 22, 1959, 122)



SMIRNOV, V.Z.

Aluminum alloy corrosion in air at elevated temperatures.
V. Z. Smirnov. *Zashchita Metal. Korrozii i Obrazovaniya Nakipi. (Moscow, Mashgiz). Sbornik* 1953, No. 24, 31–8; *Referat. Zhur., Khim.* 1954, No. 49239.—In dry air, at 500°, corrosion of Al alloy stopped after 10 hrs. In moist air (2.3 g. H_2O/100 l. air) at the same temp. corrosion continuously increased with time. This is attributed to the fact that the formation of a film is coupled with its transformation from α-Al_2O_3 into γ-Al_2O_3 in consequence of which the specimen deforms and the film separates from its surface.
M. Hoseh

YALIKOV, N.S.; SMIRNOV, Ya. A.

Sensitometric study of color materials. Trudy Lab.aerofot.4: 61-71 '55.
(Photographic sensitometry) (MLRA 9:2)

L 05344-67 EWT(1) GW

ACC NR: AP7000246

SOURCE CODE: UR/0020/66/168/002/0428/0431

AUTHOR: Smirnov, Ya. B.

ORG: Geological Institute, AN SSSR (Geologicheskiy institut AN SSSR)

TITLE: Heat flux on the ocean floor

SOURCE: AN SSSR. Doklady, v. 168, no. 2, 1966, 428-431

TOPIC TAGS: tectonics, seismic wave, magnetic anomaly, earth crust, earthquake

ABSTRACT: The author reviews the data in the literature on the floors of water bodies in different tectonic zones. Data are given for the following: ocean floor (pre-Paleozoic), ocean floor (pre-Cenozoic), deep depressions of Cenozoic geosynclinal systems, ocean trenches, mid-ocean ridges, sloping parts of ridges, volcanic ridges, arched uplifts and block ranges, zones of faults, submarine parts of continental pre-Cenozoic platforms, submarine parts of Cenozoic geosynclinal systems. The mean values of the heat fluxes correlate with gravity and magnetic anomalies, velocities of seismic waves, general gradients of Late Cenozoic tectonic movements, bottom relief, zones of seismic activity and volcanism, as established for definite tectonic regions of ocean floors. Among the clearest examples are trenches and mid-oceanic ridges with low and high heat flux values respectively. The first are characterized by negative gravity anomalies and gradients of tectonic movements, intermediate and deep-focus earthquakes and virtual absence of volcanism. The second have positive anomalies of these characteristics, shallow "volcanic"

Card 1/2 UDC: 550.36+551.24+551.462

0923 0789

L 05344-67
ACC NR: AP7000246

2

earthquakes and basaltic volcanism. It is shown that the mean values of heat fluxes are related closely to the characteristics of composition and structure of the earth's crust and upper mantle in different tectonic regions and the deep physicochemical processes occurring in them. This paper was presented by Academician A. L. Yanshin on 4 February 1966. Orig. art. has: 2 figures and 2 tables.
[JPRS: 37,058]

SUB CODE: 08 / SUBM DATE: 05 Nov 65 / ORIG REF: 004 / OTH REF: 016

kh

Card 2/2

L 09102-67

ACC NR: AP7002372

2) Age of tectogenesis; 3) Precambrian; 4) Paleozoic; 5) Mesozoic; 6) Cenozoic; 7) Number of observations; 8) Value of heat flux in $\mu cal/cm^2 \cdot sec$; 9) Distribution law; 10) Normal; 11) Not established. N = total; n = analyzed.

These data indicate that the heat flux $\bar{q}_1$ in regions with different age of tectogenesis is different. It was possible to determine the area s_i of each of the considered regions. The region of Precambrian folding on the continents constitutes 64.2% of the total area S of the continents, Paleozoic -- 14.7%, Mesozoic -- 7.5% and Cenozoic -- 13.6%. These data make it possible to compute the mean weighted value of the heat flux on the continents $\bar{q}$ from the relation

$$\bar{q} = \left(\sum_{i=1}^{n} \bar{q}_i s_i\right)/S = 1{,}15 \pm 0{,}115 \ \mu \text{ cal/cm}^2 \cdot \text{sec}.$$

The total heat loss through the continents ($S = 1.48 \cdot 10^{18} cm^2$) is equal to

$Q = 1.70 \cdot 10^{12}$ cal/sec = $7.11 \cdot 10^{19}$ ergs/sec. This paper was presented by Academician A. L. Yanshin on 4 February 1966. Orig. art. has: 3 figures and 1 table. [JPRS: 37,710]

SUB CODE: 08 / SUBM DATE: 05Nov65 / ORIG REF: 007 / OTH REF: 013

Card 2/2 nst

SMIRNOV, Ya.N.

Economic aspects of the forced operation of tunnel kilns.
Stek.i ker. 17 no.5:9-13 My '60. (MIRA 13:8)
(Kilns) (Pottery)

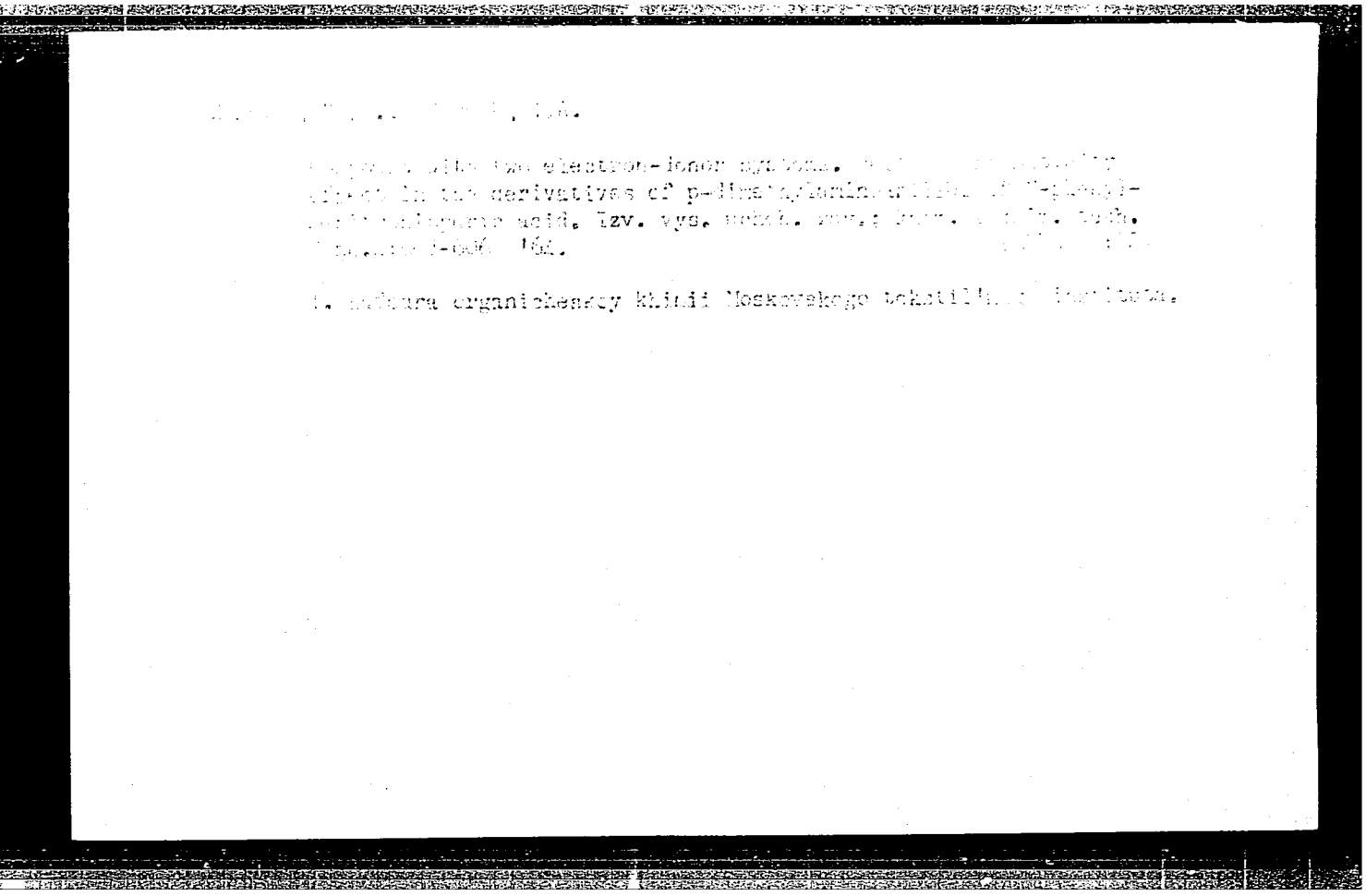
SMIRNOV, Ye.

Commander is training. Av.i kosm. 45 no.3:41-43 '62.
(MIRA 15:8)
(Flight training) (Aeronautics, Military)

SMIRNOV, Ye., kand.ekon.nauk

Extend the overall mechanization of loading and unloading operations. Mekh. transp. 24 no.4:9-11 '65. (MIRA 18:5)

1. Tsentral'nyy nauchno-issledovatel'skiy institut ekonomiki i ekspluatatsii vodnogo transporta.



VOLODIN, N.V., dots., kand. voyennykh nauk polkovnik v otstavke; SMIRNOV, Ye.A., red.; BALASHOVA, M.V., red.-leksikograf; YAKOVLEVA, N.A., tekhn. red.

[English-Russian military engineering dictionary; some 33,000 words] Anglo-russkii voenno-inzhenernyi slovar'. Okolo 33,000 terminov. Moskva, Voenizdat, 1962. 783 p. (MIRA 16:2)
(English language--Dictionaries--Russian)
(Military engineering--Dictionatries)

SEREGIN, P.V., inzh.; G...MAN, P.A., inzh.; S..IRNOV, Ye.A., inzh.; G INSHT..., L.A., inzh.

Erecting precast reinforced concrete cooling towers. Mont. i spets. rab. v stroi. 23 no.3:16-17 Mr '61. (MIRA 14:2)
(Cooling towers) (Precast concrete construction)

SMIRNOV, Ye.A. (Moskva)

Features of the course of staphylococcal infection in irradiated mice. (MIRA 12:12)
Arkh.pat. 21 no.6:35-39 '59.

1. Nauchnyy rukovoditel' prof. M.V. Svyatukhin.
(MICROCOCCAL INFECTIONS, exper.
eff. of x-rays in mice (Rus))
(ROENTGEN RAYS, eff.
on micrococcal infect. in mice (Rus))

SMIRNOV, Ye.A.

Healing of wounds of the skin and of the subcutaneous panniculus in white rats exposed to total-body gamma-irradiation. Arkh.pat. 21 no.8:32-39 '59. (MIRA 13:12)
(WOUNDS) (GAMMA RYAS—PHYSIOLOGICAL EFFECT)

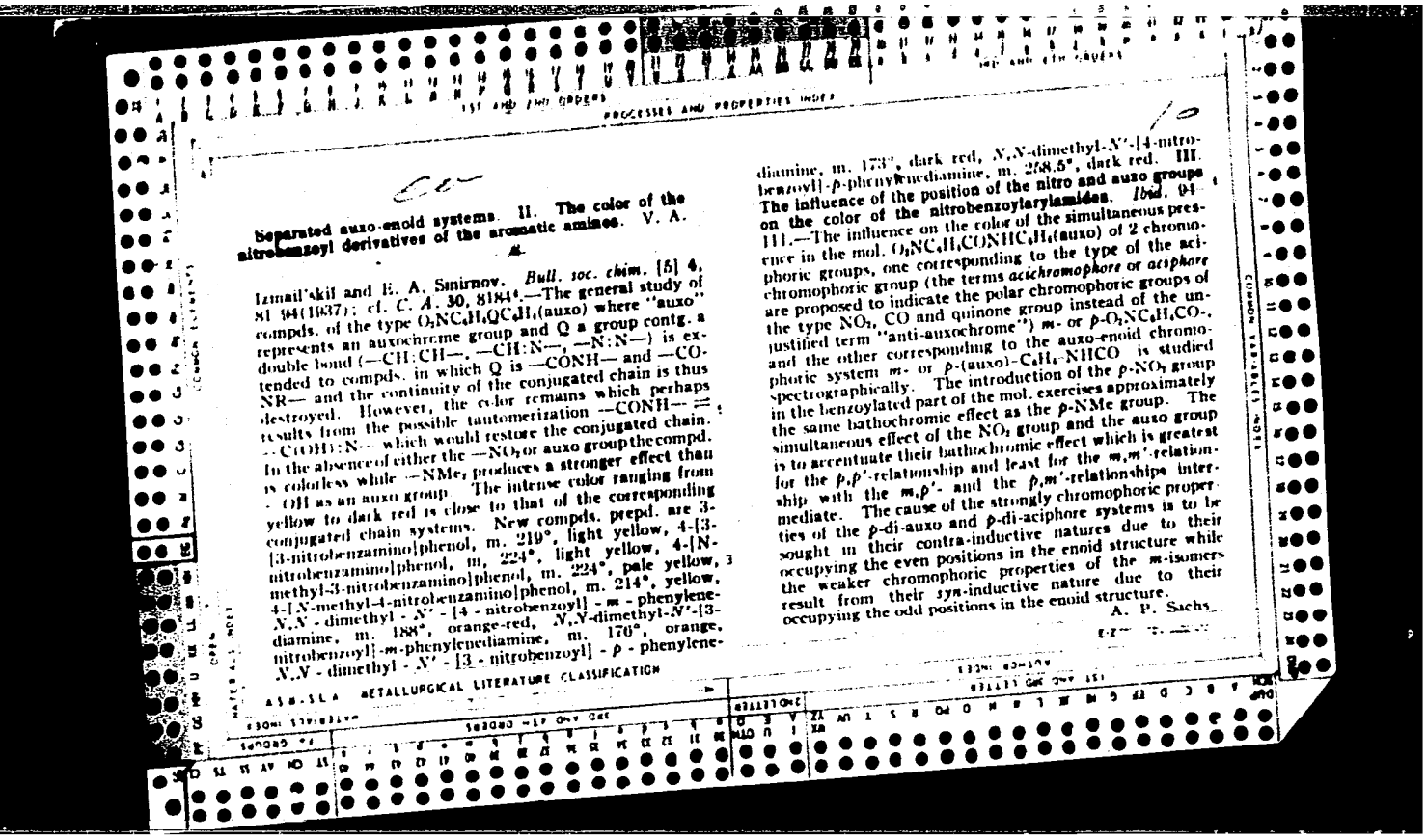
SUDZILOVSKIY, G.A., dotsent, kand. filol. nauk, podpolkovnik zapasa; BARANOVA, A.V., polkovnik, red.; SMIRNOV, Ye.A., red.; SAVIN, B.V., red.-leksikograf; BERDNIKOVA, N.D., red.-leksikograf; BUKOVSKAYA, N.A., tekhn. red.

[Anglo-Russian dictionary on antiaircraft and antirocket defense] Anglo-russkii slovar' po protivovozdushnoi i protivoraketnoi oborone. Pod red.A.V.Baranova. Okolo 27 000 terminov i sochetanii. Moskva, Voen.izd-vo obor.SSSR, 1961. 720 p. (MIRA 14:12)
(English language—Dictionaries—Russian)
(Antiaircraft guns—Dictionaries) (Rockets (Ordnance))—Dictionaries)

SMIRNOV, Ye.A., inzh.

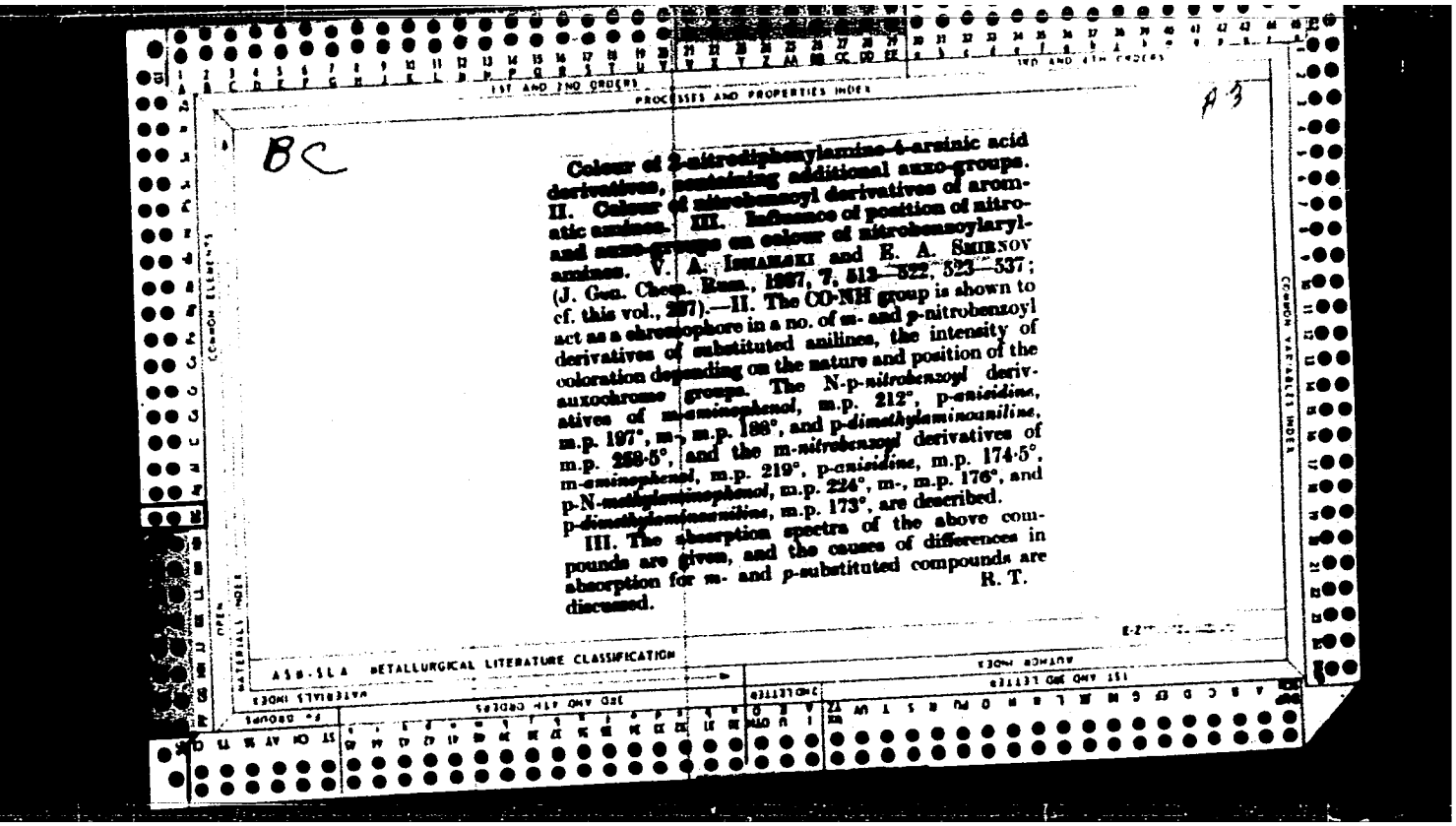
Vertical hoist of the Bratsk Hydroelectric Power Station. Energ. stroi. no.32:59 '62. (MIRA 16:5)

1. Stroitel'stvo Bratskoy gidroelektrostantsii.



Separated auxo-enoid systems. II. The color of the nitrobenzoyl derivatives of the aromatic aminoes. V. A. Izmail'skii and E. A. Smirnov. *Bull. soc. chim.* [5] 4, 81-94(1937); cf. *C. A.* 30, 8184⁴.—The general study of compds. of the type $O_2NC_6H_4QC_6H_4$(auxo) where "auxo" represents an auxochrome group and Q a group contg. a double bond (—CH:CH—, —CH:N—, —N:N—) is extended to compds. in which Q is —CONH— and —CONR— and the continuity of the conjugated chain is thus destroyed. However, the color remains which perhaps results from the possible tautomerization —CONH— ⇌ —C(OH):N— which would restore the conjugated chain. In the absence of either the $—NO_2$ or auxo group the compd. is colorless while $—NMe_2$ produces a stronger effect than —OH as an auxo group. The intense color ranging from yellow to dark red is close to that of the corresponding conjugated chain systems. New compds. prepd. are 3-[3-nitrobenzamino]phenol, m. 219°, light yellow, 4-[3-nitrobenzamino]phenol, m. 224°, light yellow, 4-[N-methyl-3-nitrobenzamino]phenol, m. 224°, pale yellow, 4-[*N*-methyl-4-nitrobenzamino]phenol, m. 214°, yellow, *N,N*-dimethyl-*N'*-[4-nitrobenzoyl]-*m*-phenylenediamine, m. 188°, orange-red, *N,N*-dimethyl-*N'*-[3-nitrobenzoyl]-*m*-phenylenediamine, m. 170°, orange, *N,N*-dimethyl-*N'*-[3-nitrobenzoyl]-*p*-phenylenediamine, m. 173°, dark red, *N,N*-dimethyl-*N'*-[4-nitrobenzoyl]-*p*-phenylenediamine, m. 268.5°, dark red. III. **The influence of the position of the nitro and auxo groups on the color of the nitrobenzoylarylamides.** *Ibid.* 94-111.—The influence on the color of the simultaneous presence in the mol. $O_2NC_6H_4CONHC_6H_4$(auxo) of 2 chromophoric groups, one corresponding to the type of the aci-chromophoric group (the terms *acichromophore* or *aciphore* are proposed to indicate the polar chromophoric groups of the type NO_2, CO and quinone group instead of the unjustified term "anti-auxochrome") *m*- or *p*-$O_2NC_6H_4CO$-, and the other corresponding to the auxo-enoid chromophotic system *m*- or *p*-(auxo)-C_6H_4-NHCO is studied spectrographically. The introduction of the *p*-NO_2 group in the benzoylated part of the mol. exercises approximately the same bathochromic effect as the *p*-NMe group. The simultaneous effect of the NO_2 group and the auxo group is to accentuate their bathochromic effect which is greatest for the *p,p'*-relationship and least for the *m,m'*-relationship with the *m,p'*- and the *p,m'*-relationships intermediate. The cause of the strongly chromophoric properties of the *p*-di-auxo and *p*-di-aciphore systems is to be sought in their contra-inductive natures due to their occupying the even positions in the enoid structure while the weaker chromophoric properties of the *m*-isomers result from their *syn*-inductive nature due to their occupying the odd positions in the enoid structure.

A. P. Sachs



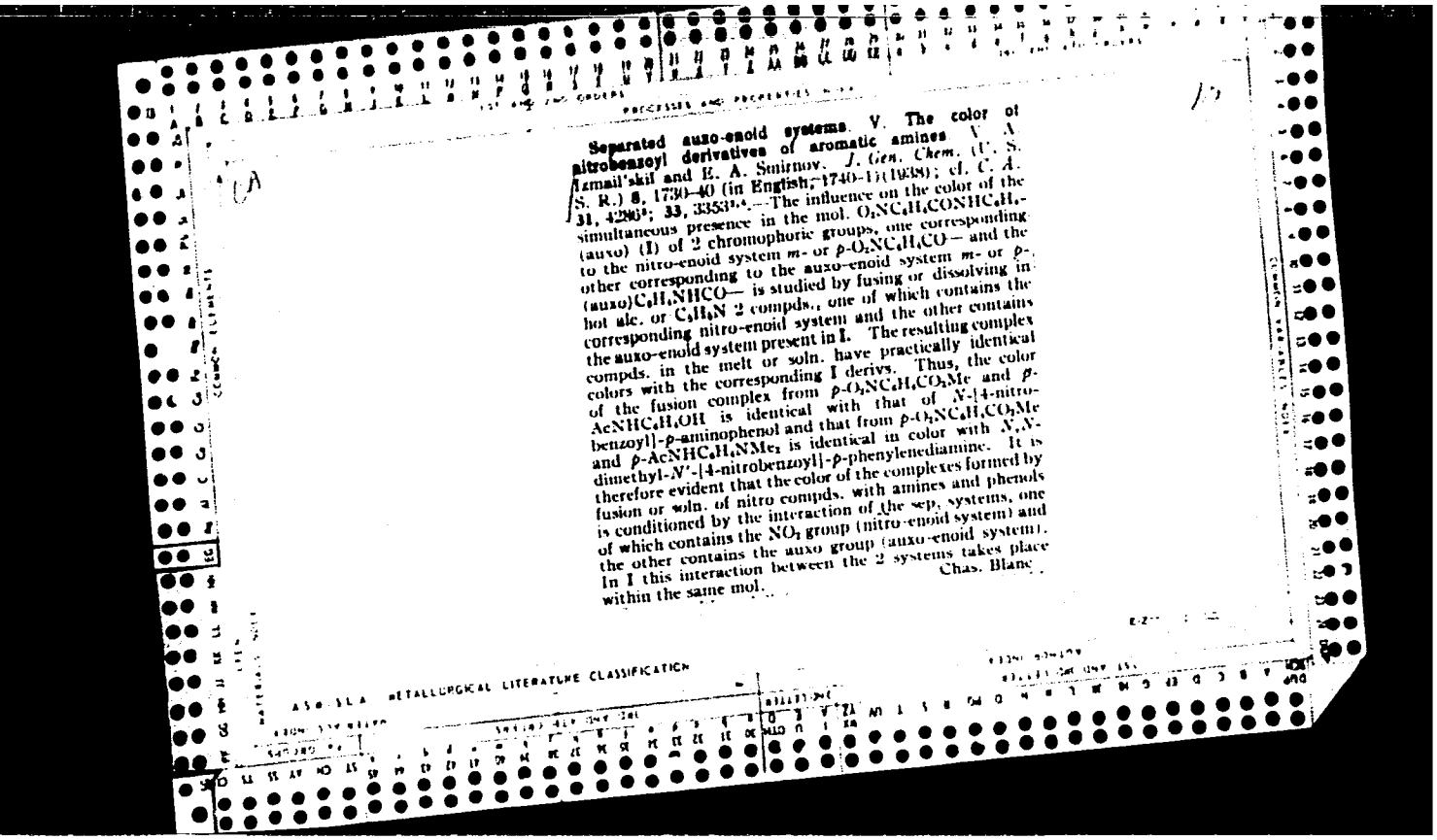
BC

A3

Colour of 2-nitrodiphenylamine-4-arsinic acid derivatives, containing additional auxo-groups. II. Colour of nitrobenzoyl derivatives of aromatic amines. III. Influence of position of nitro- and auxo-groups on colour of nitrobenzoylarylamines. V. A. Iskhakki and E. A. Shirsov (J. Gen. Chem. Russ., 1937, 7, 512—522, 523—537; cf. this vol., 297).—II. The CO·NH group is shown to act as a chromophore in a no. of *m*- and *p*-nitrobenzoyl derivatives of substituted anilines, the intensity of coloration depending on the nature and position of the auxochrome groups. The N-*p*-*nitrobenzoyl* derivatives of *m*-*aminophenol*, m.p. 212°, *p*-*anisidine*, m.p. 197°, *m*-, m.p. 188°, and *p*-*dimethylaminoaniline*, m.p. 259·5°, and the *m*-*nitrobenzoyl* derivatives of *m*-*aminophenol*, m.p. 219°, *p*-*anisidine*, m.p. 176°, and *p*-N-*methylaminophenol*, m.p. 224°, *m*-, m.p. 173°, are described.

III. The absorption spectra of the above compounds are given, and the causes of differences in absorption for *m*- and *p*-substituted compounds are discussed.

R. T.



Separated auxo-enoid systems. V. The color of nitrobenzoyl derivatives of aromatic amines. V. A. Izmail'skii and E. A. Smirnov. *J. Gen. Chem.* (U. S. S. R.) **8**, 1730–40 (in English, 1740–1) (1938); cf. *C. A.* **31**, 4290[9]; **33**, 3353[3].—The influence on the color of the simultaneous presence in the mol. $O_2NC_6H_4CONHC_6H_4$-(auxo) (I) of 2 chromophoric groups, one corresponding to the nitro-enoid system *m*- or *p*-$O_2NC_6H_4CO$— and the other corresponding to the auxo-enoid system *m*- or *p*-(auxo)C_6H_4NHCO— is studied by fusing or dissolving in hot ale. or C_5H_5N 2 compds., one of which contains the corresponding nitro-enoid system and the other contains the auxo-enoid system present in I. The resulting complex compds. in the melt or soln. have practically identical colors with the corresponding I derivs. Thus, the color of the fusion complex from *p*-$O_2NC_6H_4CO_2Me$ and *p*-$AcNHC_6H_4OH$ is identical with that of *N*-[4-nitrobenzoyl]-*p*-aminophenol and that from *p*-$O_2NC_6H_4CO_2Me$ and *p*-$AcNHC_6H_4NMe_2$ is identical in color with *N*,*N*-dimethyl-*N'*-[4-nitrobenzoyl]-*p*-phenylenediamine. It is therefore evident that the color of the complexes formed by fusion or soln. of nitro compds. with amines and phenols is conditioned by the interaction of the sep. systems, one of which contains the NO_2 group (nitro-enoid system) and the other contains the auxo group (auxo-enoid system). In I this interaction between the 2 systems takes place within the same mol.

Chas. Blanc

PROCESSES AND PROPERTIES INDEX

BC

A 3

Separated auxo-[illegible] systems. VIII. Colour of p-nitrophenylacetarylamides. IX. Colour of β-p-nitrophenylpropionarylamides. V. A. Izmailski and E. A. [illegible] (Compt. rend. Acad. Sci. U.R.S.S., 19[illegible], [illegible], [illegible]—673, 675—679).—VIII. p-*Nitrophenylacet-p'-anisidide*, m.p. [illegible]°, and -p'-*hydroxyanilide*, m.p. [illegible]°, are almost colourless, but the -p'-*dimethylaminoanilide*, m.p. 217°, is reddish-orange. (Cf. A., 1937, II, 94.)

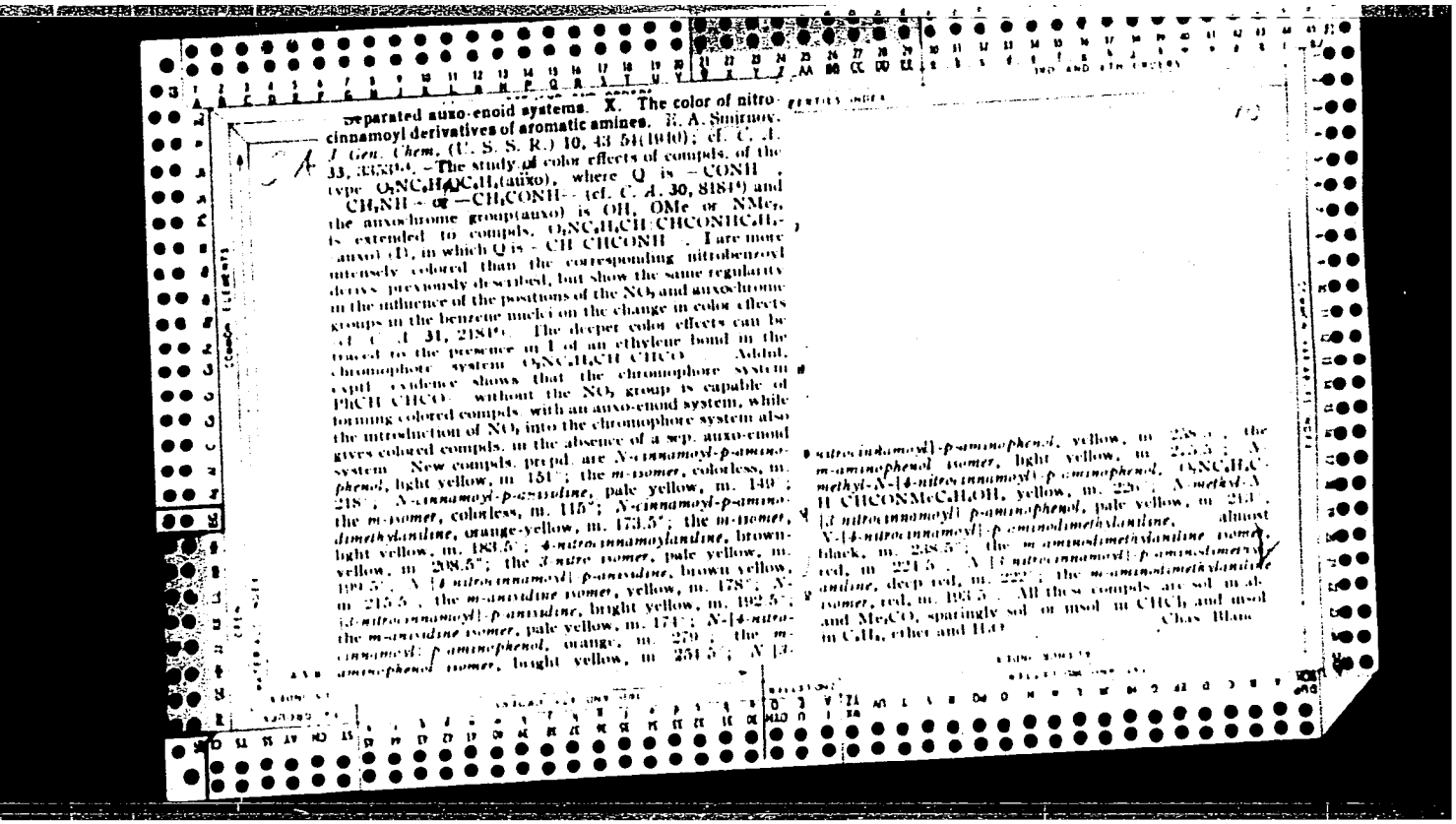
IX. β-p-*Nitrophenylpropion-p'-anisidide*, m.p. 1[illegible]°, is almost colourless, but the -p'-*hydroxy*-, m.p. 181°, and -p'-*dimethylamino-anilide*, m.p. 225·5°, are pale yellow and reddish-orange, respectively. The authors' previous theories are modified to include the colours of these six compounds. R. S. C.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

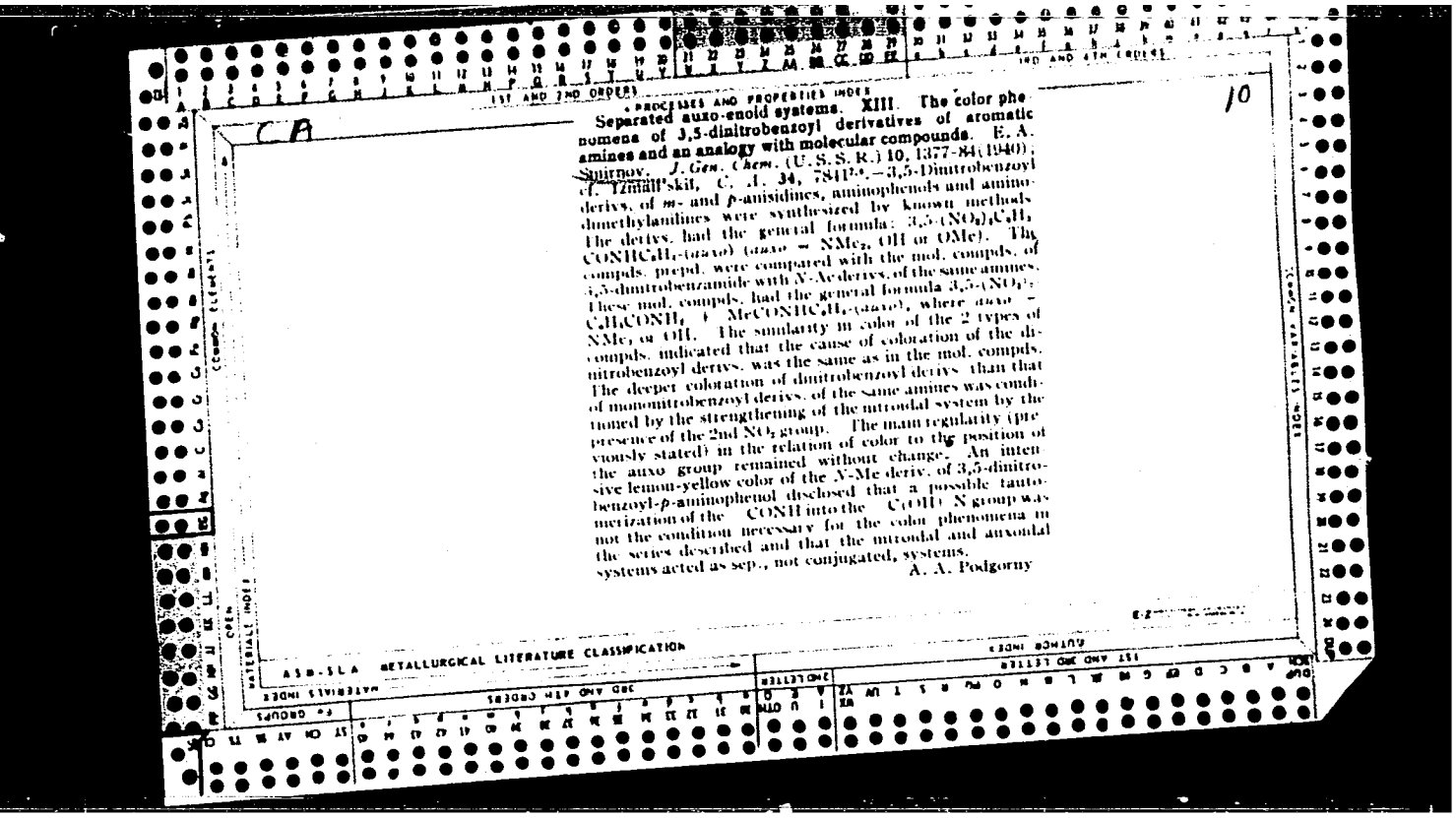
SMIRNOV, Ye. A.

"The Phenomena of Chromaticity in the Nitrocinnamic Derivatives of Aromatic Amines" Part X. "Isolated Auxoenoid Systems" Zhur. Obshch. Khim., 10, No.1, 1940. Laboratory of organic chemistry of the Moscow State Pedegogical Insitutue imeni K. Libknekht Rec'd 9 Aug. 1939.

Report U-1526. 24 Oct. 51.



separated auxo-enoid systems. X. The color of nitrocinnamoyl derivatives of aromatic amines. B. A. Smirnov. *J. Gen. Chem.* (U. S. S. R.) 10, 43-54(1940); cf. C. A. 33, 3530⁴. – The study of color effects of compds. of the type $O_2NC_6H_4QC_6H_4$(auxo), where Q is –CONH–, CH_2NH–, or –CH_2CONH– (cf. C. A. 30, 8184⁹) and the auxochrome group(auxo) is OH, OMe or NMe$_2$, is extended to compds. $O_2NC_6H_4CH{:}CHCONHC_6H_4$-auxo(*p*), in which Q is –CH:CHCONH–. These are more intensely colored than the corresponding nitrobenzoyl derivs. previously described, but show the same regularity in the influence of the positions of the NO_2 and auxochrome groups in the benzene nuclei on the change in color effects (cf. C. A. 31, 2184⁶). The deeper color effects can be traced to the presence in Q of an ethylene bond in the chromophore system $O_2NC_6H_4CH{:}CHCO$–. Additional evidence shows that the chromophore system $PhCH{:}CHCO$– without the NO_2 group is capable of forming colored compds. with an auxo-enoid system, while the introduction of NO_2 into the chromophore system also gives colored compds. in the absence of a sep. auxo-enoid system. New compds. prepd. are *N-cinnamoyl-p-aminophenol*, light yellow, m. 151°; the *m-isomer*, colorless, m. 218°; *N-cinnamoyl-p-anisidine*, pale yellow, m. 140°; the *m-isomer*, colorless, m. 115°; *N-cinnamoyl-p-aminodimethylaniline*, orange-yellow, m. 173.5°; the *m-isomer*, light yellow, m. 180.5°; *4-nitrocinnamoylaniline*, brown-yellow, m. 208.5°; the *3-nitro isomer*, pale yellow, m. 190.5°; *N*-[*4-nitrocinnamoyl*]-*p-anisidine*, yellow, m. 178°; *N*-[*3-nitrocinnamoyl*]-*p-anisidine*, bright yellow, m. 192.5°; the *m-anisidine isomer*, pale yellow, m. 174°; *N*-[*4-nitrocinnamoyl*]-*p-aminophenol*, orange, m. 279°; the *m-aminophenol isomer*, bright yellow, m. 251.5°; *N*-[*4-nitrocinnamoyl*]-*p-aminophenol*, yellow, m. 258°; the *m-aminophenol isomer*, light yellow, m. 255.5°; *N-methyl-N*-[*4-nitrocinnamoyl*]-*p-aminophenol*, $O_2NC_6H_4CH{:}CHCONMeC_6H_4OH$, yellow, m. 235°; *N-methyl-N*-[*3-nitrocinnamoyl*]-*p-aminophenol*, pale yellow, m. 214°; *N*-[*4-nitrocinnamoyl*]-*p-aminodimethylaniline*, almost black, m. 248.5°; the *m-aminodimethylaniline isomer*, red, m. 221.5°; *N*-[*4-nitrocinnamoyl*]-*p-anisidine*, deep red, m. 222°; the *m-anisidine isomer*, red, m. 193.5°. All these compds. are sol. in alc. and Me_2CO, sparingly sol. or insol. in $CHCl_3$ and insol. in C_6H_6, ether and H$_2$O. Chas. Blanc



CA

10

PROCESSES AND PROPERTIES INDEX

Separated auxo-enoid systems. XIII. The color phenomena of 3,5-dinitrobenzoyl derivatives of aromatic amines and an analogy with molecular compounds. E. A. Spirnov. *J. Gen. Chem.* (U.S.S.R.) 10, 1377-84(1940); cf. Tzmail'skii, C. A. 34, 7812⁹.—3,5-Dinitrobenzoyl derivs. of *m*- and *p*-anisidines, aminophenols and aminodimethylanilines were synthesized by known methods. The derivs. had the general formula: $3,5\text{-}(NO_2)_2C_6H_3CONHC_6H_4$-(auxo) (auxo = NMe_2, OH or OMe). The compds. prepd. were compared with the mol. compds. of 3,5-dinitrobenzamide with *N*-Ac derivs. of the same amines. These mol. compds. had the general formula $3,5\text{-}(NO_2)_2C_6H_3CONH_2 + MeCONHC_6H_4$-(auxo), where auxo = NMe_2 or OH. The similarity in color of the 2 types of compds. indicated that the cause of coloration of the dinitrobenzoyl derivs. was the same as in the mol. compds. The deeper coloration of dinitrobenzoyl derivs. than that of mononitrobenzoyl derivs. of the same amines was conditioned by the strengthening of the nitroidal system by the presence of the 2nd NO_2 group. The main regularity (previously stated) in the relation of color to the position of the auxo group remained without change. An intensive lemon-yellow color of the *N*-Me deriv. of 3,5-dinitrobenzoyl-*p*-aminophenol disclosed that a possible tautomerization of the CONH into the C(OH):N group was not the condition necessary for the color phenomena in the series described and that the nitroidal and auxoidal systems acted as sep., not conjugated, systems.

A. A. Podgorny

SMIRNOV, E. A.

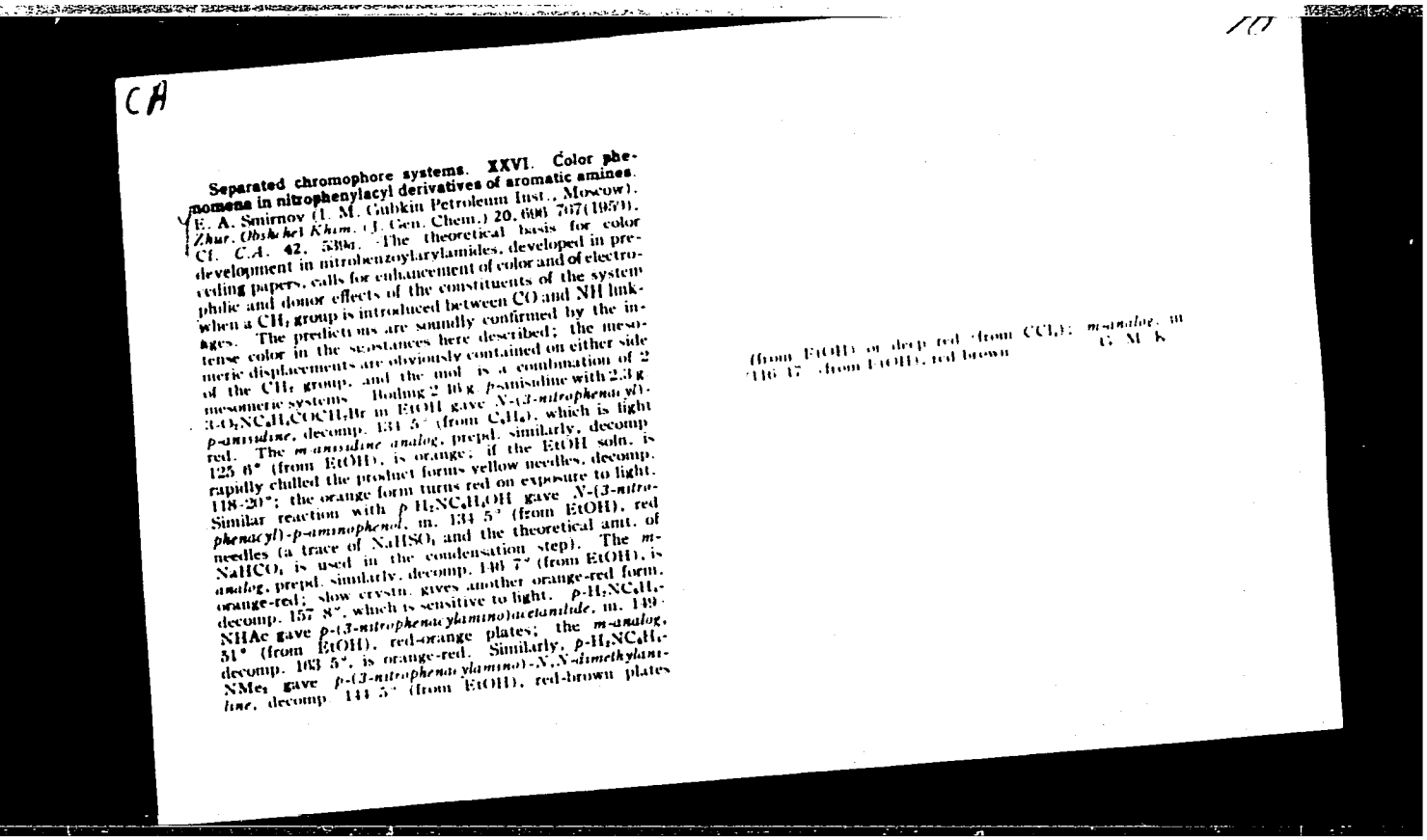
USSR/Chemistry - Acetic Acid, 2,4-Dinitrophenyl-
Chemistry - Hydrocinnamic acid, 2,4-dinitro-
Feb 1947

"Separated Chromorphoric Systems," E. A. Smirnov, 14 pp

"Zhur Obshch Khim" Vol XVII, No 2

Part 25 of this research, dealing with the color phenomena in arylamides of 2,4-dinitrophenylacetic and 2,4-dinitrohydrocinnamic acid.

15T49



CA

Separated chromophore systems. XXVI. Color phenomena in nitrophenylacyl derivatives of aromatic amines. E. A. Smirnov (I. M. Gubkin Petroleum Inst., Moscow). *Zhur. Obshchei Khim.* (J. Gen. Chem.) 20, 699–707 (1950). Cf. *C.A.* 42, 538i. The theoretical basis for color development in nitrobenzoylarylamides, developed in preceding papers, calls for enhancement of color and of electrophilic and donor effects of the constituents of the system when a CH_2 group is introduced between CO and NH linkages. The predictions are soundly confirmed by the intense color in the substances here described; the mesomeric displacements are obviously contained on either side of the CH_2 group, and the mol. is a combination of 2 mesomeric systems. Boiling 2.16 g. *p*-anisidine with 2.3 g. 3-$O_2NC_6H_4COCH_2Br$ in EtOH gave *N-(3-nitrophenacyl)-p-anisidine*, decomp. 131.5° (from C_6H_6), which is light red. The *m-anisidine analog*, prepd. similarly, decomp. 125.6° (from EtOH), is orange; if the EtOH soln. is rapidly chilled the product forms yellow needles, decomp. 118–20°; the orange form turns red on exposure to light. Similar reaction with *p*-$H_2NC_6H_4OH$ gave *N-(3-nitrophenacyl)-p-aminophenol*, m. 134.5° (from EtOH), red needles (a trace of $NaHSO_3$ and the theoretical amt. of $NaHCO_3$ is used in the condensation step). The *m-analog*, prepd. similarly, decomp. 140.7° (from EtOH), is orange-red; slow crystn. gives another orange-red form, decomp. 157.8°, which is sensitive to light. *p*-$H_2NC_6H_4NHAc$ gave *p-(3-nitrophenacylamino)acetanilide*, m. 149–51° (from EtOH), red-orange plates; the *m-analog*, decomp. 103.5°, is orange-red. Similarly, *p*-$H_2NC_6H_4NMe_2$ gave *p-(3-nitrophenacylamino)-N,N-dimethylaniline*, decomp. 144.5° (from EtOH), red-brown plates (from EtOH) or deep red (from CCl_4); *m-analog*, m. 116.17° (from EtOH), red-brown.

SMIRNOV, E.A.

Compounds with two donor-enoidal systems. I. Phenomena of color in the derivatives of *N*-(phenylglycyl)-*O*-(4-nitrobenzoyl)-*p*-aminophenol. A. A. Smirnov (I. M. Gubkin Petroleum Inst., Moscow). *Zhur. Obshchei Khim.* 2, 1394–1410(1953); cf. Belotsvetov and Izmail'skii, *C.A.* 39, 2287⁴.—Highly colored compds. $ONC_6H_4CO_2C_6H_4NHCOCH_2NHC_6H_4A$ were prepd. in which A was varied, as a part of study of substances with 2 isolated donor-enoidal systems. Despite variation in color, the absorption spectra of the substances are almost coincident, since in the very dil. solns. for photometry the interaction between the unconjugated portions is destroyed. Reflection curves taken on the solids do correspond to the visual color. The spectral curves are reproduced. To a cooled and filtered soln. of 15.8 g. *p*-aminophenyl sulfate in 120 ml. H_2O, which was decolorized with a little hydrosulfite, was added 10.6 g. Na_2CO_3 and a little ice, followed by 8 g. $NaHCO_3$ and 15 g. $ClCH_2COCl$ in 15 ml. C_6H_6, yielding after shaking 10–15 min. 12.5 g. *p-chloroacetamidophenol*, m. 146.5° (from EtOH-C_6H_6). This dissolved in 10% NaOH, treated with K_2CO_3, ice and *p*-$O_2NC_6H_4COCl$ in C_6H_6, gave after shaking 0.5 hr. *N-(chloroacetyl)-O-(4-nitrobenzoyl)-p-aminophenol*, m. 190.5° (from EtOH).

1/2

OVER

This triturated with 1 part *p*-$MeC_6H_4NH_2$ and heated 20 min. to 115° gave *N-(p-tolylglycyl)-O-(4-nitrobenzoyl)-p-aminophenol*, m. 216.5–17° (from Me_2CO), deep red. Similarly was prepd. light red *m-tolylglycyl analog*, m. 165–5.5°; and orange *o-tolylglycyl analog*, m. 207–7.5°. The use of *p*-$MeOC_6H_4NH_2$ in this reaction gave the *p-methoxyphenylglycyl analog*, red, m. 193.5–4°, while the red-orange *m-methoxyphenylglycyl analog*, m. 205°, was prepd. similarly, as was *o-methoxyphenylglycyl analog*, light red, m. 179.5°. Reaction with *m*-aminophenol similarly gave light red *N-(3-hydroxyphenylglycyl)-O-(4-nitrobenzoyl)-p-aminophenol*, m. 212–14°, which turns nearly colorless with $(CH_2Cl)_2$, but reverts to red on contact with EtOH. Similarly was obtained deep red *3-dimethylaminophenylglycyl analog*, m. 167.5–8.5°, and yellow or red *phenylglycyl analog*, m. 195–6°. The following *p*-$O_2NC_6H_4CO_2C_6H_4NHCOCH_2Z$ (Z shown) were examd. spectrophotometrically, all showing a band at 290–300 mμ, and the following absorption max. (in mμ): Cl 256; PhNH 248; *o*-MeC_6H_4NH 248–50; *m*-analog 250; *p*-analog 248; *o*-$MeOC_6H_4NH$ 250; *m*-analog 250; *p*-analog 248; *m*-HOC_6H_4NH 250; *m*-$Me_2NC_6H_4NH$ 248–50.

G. M. Kosolapoff

Compounds with Two Condensed Cycles, I. On the Coloration of the Derivatives of N-(Phenyl-2-oyl) -O- (4-Nitrobenzoyl) -p- Aminophenol, page 1394, Sbornik statey po obshchey khimii (Collection of Papers on General Chemistry), Vol II, Moscow-Leningrad, 1953, pages 1680-1686.

Moscow Petroleum Inst imeni Acad I. M. Gubkin

S. I. A. V. Ye.

Zadania I Cwiczenia Z Chemii Organicznej (Assignments and Exercises of Organic Chemistry, By) (V. A. Izmail'skiy) (A. Simonov) (and) (Ye. Smirnov) Warszawa, Fanstwowe Wydawnictwo Naukowe, 1954.

460 P. Illus., Tables.

Bibliography: P. (463)

Translated From The Russian: Uprazhneniya Po Kursu Organicheskoy Khimii.

SO: N/5
614.12
.19

Smirnov, E. A.

CH

Isolated chromophore systems. XXVII. Phenomena of color in arylamides of γ-4-nitrophenylbutyric acid. E. A. Smirnov (Moscow Petroleum Inst.). *Zhur. Obshchei Khim.* 25, 802-9; *J. Gen. Chem. U.S.S.R.* 25, 769-74(1955)-(Engl. translation); cf. *C.A.* 49, 5367e.—Color phenomena in p-$O_2NC_6H_4(CH_2)_3CONHC_6H_4A$, where A is an electron donor group are discussed; the results are explainable by interactive of direct field effects of the terminal groups and possible in alternate polarity of the intermediate chain. $Ph(CH_2)_3CO_2H$ (16.4 g.) treated with 35 ml. HNO_3 (d. 1.5) at 0° gave 9.2 g. p-$O_2NC_6H_4(CH_2)_3CO_2H$, m. 92°; with PCl_5 this gave the acyl chloride which was used in the crude state for condensations with the amines yielding: p-$O_2NC_6H_4(CH_2)_3CONHC_6H_4OMe$-$p$, colorless, m. 134.5°; p-$O_2NC_6H_4(CH_2)_3CONHC_6H_4OMe$-$m$, colorless, m. 97°; p-$O_2NC_6H_4(CH_2)_3CONHC_6H_4OH$-$p$, yellowish, m. 182°; m-*HO analog*, yellow-green, m. 177°; p-$O_2NC_6H_4(CH_2)_3CONHC_6H_4NMe_2$-$p$, orange-yellow, m. 153°; m-Me_2N-analog, orange-yellow, m. 107°. The reflection spectra of the compds. are shown graphically. The colors in this series are less intense than in corresponding derivs. of 4-nitrohydrocinnamic acid. G. M. Kosolapoff