Osipov, A. I.

137-58-1-2109

Translation from: Referativnyy zhurnal. Metallurgiya, 1958, Nr 1, p 286 (USSR)

AUTHORS: Osipov, A. I., Kozhevnikov, I. Yu., Iudin, V. Ye., Sazanov, M. L., Bul'skiy, M. T., Alimov, A. G., Skrebtsov, A. M., Rebenko, A. P.

TITLE: A New Method for Speedy Analysis of Slag for Phosphorus by Means of Radioactive Tracers (Novyy metod ekspress-analiza shlaka na fosfor s primeneniyem radioaktivnykh indikatorov)

PERIODICAL: V sb.: Fiz.-khim. osnovy proiz-va stali. Moscow, AN SSSR, 1957 pp 82-93. Diskus pp 160-187

ABSTRACT: A method has been developed for speedy analysis of slag for P_2O_5 by means of radioactive P (I). The analysis requires 20-30 min. The method is accurate to within 5-6 percent (rel.). The consumption of material is 0.04-0.05 millicurie per t of metal. To determine P_2O_5, I is introduced into the heat in a mixture with powdered Fe. The mixture is placed in a Cu ampoule and the I with the Fe form ferrophosphorus during the period of heating and fusion. This then undergoes uniform dissemination throughout the volume of the heat. Determination of P_2O_5 by radiometry requires one tagged sample in which the P_2O_5 is

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137-58-1-2109

A New Method for Speedy Analysis of Slag for Phosphorus (cont.)

determined chemically. A graph showing determination of P_2O_5 by radiometry as compared with the data of chemical analysis is presented. The employment of radiometric analysis of slag for P_2O_5 makes it possible to take and analyze a large number of samples of slag in the course of a heat.

K K.

1. Slag analysis--Processes

Card 2/2

OSIPOV A.I

89-10-22/36

AUTHORS: Osipov, A.I., Shvartsman,V.A., Alekseyev, V.I., Surov, V. F. Sazonov,M. ., Bulskiy,M.T.,Telesov,S.A.,Skrebtsov,A.M.,Ofengenden, A.M., Gol'dshteyn, L. G., Sviridenko, F. F.

TITLE: The use of Radio Isotopes when Investigating the Kinetics of Scrap Fusion and Slag Formation in the Scrap-Ore Process. (Primeneniye radioaktivnykh isotopov dlya izucheniya kinetiki plavleniya skrapa i shlakoobrazovaniya pri skrap-rudnom protsesse)

PERIODICAL: Atomnaya Energiya, 1957, Vol. 3, Nr 10, pp. 352-355 (USSR)

ABSTRACT: 1) Investigation of the kinetics of scrap fusion.
The fusion velocity in the 130 and 350 ton open hearth furnaces is shown on the basis of the reduction of the specific activity of standard metal samples (400 g), which contain Co-60 with the help of 12 counting tubes of the MC-4 type.
From the dependence obtained between the molten scrap quantity and the time which as elapsed since introduction of the scrap, it follows that nearly 100% of the scrap is molten already after about 200 minutes.
2) Investigation of the kinetics of slag formation.
CaO, in which Ca-45 was included, was used for this investigation. The CaO is introduced into the liquid slag in closed metallic tubes and standard samples for measuring are taken out only after a lapse of time of 30-35 minutes. As measurement for the velocity in which Ca dissolves in the slag, the relation

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OSIPOV, A.I.

DYKHNE, A.M., inzhener; OSIPOV, A.I.; SHVARTSMAN, L.A.; IUDIN, V.Ye.

Formula for calculating the time for the equalization of the composition of the bath in open-hearth furnaces. Zav. lab. 23 no.4:506-507 '57. (MLRA 10:6)

1. Kuznetskiy metallurgicheskiy kombinat (for Dykhne).
(Open-hearth process)

OSIPOV, A. I.

18(6) PHASE I BOOK EXPLOITATION SOV/1728

Akademiya nauk SSSR. Institut metallurgii

Sovremennyye problemy metallurgii (Modern Problems in Metallurgy) Moscow, Izd-vo AN SSSR, 1958. 340 p. 3,000 copies printed.

Resp. Ed.: A.M. Samarin, Corresponding Member, USSR Academy of Sciences; Ed. of Publishing House: V.S. Rabovnikov, and A.I. Dorman; Tech. Ed.: F.V. Polyakova.

PURPOSE: This book is intended for scientific and technical personnel in the field of metallurgy.

COVERAGE: This is a collection of articles on certain aspects of Soviet metallurgy. The book is dedicated to Academician Ivan Pavlovich Bardin on the occasion of his 75th birthday. The book is divided into seven parts. The first part consists of the articles presenting a brief account of the biography and professional activity of the Soviet metallurgist. It includes an article by John Chipman, Nicholas Grant, and John Elliott (M.I.T., US) describing their meeting with Bardin in Moscow and also his visit to the United States. The second part consists of three articles and deals with raw materials and fuels for the Soviet metallurgical industry. The third part represents the major portion of the book. It consists of 25 articles dealing with the various aspects of the metallurgy of pig iron and steel. The fourth part consists of two articles treating the metallurgy of nonferrous metals. The fifth part consists of three articles on the forming of metals. The sixth part consists of eight articles discussing certain aspects of physical metallurgy. The last part deals with general problems in the field of metallurgy. References are given after each article. No personalities are mentioned.

TABLE OF CONTENTS:

SOV/137-58-8-16481

Translation from: Referativnyy zhurnal. Metallurgiya, 1958 No. 8, p. 155 (USSR)

AUTHORS: Osipov, A.I., Shvartsman, L.A., Iudin, Ye.V., Sazonov, M.I.

TITLE: On the Uniform Distribution of Small Quantities of a Substance in the Slag During Smelting of Steel in a 350-t Furnace (O ravnomernom raspredelenii maloy dobavki v shlake pri vyplavke stali v 350-t pechi)

PERIODICAL: V sb.: Staleplavil'n. proiz-vo. Moscow, Metallurgizdat, 1958, pp 218-224

ABSTRACT: In order to investigate the problem of the rate at which a substance distributes itself uniformly in a slag during open-hearth smelting, a radioactive isotope, Ca^{45}, encased in an ampoule, was introduced into the slag through the central opening of the furnace; slag samples were withdrawn through the other openings. The intensity of radioactivity was measured with a BFL-25 counter. The counting rate was determined by the thick-layer method, a procedure which eliminated the need for weighing operations. The accuracy of the radiometric measurements constituted 5% including statistical errors and errors caused by disturbances in geometric conditions of

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On the Uniform Distribution of Small Quantities of a Substance (cont.)

measurement. The rate of distribution of a small quantity of an additive is smaller in slag than in metal; 30-35 minutes are required for leveling off of the tracer in the case of slag, and 8-15 minutes in the case of metal, despite the fact that the volume of slag is considerably smaller. Rates of turbulent diffusion of Ca in the slag amount to 50-100 cm^2/sec and are smaller by one order than the corresponding values of radioactive Co in steel; in this connection, the author comments on an analogous difference between the kinematic viscosity of steel and that of basic open-hearth slags. The distribution of radioactive Ca in the slag is strongly affected by the aerodynamic pressure of the flame.

L. K

1. Steel--Production 2. Slags--Properties 3. Metals--Distribution
4. Calcium isotopes--Radioactive --Performance

Card 2/2

SOV/ 20-120-3-45/67

AUTHORS: Shvartsman, L. A., Osipov, A. I., Surov, V. F., Sazonov, M. L., Telesov, S. A., Ofengenden, A. M.

TITLE: On the Equilibrium of Sulfur Distribution Between Metal and Slag in Open-Hearth Furnaces (O ravnovesii raspredeleniya sery mezhdu metallom i shlakom v martenovskikh pechakh)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol. 120, Nr 3, pp.599-60· (USSR)

ABSTRACT: In the analysis of the desulfurization process in such furnaces a clearing up of the dependence of the equilibrium coefficient of the sulfur distribution on the slag composition and on temperature is primarily necessary. If this is known, that minimum limit-concentration of sulfur in the metal can be estimated, which can be reached at optimum kinetic conditions with the respective slag composition. The difference between the actually observed and the equilibrium coefficient of the sulfur distribution is apparently conditioned by the insufficient velocity of mass transfer in the system slag-metal. From a thermodynamical point of view the basicity

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On the Equilibrium of Sulfur Distribution Between Metal and Slag in Open--Hearth Furnaces

of the slag is decisive for the desulfurization. Contrary to current opinion an increase of the concentration of ferrous oxide does not essentially impair the thermodynamical conditions of steel desulfurization in slags of the Siemens--Martin type. At the same time an increase of the said concentration leads to a reduction of the viscosity of the slag and accelerates the processes of mass transfer in it. Fig 1 shows the values of the sulfur distribution coefficients in dependence upon Δ (difference between the mole--number of the basic and the acidous oxides contained in 100 g of slag = a measure of the basicity of the slag according to Grant and Chipman, Ref 1). From this the following fundamental conclusions can be drawn: 1) During the melting period the sulfur content in the slag exceeds the value corresponding to the equilibrium with the metal. This circumstance is caused by the transition of the sulfur from the furnace atmosphere into the slag. The transition of the sulfur from the slag to the metal proceeds slowly, its content, in the metal, however, rises (Fig 1). Moreover, the sulfur transition to the metal is chemically conditioned by

the composition of the just formed slag. Then the slag is acidic. The Δ-values are negative (Fig 1) and the values of the equilibrium coefficients are very small. Figure 1 shows that during the melting period the desulfurization tend toward equilibrium along two ways: a) By the passage of sulfur from the slag to the metal and b) By the continuous change in the amount of slag and its composition. An increase in the amount of slag reduces the sulfur concentration, whereas an increase of the basicity increases the equilibrium coefficient of the distribution. In order to guarantee a combination of thermodynamic and kinetic conditions favorable to a successful desulfurization, such a slag regime must be maintained, in which a) The silicon content in the slag is kept low if possible during the entire melting process, and b) the slag is kept in a sufficiently liquid state. This is achieved by the introduction of liquefying additions, such as agents containing ferrous oxide. There are 2 figures and 2 references, 1 of which is Soviet.

SOV/20-120-3-45/67

On the Equilibrium of Sulfur Distribution Between Metal and Slag in Open-Hearth Furnaces

ASSOCIATION: Tsentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii
(Central Scientific Research Institute of Ferrous Metallurgy)
Stalinskiy metallurgicheskiy zavod
(Stalino Metallurgical Plant)

PRESENTED: January 9, 1958, by G. V. Kurdyumov, Member, Academy of Sciences, USSR

SUBMITTED: January 9, 1958

1. Open hearth furnaces--Performance 2. Sulfur--Determination
3. Steel--Quality control 4. Slags--Properties

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Osipov, A.I.

18(0) PHASE I BOOK EXPLOITATION SOV/2125

Tsentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii.
Institut Metallovedeniya i fiziki metallov

Problemy metallovedeniya i fiziki metallov (Problems in Physical Metallurgy and Metallophysics) Moscow, Metallurgizdat, 1959. 340 p. (Series: Its: Sbornik trudov, 6) Errata slip inserted. 3,600 copies printed.

Additional Sponsoring Agency: USSR. Gosudarstvennaya planova komissiya.

Ed. of Publishing House: Ye.M. Berlin; Tech. Ed.: P.O. Isient'yeva; Editorial Board: D.S. Kamenetskaya, B.Ya. Lyubov (Resp. Ed.), Ye.Z. Spektor, L.M. Utevskiy, L.A. Shvartsman, and V.I. Malkin.

PURPOSE: This book is intended for metallurgists, metallurgical engineers, and specialists in the physics of metals.

COVERAGE: The papers in this collection present the results of investigations conducted between 1954 and 1956. Subjects covered include crystallization of metals, physical methods of influencing the processes of crystallization, problems in the physical chemistry of metallurgical processes, development of new methods and equipment for investigating metals, and production control. References follow each article.

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TABLE OF CONTENTS:

PART I. CRYSTALLIZATION OF METALS

OSIPOV, A.I., kand.tekhn.nauk; SHVARTSMAN, L.A., doktor khim.nauk; IUDIN, V.Ye.; SAZONOV, M.L.

Uniform distribution of small additions in slag during steel smelting in a 350-ton furnace. Probl.metalloved.i fiz.met. no.6:318-325 '59. (MIRA 12:8)
(Steel--Metallurgy) (Calcium--Isotopes)

FITILEV, B.V.; GUBERT, S.V.; OSIPOV, A.I.

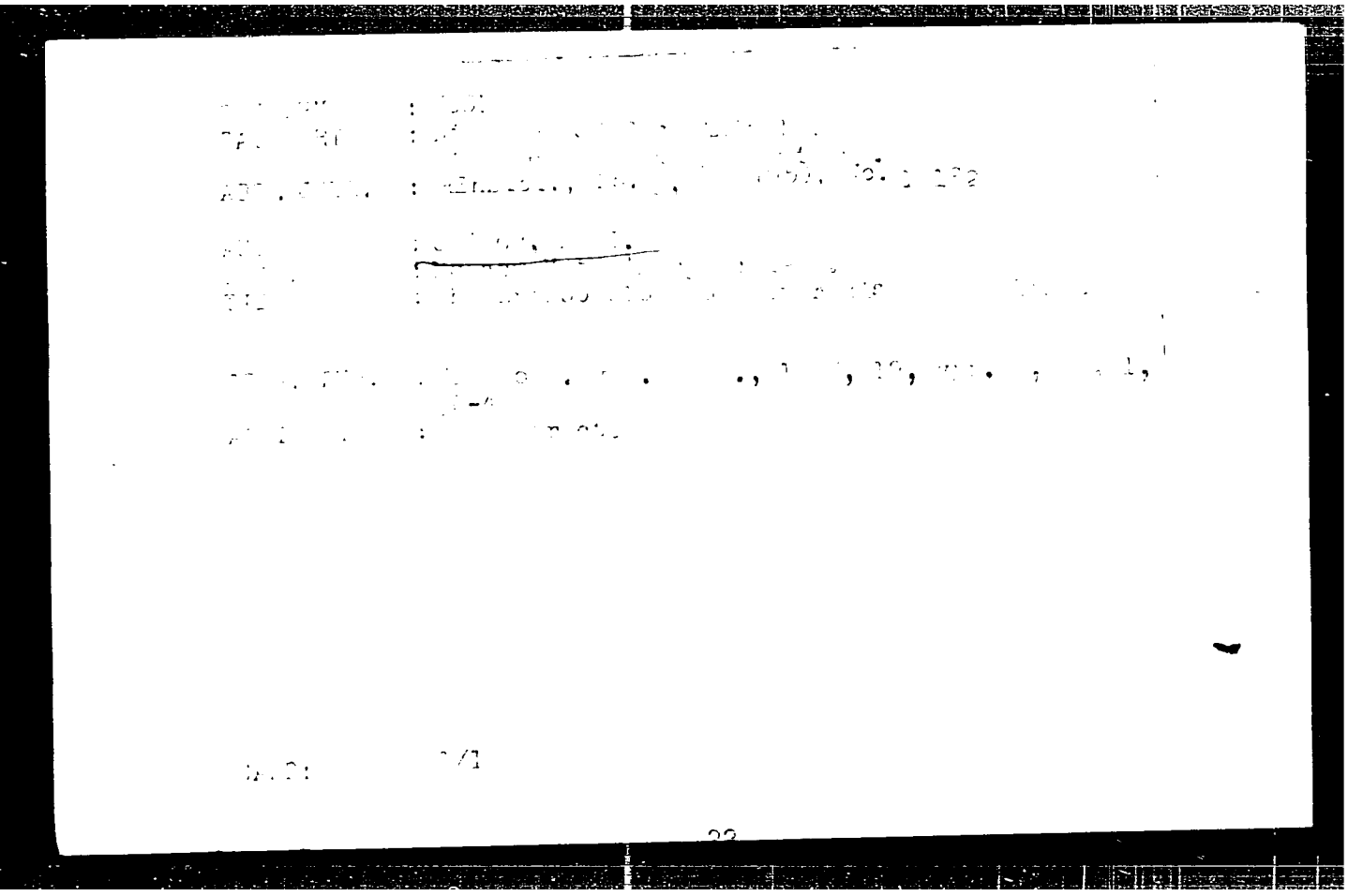
Prospects for expanding the continuous casting of steel. Stal' 23 no.10:889-892 O '63. (MIRA 16:11)

1. Gosudarstvennyy komitet po chernoy i tsvetnoy metallurgii pri Gosplane SSSR, Gosudarstvennyy soyuznyy institut po proyektirovaniyu metallurgicheskikh zavodov i TSentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii.

PROTOD'YAKONOV, Matislav Mikhaylovich, professor, doktor tekhnicheskikh nauk; OSIPOV, A.I., inzhener, redaktor; BOBROVA, Ye.N., tekhnicheskiy redaktor

[Planning vertical profile of railroads using diesel electric and steam locomotives with automatic couplings] Proektirovanie prodol'nogo profilia zheleznykh dorog pri elektricheskoi teplovoznoi i parovoi tiage s avtostsepkoi. Moskva, Gos.transp.zhel-dor.izd-vo, 1957. 285 p. (MLRA 10:9)

(Railroads--Track)



EXCERPTA MEDICA Sec 9 Vol 13/2 Surgery Feb 59

1134. ON APPLIED ANATOMY OF OESOPHAGOPLASTY VIA THE ANTERIOR MEDIASTINUM (Russian text) - Osipov A. I. - EKSPER. KHIR. 1957, 4 (35-38) Illus. 3

Anatomical study has shown that in oesophagoplasty via the anterior mediastinum it is easy to create a tunnel between the sternum and the intrathoracic fascia. Use of this approach decreases the danger of surgical pneumothorax. The canal thus created is sufficiently wide for the transplanted intestine. The clinical results warrant recommending the method described for general use.

OSIPOV, A. I.

Cand Med Sci - (diss) "Anatomical basis for operations involving substernal plastic surgery of the esophagus." Tomsk, Mut. Tomsk Univ, 1961. 12 pp; (Novosibirsk State Med Inst); 200 copies; price not given; (KL, 6-61 sup, 239)

OSIPOV,A.I.

Surgical anatomy of esophagoplasty through the anterior mediastinum [with summary in English]. Eksper.khir. 2 no.4:35-38 Jl-Ag '57. (MIRA 10:11)

1. Iz gospital'noy khirurgicheskoy kliniki (zav. - prof. A.G. Savinykh) i kafedry normal'noy anatomii (zav. - prof. V.V.Kuntsevich) Tomskogo meditsinskogo instituta imeni V.M.Molotova.

(ESOPHAGUS, surg.
via anterior mediastinum, method for prev. of pneumothorax)
(PNEUMOTHORAX, prev. and control.
in esophagoplasty via anterior mediastinum)

OSIPOV, A.K.

Observations of lunar occultations of stars at the Astronomical Observatory of Kiev State University. Astron.tsirk. no.140:18-19 Ag '53. (MLRA 7:1)
(Occultations)

OSIPOV, A.K.

Observations of occultations of stars at the Kiev Astronomical Observatory of Shevchenko State University at Kiev. Astron.tsir. no.143:23 N '53. (MLRA 7:8)
(Occultations)

OSIPOV, A.K.

Observations of lunar occultations of stars at the Astronomical Observatory of Shevchenko State University at Kiev. Astron.tsir. no.147:19-20 Mr '54. (MLRA 7:8)

1. Astronomicheskaya observatoriya Kievskogo Gosudarstvennogo Universiteta imeni T.G.Shevchenko.
(Occultations)

OSIPOV, A.K.

Observations of lunar occultations of stars at the Astronomical Observatory of the Shevchenko State University in Kiev. Astron. tsir. no.149:23 My '54. (MLRA 7:7)

1. Astronomicheskaya observatoriya KGU imeni T.G.Shevchenko.
(Occultations)

OSIPOV, A.K.

OSIPOV, A.K.

Observation of the lunar occultation of the Pleiades on January 14, 1954, at the Astronomical Observatory of the Shevchenko State University in Kiev. Astron.tsir. no.150:14-15 Je '54. (MLRA 8:3)

1. Astronomicheskaya observatoriya Kiyevskogo Gosuniversiteta imeni T.G.Shevchenko.
(Occultations) (Pleiades)

OSIPOV, A.K.

Observations of lunar occultations of stars. Astron.tsir. no.154:15-16 N '54. (MLRA 8:6)

1. Astronomicheskaya observatoriya Kiyevskogo Gosuniversiteta imeni T.G. Shevchenko.
(Occultations)

OSIPOW, A.K.

Observations of occultations from the Astronomical Observatory of Shevchenko University in Kiev. Astron.tsir. no.160:14 Je'55.
(MLRA 8:12)

1. Astronomicheskaya observatoriya Kiyevskogo gosudarstvennogo universiteta imeni T.G.Shevchenko
(Occultations)

OSIPOV, A.K.

Observations of the partial solar eclipse of December 14, 1955, at the Astronomical Observatory of Kiev University. Astron.tsir. no.166:2 Ja '56. (MLRA 9:7)

1.Astronomicheskaya observatoriya Kiyevskogo gosuniversiteta imeni T.G.Shevchenko.
(Eclipses, Solar--1955)

SOV/35-59-8-6197

Translation from: Referativnyy zhurnal, Astronomiya i Geodeziya, 1959, Nr 8, p 15

AUTHOR: Osipov, A.K.

TITLE: The Observation of the Occultations of Stars by the Moon at the Astronomical Observatory of the Kiyev State University

PERIODICAL: Astron. tsirkulyar, 1958, February 25, Nr 189, pp 26 - 27

ABSTRACT: Thirteen moments of occultations, obtained in 1955-1957, are given.

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OSIPOV, A.K.

Observations of lunar occultations of stars at the Astronomical Observatory of the Kiev State University. Astron. tsir. no.189: 26-27 F '58. (MIRA 11:8)

1.Astronomicheskaya observatoriya Kiyevskogo universiteta.
(Occultations)

OSIPOV, A.K.; CHERNEGA, N.A.

Observations of the partial lunar eclipse of March 24, 1959, at the Astronomical Observatory of Moscow University. Astron. tsir. no.202:1-2 Je '59. (MIRA 13:4)

1. Astronomicheskaya observatoriya Kiyevskogo gosudarstvennogo universiteta im. T.G.Shevchenko.
(Eclipses, Lunar--1959)

OSIPOV, A.K.

Observations of lunar occultations of stars at the Astronomical Observatory of the Kiev University. Astron.tsir. no.207:20-21 D '59. (MIRA 13:6)

1. Astronomicheskaya observatoriya Kiyevskogo gosudarstvennogo universiteta im.T.G.Shevchenko.
(Occulations)

S/035/60/000/006/007/038
A001/A001

Translation from: Referativnyy zhurnal, Astronomiya i Geodeziya, 1960, No. 6, p. 18, # 5006

AUTHORS: Osipov, A. K., Chernega, N. A.

TITLE: Observations of the Partial Lunar Eclipse of 1959, March 24, at the Astronomical Observatory of the Kiyev University

PERIODICAL: Astron. tsirkulyar, 1959, iyunya 5, No. 202, pp. 1-2

TEXT: Observations of the eclipse were conducted with Zeiss field glasses (D = 80 mm, F = 500 mm, 40x). The instants of the first and the last contacts were recorded; their differences relative to the pre-calculated instants amount to $+1^s.4$ and $+0^s.1$, respectively. The instants are also given of entering the umbra and re-appearance from it of various formations of the lunar surface.

G. V. Z.

Translator's note: This is the full translation of the original Russian abstract.

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OSIPOV, A.K.; ALIKAYEVA, K.V.

Observations of lunar occultations of stars at the Astronomical Observatory of the Kiev State University in 1951-1953. Publ.KAO no.8:112-114 '59. (MIRA 14:9)
(Occultations)

OSIPOV, A.K.

Observations of artificial earth satellites at the Astronomical Observatory of the Kiev University. Mezhdunar. geofiz. god [Kiev] no.2:120-123 '60. (MIRA 14:1)

1. Astronomical Observatory of Kiyev State University.
(Artificial satellites—Tracking)

OSIPOV, A.K.

Observations of lunar occultations of stars at the Astronomical Observatory of the Kiev University. Astron.tsir. no.215:31 O '60. (MIRA 14:3)

1. Astronomicheskaya observatoriya Kiyevskogo gosudarstvennogo universiteta.

(Occultations)

OSIPOV, A.K.

Observation of lunar occultations of stars at the Astronomical Observatory of the Kiev University. Astron.tsir. no.211:31-32 My '60. (MIRA 13:10)

1. Astronomicheskaya observatoriya Kiyevskogo gosudarstvennogo universiteta im. T.G.Shevchenko.
(Occultations)

OSIPOV, A.K.

Observations of lunar occultations of stars at the Astronomical Observatory of the Kiev University. Astron.tsir. no.219:37 Mr '61. (MIRA 14:10)

1. Astronomicheskaya observatoriya Kiyevskogo gosudarstvennogo universiteta imeni T.G.Shevchenko.
(Occultations)

OSIPOV, A.K.

Observations of lunar occultations of stars at the Astronomical Observatory of the Kiev University. Astron.tsir. no.222:28-29 My '61. (MIRA 15:4)

1. Astronomicheskaya observatoriya Kiyevskogo gosudarstvennogo universiteta.
(Occultations)

OSIPOV, A.K.; CHERNEGA, N.A.

Observation of a fireball in Kiev. Astron.tsir. no.222:27 My '61. (MIRA 15:4)

1. Astronomicheskaya observatoriya Kiyevskogo universiteta.
(Meteors)

S/033/62/039/001/013/013
E032/E514

AUTHOR: Osipov, A.K.

TITLE: Conference of the working group on the study of the figure, rotation and orbital motion of the moon

PERIODICAL: Astronomicheskiy zhurnal, v.39, no.1, 1962, 181-183

TEXT: The conference took place in Kiev on May 25-27, 1961. It was attended by representatives from the Pulkovskaya astronomicheskaya observatoriya, GAO (Pulkovo Astronomical Observatory), Gos. astronomicheskiy institut im. Shternberga, GAISh (State Astronomical Institute imeni Shternberg), Astronomicheskaya observatoriya im. V. P. Engel'gardta, AOE (Astronomical Observatory imeni V. P. Engel'gardt), Astronomicheskaya observatoriya AN UkrSSR (Astronomical Observatory, AS, UkrSSR), Astronomicheskaya observatoriya Kievskogo universiteta, kAO (Astronomical Observatory, Kiev University) and the Dagestanskiy pedinstitut (Dagestan Pedagogical Institute). Altogether 20 participants took part. The conference was opened by Corresponding Member of the AS UkrSSR A. A. Yakovkin who read a paper entitled "A critical review of studies of the figure, rotation and orbital motion of the moon".

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Conference of the working group ..

S/033/62/039/001/013/013
E032/E514

Other papers read at the conference were as follows:
Professor A. A. Nefed'yev (AOF): "Charts and profiles of the region near the lunar limb and the librational effect".
I. V. Gavrilov (GAO AN UkrSSR): "Some problems in selenodesy".
Candidate of Phys.-Mat. Sciences Kh. I. Potter (GAO AN SSSR): "The use of annular solar eclipses in studies of the figure of the moon"
Candidate of Phys.-Mat. Sciences A. A. Gorynl (GAO AN UkrSSR): "On the progress of determinations of the parameters of the physical libration of the moon by the position-angle method".
Ye. P. Fedorov, Director GAO AN UkrSSR, emphasized the urgency of the development of methods and principles for astronomical observations from the surface of the moon.
Professor A. A. Nefed'yev: "Analysis of heliometric observations by the Cracow method" (this method is said to be due to the Polish astronomer Koziel)
Aspirant K. I. Shakirov (AOF): "Determination of the physical libration of the moon from photographs taken against the stellar field".
Card 2/4

N. F Bystrov (GAO AN SSSR) spoke on the determination of the coordinates of the lunar centre of mass.
A. A. Yakovkin (GAO AN UkrSSR) spoke about the project concerned with the development of a plateholder for the photography of the moon against the stellar field.
Professor A. A. Nefed'yev reported on the analysis of lunar observations carried out with the AOE heliometer between 1946 and 1948.
B. I. Kozarenko (GAISh) and N. G. Rizvanov (AOE) reported on the photography of the moon with the Markovitz plateholder using a method developed at Pulkovo.
Aspirant D. P. Duma (GAO AN UkrSSR) reported preliminary results of a determination of corrections to the fundamental catalogues of meridional calculations of the moon carried out at Greenwich and Washington between 1923 and 1941. Some of his results do not agree with those reported by Morgan and other workers.
In its resolution the conference noted that:
1) The librational effect in the lunar radius associated with the latitude libration may now be regarded as established;

OSIPOV, A.K.

Conference of the study group for investigating the figure, rotation and orbital motion of the moon. Astron.zhur. 39 no.1:181-183 Ja-F '62. (MIRA 15:2)
(Moon)

OSIPOV, A.K.

Observations of lunar occultations of stars at the Kiev Astronomical Observatory in 1954. Publ. KAO no.10:65-67 '62. (MIRA 16:7)

(Occultations)

OSIPOV, A.K.

Observations of lunar occultations of stars in Kiev. Astron. tsir. no.229:33-34 Je '62. (MIRA 16:6)

1. Astronomicheskaya observatoriya Kiyevskogo universiteta.
(Occultations)

OSIPOV, A.K.

Observations of lunar occulations of stars in Kiev. Astron.tsir. no.[illegible]:
25-26 D '62. (MIRA 16:4)

1. Astronomicheskaya observatoriya Kiyevskogo universiteta.
(Occultations)

OSIPOV, A.K.; LIPOVETSKIY, V.A.

Occultations of stars by the moon observed at Kiev. Biul. inst. teor. astron. 10 no.1:89 '65. (MIRA 18:12)

1. Astronomicheskaya observatoriya Kiyevskogo universiteta.

OSIPOV, A.K.

Let's give constant attention to the growth of labor productivity
Tekst.prom.15 no.8:8 Ag'55. (MLRA 8:11)

1. Direktor Obukhovskogo kovrovogo kombinata
(Textile industry)

OSIPOV, A.K.

Use of core yarn as a means to increase labor productivity and equipment efficiency. Tekst. prom. 25 no.12:70-73 D '65.
(MIRA 19:1)

1. Glavnyy inzh. Obukhovskogo kovrovo-sukonnogo kombinata imeni V.I. Lenina.

Osipov, A.I.

USSR

2304. New rapid method of analysis of slag for phosphorus, with a radioactive indicator. A. I. Osipov, I. Yu. Korbevnikov, V. F. Indin, M. I. Bakhtiyov, M. G. Bul'skil, A. G. Alimov, A. M. Skryptsov and A. P. Kyabenko (*Zavod. Lab.*, 1955, 21 [3], 391–395).—The addition of a controlled amount of radioactive phosphorus, with a specific activity of 220 to 420 mC per g, to the melt in the manufacture of high-phosphorus (0·9 to 1·5 per cent.) cast iron, and measurement of the activity of portions of the slag after cooling in water to 30° to 40° C, permits the phosphorus content of the slag to be determined rapidly (within 5 to 7 min.) at any time during the course of the melt. To attain efficient mixing without loss of the radioactive phosphorus, the phosphorus is first mixed with iron powder and charged into a copper tube (150 mm × 18 mm), the ends of which are then sealed. The tube is placed in the liquid cast-iron. By the time the copper has melted, combination between the phosphorus and the iron has occurred, and uniform distribution throughout the mass of the metal takes place. Under the conditions of working, a proportionality factor for the distribution of phosphorus from the chemical analysis of a slag sample and its radioactivity is found and used for subsequent analyses. The error (average square error 0·2 per cent.) is less than that of normal chemical determinations. G. S. SMITH

OSIPOV, A.L., inzhener.

New boring machine for deep underground boreholes. Gor.zhur.no.3: 27-29 Mr '56. (MLRA 9:7)

1.Ukhtinskiy kombinat.
(Boring machinery)

OSIPOV, A. M.

LITVIN, A.Z., inzh.; KUDRYAKOV, M.N., inzh.; OSIPOV, A.M., inzh.

Lining the "Beatrix" mine shaft in Holland. Shakht. stroi. no.3:32-33 '58. (MIRA 11:3)
(Netherlands--Shaft sinking)

OSIPOV, A M

AUTHORS: Moskalenko, V. N., Osipov, A. M., Candidate of Historical Sciences. 30-9-44/48

TITLE: The Evaluation of Tasks of Soviet Orientalism (Obsuzhdeniye zadach sovetskogo vostokovedeniya).

PERIODICAL: Vestnik AN SSSR, 1957, Vol. 27, Nr 9, pp. 132-134 (USSR)

ABSTRACT: More than 250 delegates from all Soviet republics participated in the conference of orientalists which took place in Tashkent (June 4-11). Numerous guests from friendly foreign countries were present. After introductory words by E. M. Zhukov, member of the AN and secretary, B. G. Gafurov, director of the Institute for Orientalism AN USSR, gave the statement of accounts. The following papers dealt with the cultural development of the peoples of East and Southeast Asia. A. G. Krymov (Kuo-Schao-tan) talked on the international importance of the Chinese people's revolution. A lecture by Din-Dze-lyan, dean of the Northeast-Chinese University on "Sun-Yat-sen and his role in the international fight of liberation of the peoples of Asia" met with great approval with the historians. The speaker pointed out the extremely great importance of soviet orientalism which at

Card 1/2

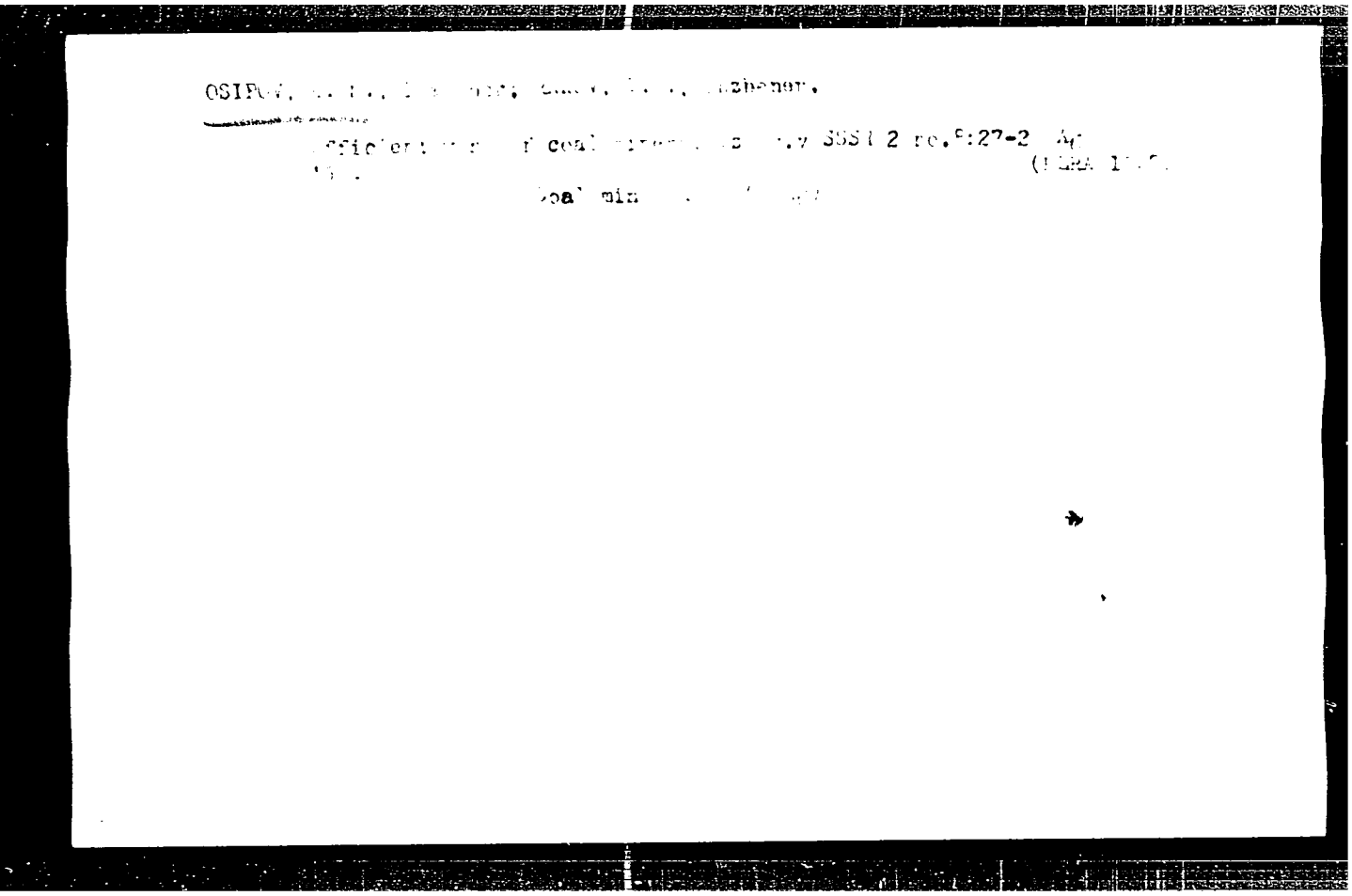
first was for the benefit of the peoples of Caucasia lagging behind and then for the benefit of all peoples of Central Asia. Sumbad-zade, vicepresident of the Azerbaidzhan AN, reported on the state of orientalism in his country, the same did M. G. Nersisyan, president of the Armenian AN, as well as the Academy-presidents of the Tadzhik and Turkmen republics. Azimdzhanov, member of the AN (Uzbek AN), talked on the history of Uzbekistan, the development of her culture in the course of centuries, on the cultural heritage of the Abu-Rey-Khan Biruni, the famous "canon of medical science" of Ibn Sin. All writings have now been translated from Arabic into Russian.

AVAILABLE: Library of Congress.

LUKHTA, I.S., inzh.; OSIPOV, A.M., inzh.

Rotary boring and blasting method of shaft sinking. Shakht. stroi. no.10:14-15 O '59. (MIRA 13:2)

1. TSentral'nyy nauchno-issledovatel'skiy institut podzemshakhtostroy.
(Shaft sinking)



OSIPOV, A.M.

BEZPALOV, B.F., inzhener; OSIPOV, A.M., inzhener.

Peculiarities and prospects in turbodrilling of large diameter boreholes. Shakht. stroi. no.7:21-24 Jl '57. (MLRA 10:8)
(Turbodrills) (Boring)

KUDRYAKOV, M.N., inzh.; LITVIN, A.Z., inzh.; OSIPOV, A.M., inzh.

Boring mine shafts in Holland. Shakht. stroi. no.2:31-32 3 of cover '58. (MIRA 11:3)

(Netherlands--Shaft sinking) (Boring)

SHABAROV, Yu.S.; LEVINA, R.Ya.; POTAPOV, V.K.; OSIPOV, A.M.; TRESHCHOVA, Ye.G.

Cyclopropanes and cyclobutanes. Part 14: Phenylcyclopropanes with substituents in the para positions of the benzene ring. Zhur. ob. khim. 30 no.12:3874-3876 D '60. (MIRA 13:12)

1. Moskovskiy gosudarstvennyy universitet.
(Benzene)

OSIPOV, A.M., inzhener.

New technique in using shaped cartridges in core drilling of mine shafts. Izobr.v SSSR 2 no.7:22-25 Jl '57. (MLRA 10:7)
(Boring)

OSIPOV, A.M., inzhener.

Undercutting drill cores by means of cumlative charges. Izobr. v SSSR 1 no.6:18-20 D '56. (MLRA 10:4)
(Boring machinery)

OSIPOV, A.M.; ALEKSANDROV, V.A.; GOL'DBERG, N.M.; FILIPPOV, A.M., redaktor; SAKHAPOVA, N.V., tekhnicheskiy redaktor.

[Afanasii Nikitin and his era] Afanasii Nikitin i ego vremia. Izd. 2-oe ispr. i dop. Moskva, Ges. uchebno-pedageg. izd-vo Ministerstva prosveshcheniia RSFSR, 1956. 214 p. (MLRA 9:6)
(Nikitin, Afanasii Nikitich, 15th century)

MATVEYEV, K.I.; OSIPOV, A.M.; ODYAKOV, V.F.; SUZDAL'NITSKAYA, Yu.V.; BUKHTOYAROV, I.P.; YEMEL'YANOVA, O.A.

Catalytic oxidation of ethylene in the presence of aqueous solutions of palladium salts. Kin.i kat. 3 no.5:661-673 S-O '62. (MIRA 16:1)

1. Institut kataliza Sibirskogo otdeleniya AN SSSR.
(Ethylene) (Oxidation) (Palladium salts)

OSIPOV, A.M.

GUDOVICH, G.A., inzhener; ZVEREV, V.A., inzhener; OSIPOV, A.M., inzhener.

Automatic reclosing diagrams for switches of remote controlled unite. Elek.sta. 25 no.2:51-52 F '54. (MLRA 7:2)
(Electric switchgear)

NAMESTNIKOV, A.F., kandidat tekhnicheskikh nauk; ADAMOVSKIY, I.I., inzhener, retsenzent; OSIPOV, A.M., inzhener, retsenzent; SEMENOVA, N.L., redaktor; GUTLIB, E.M., tekhnicheskiy redaktor.

[Home preservation of fruits and vegetables] Konservirovanie plodov i ovoshchei v domashnikh usloviiakh. Moskva, Pishchepromizdat, 1954. 166 p. [Microfilm] (MLRA 8:2)
(Canning and preserving)

OSIPOV, A.N.

Amount of chromium in canned foods produced with the use of containers and equipment made from acid resistant steel. Kons. i ov. prom. 13 no.5:25-27 My '58. (MIRA 11:5)

1.Ukrainskiy nauchno-issledovatel'skiy institut konservnoy promyshlennosti.
(Food contamination) (Chromium--Analysis)

[redacted], V.K.; KAZAKOV, K.I.; [redacted], A.M.; [redacted], F.F.

Flow-through circulation apparatus for studying [redacted] substances in the presence of a liquid catalyst. Zhur.fiz.khim. 38 no.8:1804-[redacted] Ag '64. (MIRA 18:1)

1. Institut kataliza Sibirskogo otdeleniya AN SSSR.

MATVEYEV, K.I.; LANGENBEK, V.; OSIPOV, A.M.; KRAUZE, G.V.; KHOYTSFEL'D, G.I.

o-Quinone chelates containing Cu (II) and Fe(III) ions as hydroxylating and oxidizing agents. Organic catalysts. Part 76: Catalytic activity of o-quinones. IX. Kin. i kat. 6 no.4:651-657 Jl-Ag '65. (MIRA 18:9)

1. Institut organicheskogo kataliza Germanskoy AN, Rostok, Germanskaya Demokraticheskaya Respublika, i Institut kataliza Sibirskogo otdeleniya AN SSSR.

C.S. Osipov, A.N.

USSR/Zooparasitology - Parasitic Worms. G-2

Abs Jour : Ref Zhur - Biol., No 4, 1958, 14943

Author : Osipov, A.N.
Inst : -
Title : Survival of Eggs of Heterakis Gallinarum Under Winter Conditions.

Orig Pub : Tr. Mosk. vet. akad., 1957, 19, No 1, 350-355

Abstract : Eggs of heterakis in tests of feces deposited on soil surfaces and at a depth of 5-20 cm retained their viability during winter, and when transferred to optimal conditions, completed their development. Eggs which wintered on the aviary floor at a temperature of $< 10^{\circ}$ also did not lose their ability for further development. That the larvae of the developed wintering eggs were infectious was proven by the infection of chicks.

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OSIPOV, A. N. and GNEDINA, M. P.

"About biology of paraphilariosis agent in horses."

Veterinariya, Vol. 37, No. 8, 1960, p. 49

Cand Vet Sci - All-Union Inst Helminthology im K I Skryabin

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S/079/60/030/012/005/027
B001/B064

AUTHORS: Shabarov, Yu. S., Levina, R. Ya., Potapov, V. K., Osipov, A. M., and Treshchova, Ye. G.

TITLE: Cyclopropanes and Cyclobutanes. XIV. Phenyl Cyclopropanes With Substituents in the Para Position of the Benzene Cycle

PERIODICAL: Zhurnal obshchey khimii, 1960, Vol. 30, No. 12, pp. 3874-3876

TEXT: In previous papers (Refs. 1-4) the authors reported on the effect of the nature of aryl radicals upon the reactivity of the three-membered cycle linked with it. Thus, it was found that polymerizability strongly increases under the action of $AlCl_3$ in the following order: phenyl cyclopropane < p-tolyl cyclopropane < p-anisyl cyclopropane (Ref. 2). The three-membered cycle which opens readily in phenyl cyclopropane (Ref. 3), p-tolyl cyclopropane, p-anisyl cyclopropane (Ref. 4) under the action of mercury salts, is stable in p-nitrophenyl cyclopropane (Ref. 1). To render these observations more complete, it is necessary to develop a method of synthesizing phenyl cyclopropane with various substituents in the benzene cycle. p-aminophenyl cyclopropane which could be easily obtained by

Card 1/3

Cyclopropanes and Cyclobutanes. XIV. Phenyl Cyclopropanes With Substituents in the Para Position of the Benzene Cycle

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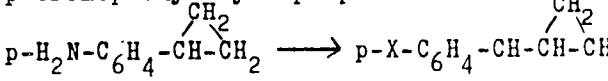
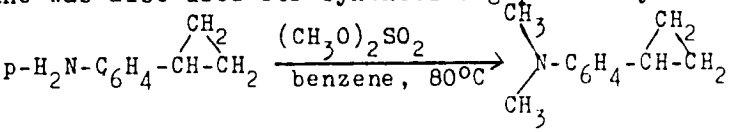
nitrating phenyl cyclopropane, with subsequent reduction of the nitro group to the amino group (Ref. 1), served as the initial product. The replacement of the latter in p-amino phenyl cyclopropane by other substituents was carried out by diazotization. Thus, p-hydroxy-p-chloro- and p-bromophenyl cyclopropane results:



$$p\text{-}H_2N\text{-}C_6H_4\text{-}CH\text{-}CH_2 \longrightarrow p\text{-}X\text{-}C_6H_4\text{-}CH\text{-}CH\text{-}CH_2 \quad (X = OH, Cl, Br)$$

p-amino-phenyl cyclopropane was also used for synthesizing p-dimethyl amino phenyl cyclopropane:



$$p\text{-}H_2N\text{-}C_6H_4\text{-}CH\text{-}CH_2 \xrightarrow[\text{benzene, } 80^\circ C]{(CH_3O)_2SO_2} (CH_3)_2N\text{-}C_6H_4\text{-}CH\text{-}CH_2$$

A study of the Raman spectra of the phenyl cyclopropanes obtained showed that no unsaturated compounds had been added; intensive frequencies appeared at 1600 cm^{-1}, which are characteristic of the aromatic cycle, as well as bands (1200-1260 cm^{-1}) indicating the presence of the phenyl cyclopropane molecule (Refs. 5, 6). The ultraviolet absorption curves of aryl cyclopropanes (Diagrams 1 and 2) showed the same character as those of p-tolyl

Card 2/3

87525

Cyclopropanes and Cyclobutanes. XIV. Phenyl Cyclopropanes With Substituents in the Para Position of the Benzene Cycle

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cyclopropane (Ref. 5) and p-aminophenyl cyclopropane (Ref. 1) There are 2 figures and 6 references: 5 Soviet and 1 French.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet (Moscow State University)

SUBMITTED: January 14, 1960

Card 3/3

OSIPOV, A.N.

Difference table of horizontal parallaxes between multiple contour lines. Geod. i kart. no.1:38-40 Ja '61. (MIRA 14:9)
(Aerial photogrammetry)

GNEDINA, M.P., kand.veterinarnykh nauk; OSIPOV, A.N., kand.veterinarnykh nauk

Biology of the causative agent of parafilariosis in horses.
Veterinariia 37 no.8:49-50 Ag '60. (MIRA 15:8)

1. Vsesoyuznyy institut gel'mintologii imeni akademika K.I. Skryabina.
(Nematoda) (Parasites--Horses) (Flies as carriers of disease)

ILYUSHIN, V.I.; OSIPOV, A.N.

Green light to ShEZ locks. Mashinostroitel' no.5:18-19 My '60. (MIRA 14:5)

(Fastenings)

COUNTRY : USSR
CATEGORY : Zooparasitology - Parasitic Worms

ABS. JOUR. : RZBiol., No. 19 1958, No. 86352

AUTHOR : Osipov, A.A.
INST. : Moscow Veterinary Academy
TITLE : The Biology of the Agent of Heteraccicosis in Chickens

ORIG. PUB. : Tr. Mosk. Vet. Akad., 1957, Vol.19, No.2, Part 1, 21-29

ABSTRACT : Under laboratory conditions the eggs of heteraccises (in 1% formalin solution) reac the invasive stage in 78 days at 10-15 degrees, in 15 days at 20 degrees, in 7 days at 30 degrees. It was shown experimentally that the larvae of the heteraccises in birds migrate into the wall o. the cecum within a day after infection. Within 5 days the emerge into he lumen of the cecum, where they continue to grow and attain sexual maturation. The first larval molting occurs in the egg, and the second and third in the host (in 4-6 and 14-15 days following infection). The growth time of

CARD: 1/2

OSIPOV, A. N., Candidate of Vet Sci (diss) -- "The biology of Heterakis gallinarum (Schrank, 1788) and the epizootiology of heterakidosis of chicks". Moscow, 1959. 19 pp (Moscow Vet Acad of the Min Agric USSR, Chair of Parasitology and Invasion Diseases of Agric Animals), 200 copies (KL, No 20, 1959, 114)

OSIPOV, A.M., Cand Tech Sci -- (diss) "On the problem of study of the performance of self-propelled combines." Saratov, 19[illegible]. 16 pp with drawings (Min of Agr RSFSR, Saratov Agr Inst), 150 copies (KL,40-59, 104)

BARANOVSKIY, V.V., kandidat tekhnicheskikh nauk.; SKOTNIKOV, K.V., inzhener.; OSIPOV, A.O., inzhener.

Utilizing factory experience in making plastic products at the Cheboksary electric equipment plant. Vest. elektroprom 28 no.1: 70-72 Ja '57. (MLRA 10:4)

1. Vsesoyuznyy elektrotekhnicheskiy institut im. Lenina (for Baranovskiy). 2. Cheboksarskiy elektroapparatnyy zavod (for Skotnikov, Osipov).
(Cheboksary--Electric apparatus and appliances)

OSIPOV, A.P.

Guarding the workers' health for a quarter of a century. Fel'd. i askush. 26 no. 2:60-61 F '61. (MIRA 14:4)

1. Molochnyy sovkhoz No 15 Groznenskogo rayona.
(KARPOVA, VALENTINA PETROVNA)

OSIPOV, A P.

G-2

USSR/Analysis of Inorganic Substances

Abs Jour: Ref Zhur-Khimiya, No 6, 1957, 19617

Author : A. P. Osipov
Inst :
Title : Accelerated Method of Determination of Phosphorus in Loparite Concentrates and Ores.

Orig Pub: Zavod. Laboratoriya, 1956, 22, No 10, 1168-1169.

Abstract: In order to separate P present as apatite in loparite ores, it is recommended to treat the pulverized (200 mesh) ore sample with a NH_4NO_3 solution acidified with HNO_3. The weighed concentrate sample (2 g) is treated with 50 ml of the NH_4NO_3 solution (280 g of NH_4NO_3 and 40 ml of concentrated HNO_3 in 1 liter of the solution),

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Card 1/2

USSR/Analysis of Inorganic Substances

Abs Jour: Ref Zhur-Khimiya, No [illegible], 1957, 19017

0.1 g of K_2BO_3 is added in order to bind F^-, the liquid is boiled 10 min., cooled, the solution together with the precipitate is diluted to 100 ml, and P is precipitated in 50 ml with molybdate. When ores containing apatite-nepheline and fayalite-urtite rocks are assayed, the 1 g sample is treated with 5 ml of concentrated HNO_3, evaporated until it is dry, the remainder is treated with 10 ml of NH_4NO_3 solution and the analysis is continued further as described above. It was determined 40.3 to 40.5% of P_2O_5 with the described method, when the content of P_2O_5 was 42.3% (corresponding to the formula $Ca_5(PO_4)_3F$).

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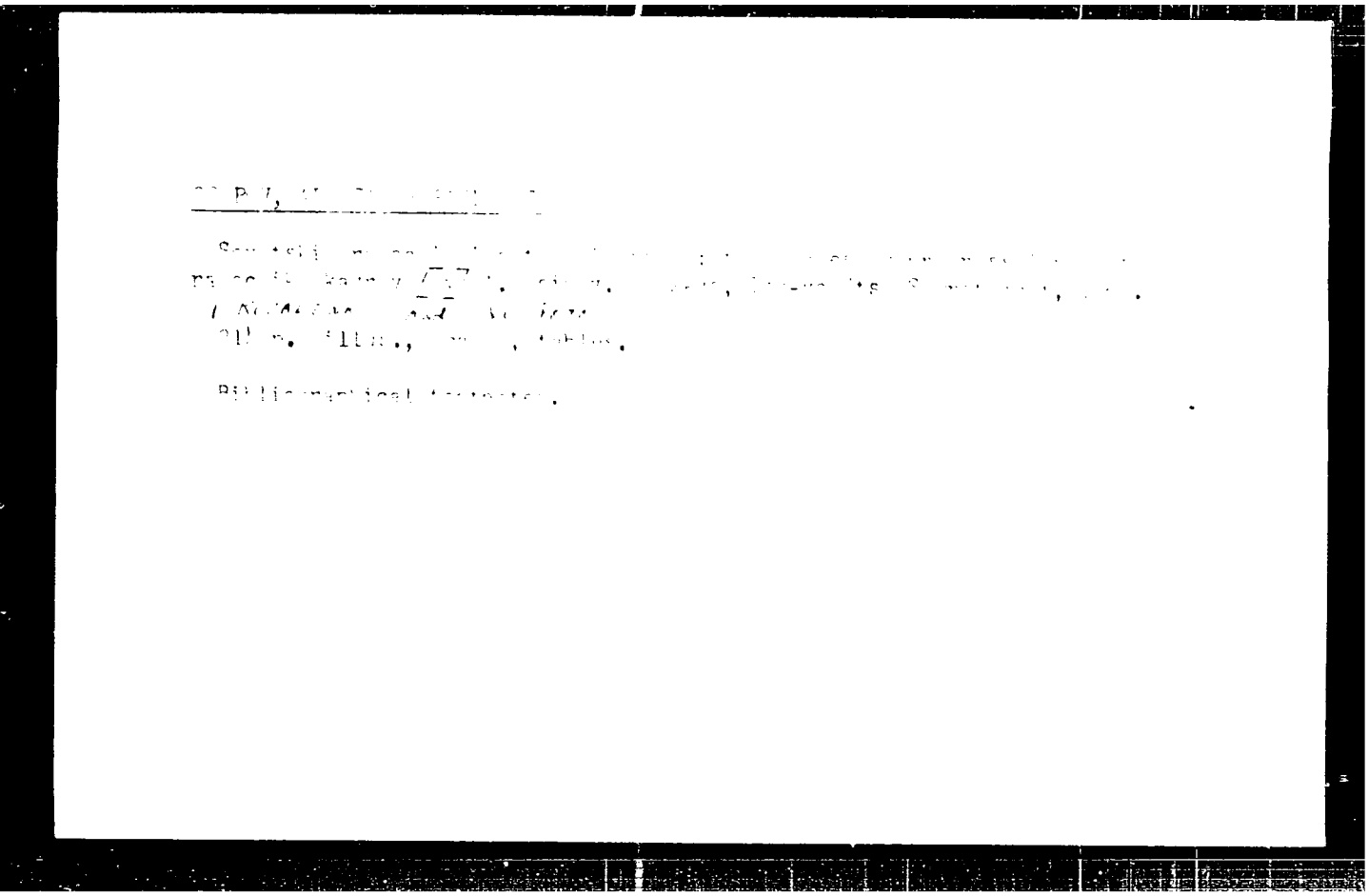
Card 2/2



OSIPOV, Aleksandr Pavlovich; KOVALENKO, Innokentiy Georgiyevich; PETROV, Yevgeniy Aleksandrovich; FILATOVA, I.T., red.; RAKOV, S.I., tekhn.red.

[The Soviet worker and automation] Sovetskii rabochii i avtomatizatsiia; tekhnicheskii progress i podgotovka rabochikh kadrov. Moskva, Izd-vo VTsSPS Profizdat, 1960. 214 p. (MIRA 13:11)
(Machinery industry) (Automation)
(Technical education)

OSIPOV, A.P.

Main trend. Izobr.v SSSR 2 no.5 37 My '57. (MIRA 10:7)
(Efficiency, Industrial)

KAMAYEV, V.D., kand. ekon. nauk; PRUZNER, S.L., kand. tekhn. nauk; CHECHIK, Ye.L., inzh.; LENSKAYA, S.A., kand.ekon. nauk; OSIPOV, A.P., kand. ist. nauk; BORISOVSKAYA, M.A., red.; PONOMAREVA, A.A., tekhn. red.

[Technological progress in the U.S.S.R.]Nauchno-tekhnicheskii progress v SSSR. Moskva, Ekonomizdat. 1962. 274 p. (MIRA 16:2)

(Russia—Industries) (Technology)

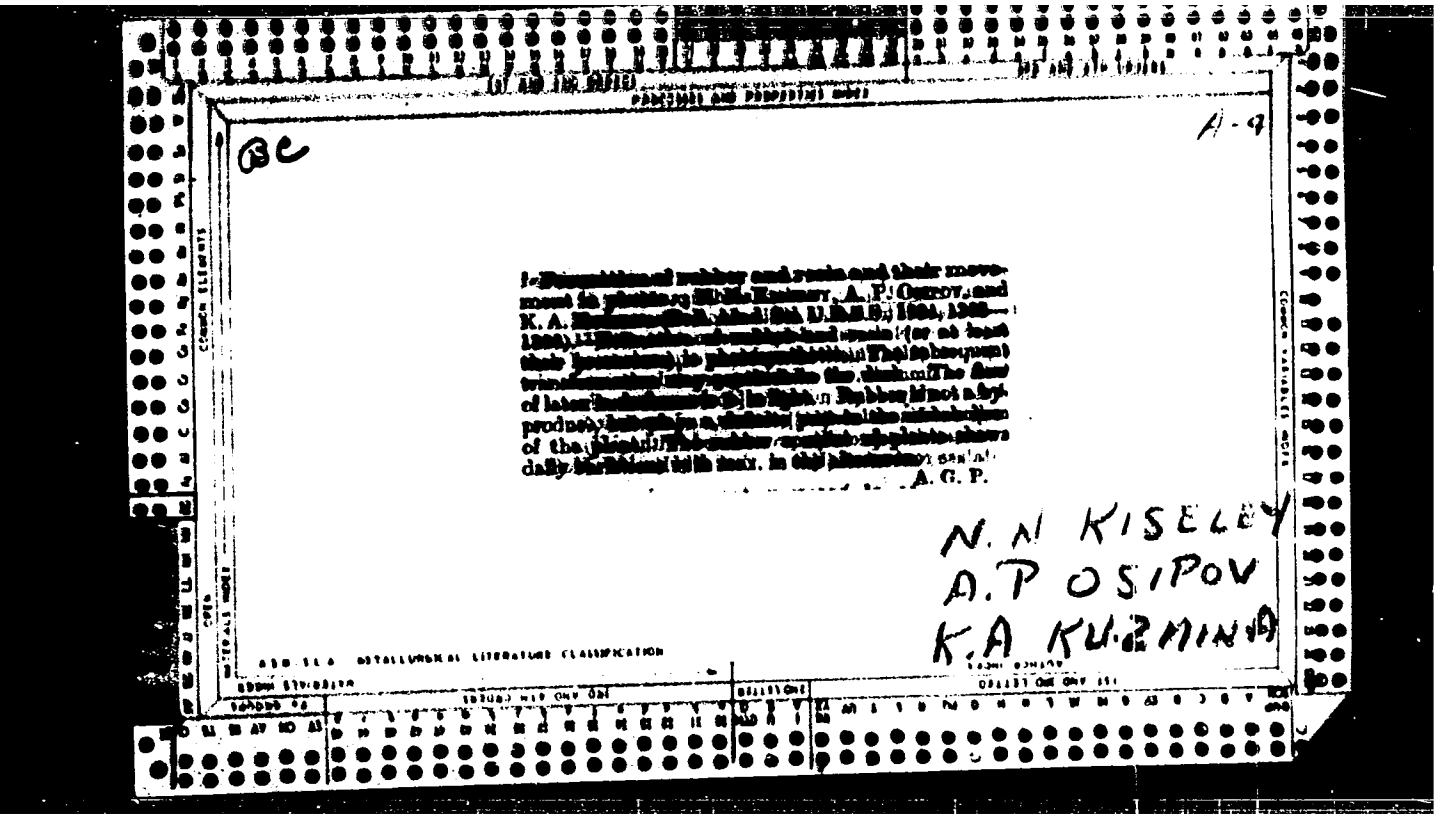
OSIPOV, A. P.

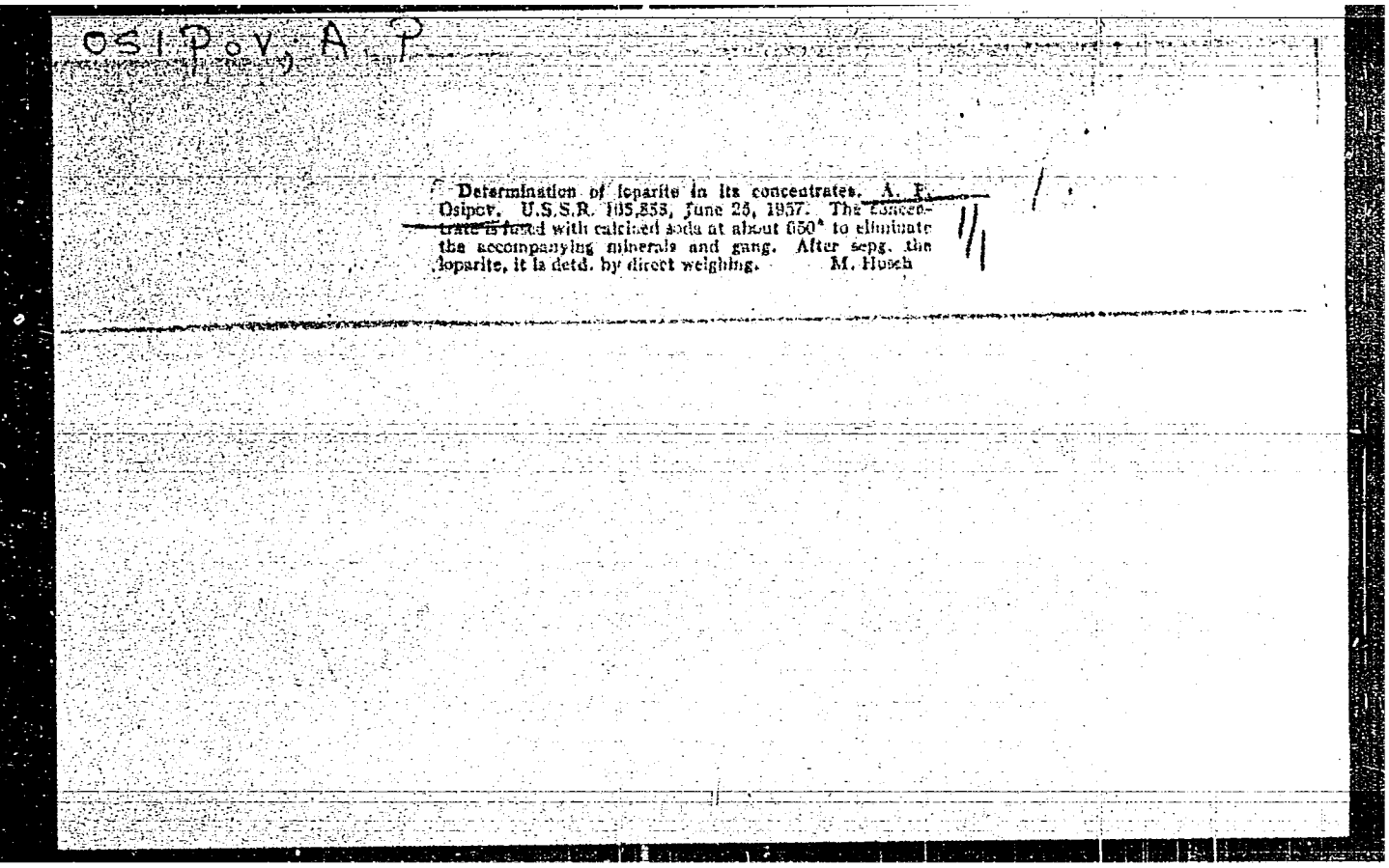
OSIPOV, A.P.

Rapid method for determining phosphorus in loparite concentrates and ores. Zav.lab. 22 no.10:1168-1169 '56. (MLRA 10:5)
(Phosphorus--Analysis) (Loparite)

OSIPOV, A.P., PARKHMSKIY, V.M.

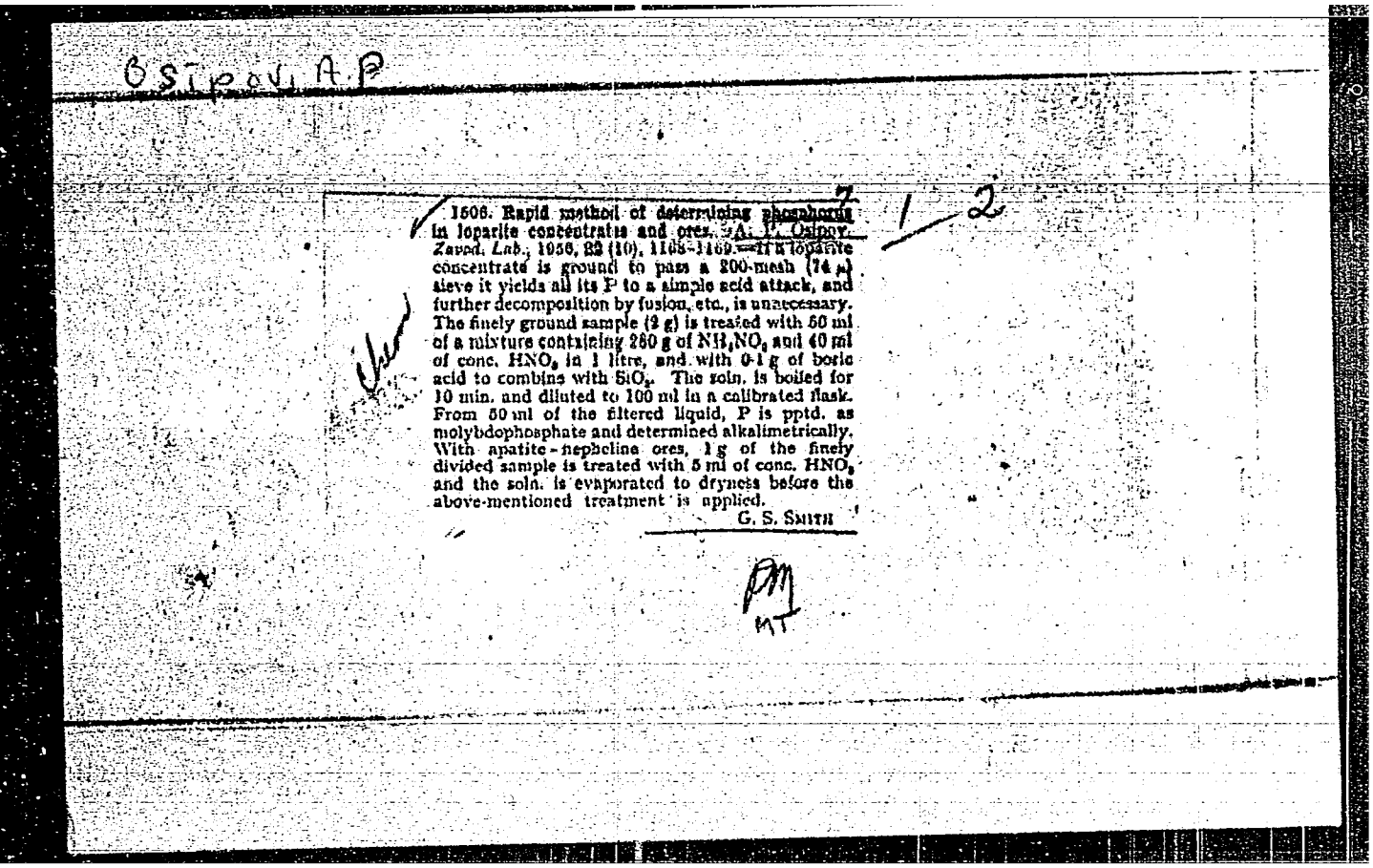
Great day at the All-Union Industrial Exhibition. Izobr. v SSSR 1 no.4:31-32 O '56. (MLRA 10:3)
(Moscow--Exhibitions)





OSIPoV A P

Determination of loparite in its concentrates. A. P. Osipov. U.S.S.R. 105,853, June 25, 1957. The concentrate is fused with calcined soda at about 650° to eliminate the accompanying minerals and gang. After segg. the loparite, it is detd. by direct weighing. M. Hosch



Ostrov, A.P.

1508. Rapid method of determining phosphorus in loparite concentrates and ores. A. P. Ostrov. *Zavod. Lab.*, 1956, 22 (10), 1165–1169.—If a loparite concentrate is ground to pass a 200-mesh (74 μ) sieve it yields all its P to a simple acid attack, and further decomposition by fusion, etc., is unnecessary. The finely ground sample (2 g) is treated with 50 ml of a mixture containing 280 g of NH_4NO_3 and 40 ml of conc. HNO_3 in 1 litre, and with 0·1 g of boric acid to combine with SiO_2. The soln. is boiled for 10 min. and diluted to 100 ml in a calibrated flask. From 50 ml of the filtered liquid, P is pptd. as molybdophosphate and determined alkalimetrically. With apatite-nepheline ores, 1 g of the finely divided sample is treated with 5 ml of conc. HNO_3 and the soln. is evaporated to dryness before the above-mentioned treatment is applied.

G. S. SMITH

ANISIMOV, S.M.; SAVAL'SKIY, S.L.; OSIPOV, A.P.

Separation of selenium and tellurium from platium metals in the form of trivalent iron selenite and tellurite. Izv. vys. ucheb. zav.; tsvet. met. 40 no. 1:101-105 '61. (MIRA 14:2)

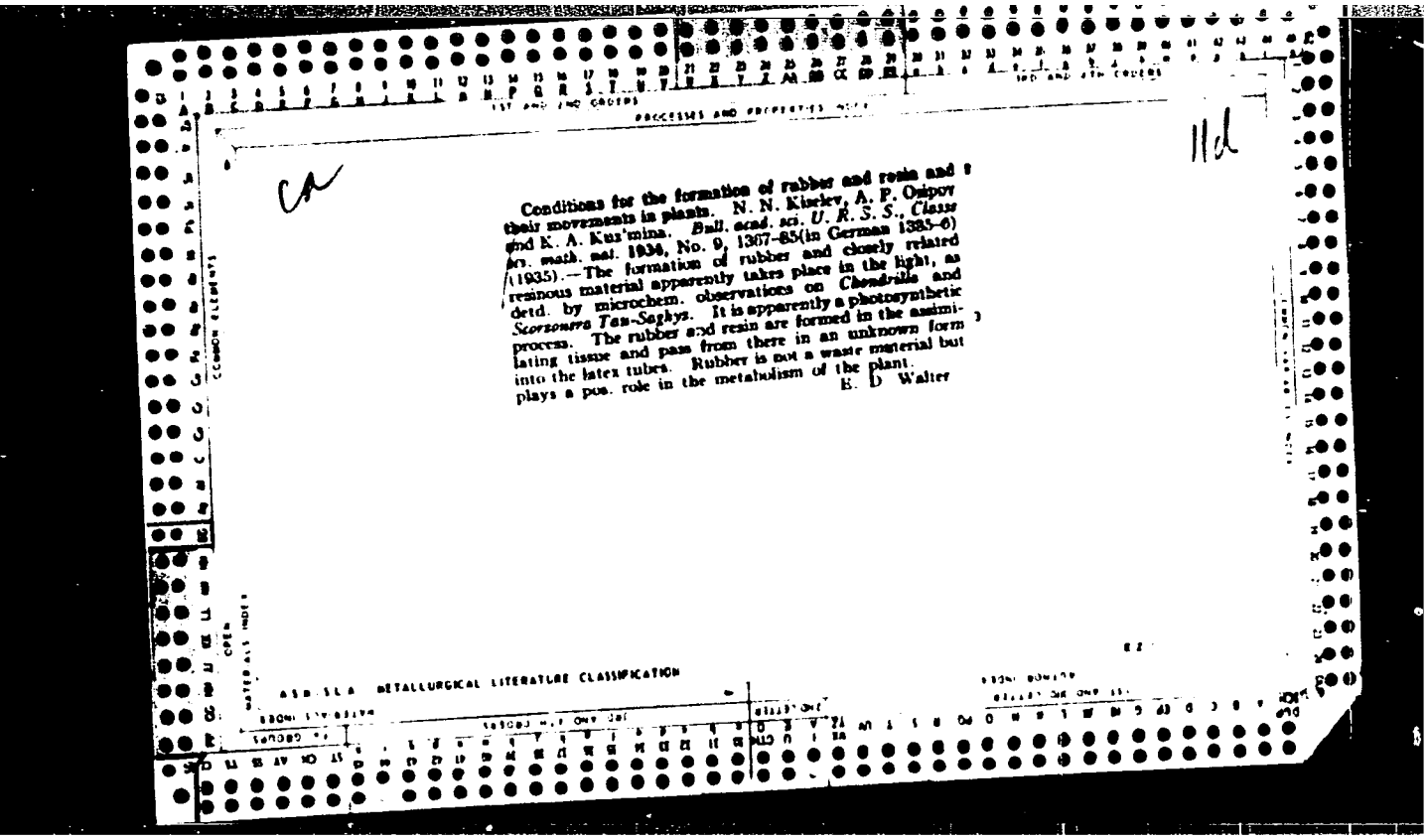
1. Severokavkazskiy gornometallurgicheskiy institut, kafedra metallurgii tyazhelykh tsvetnykh metallov.
(Selenium) (Tellurium) (Platinum group)

OSIPOV, A.P.

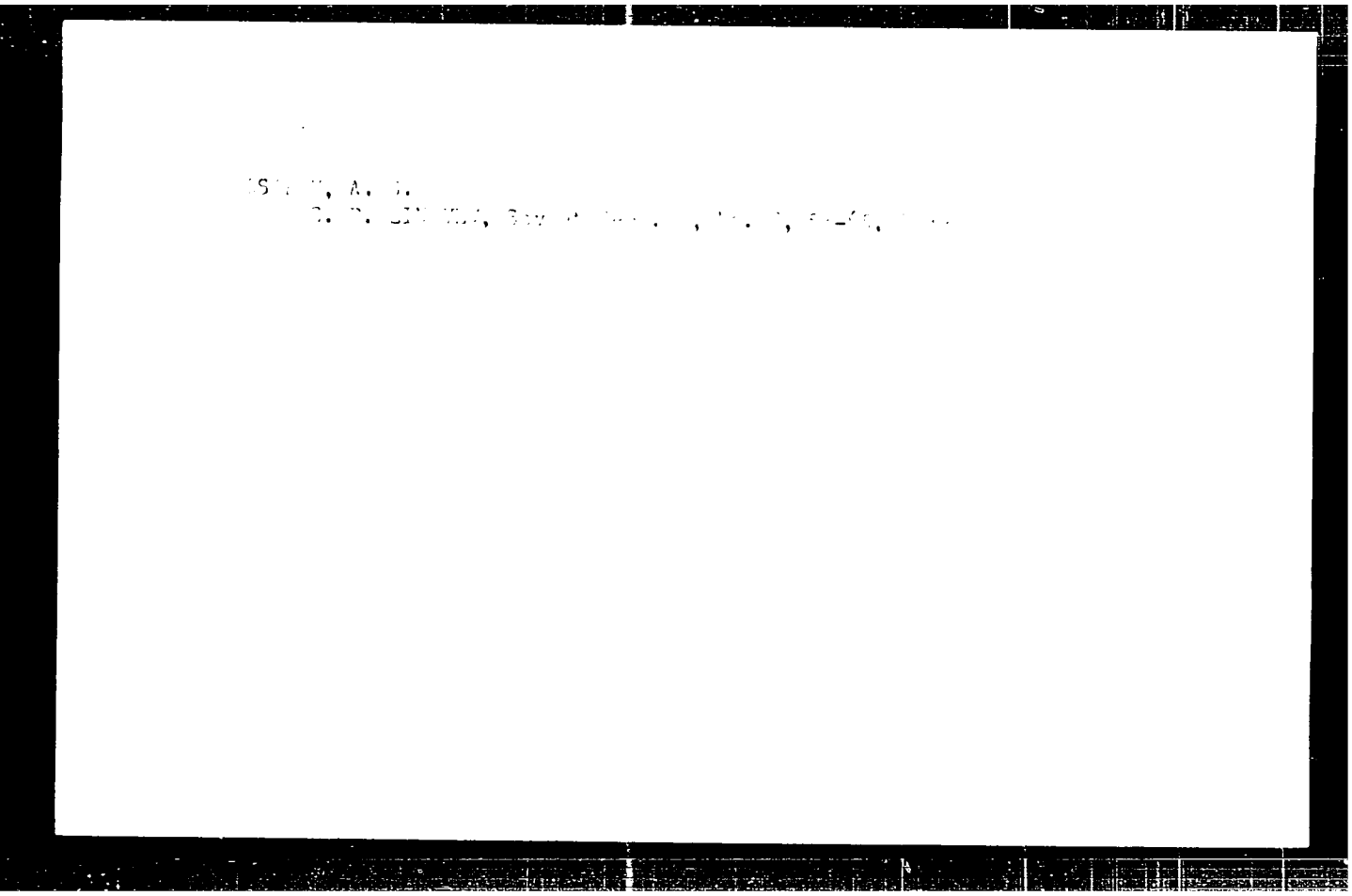
Restless people. Izobr.v SSSR 2 no.2:27-28 F '57. (MIRA 12:3)
(Yaroslavl--Tires, Rubber)

OSIPOV, A P N/5
764
.08

Ob Ustave Professional'nykh Soyuzov SSSR; Doklad Na X s"yezde Profsoyuzov 23 Aprelya 1949 Goda (About Regulations of Trade Unions in the USSR) Moskva, Profizdat, 1949.
22 P.



Conditions for the formation of rubber and resin and their movements in plants. N. N. Kiselev, A. P. Osipov and K. A. Kuz'mina. *Bull. acad. sci. U. R. S. S., Classe sci. math. nat.* 1934, No. 9, 1307–85(in German 1385–6) (1935).—The formation of rubber and closely related resinous material apparently takes place in the light, as detd. by microchem. observations on *Chondrilla* and *Scorzonera Tau-Saghys*. It is apparently a photosynthetic process. The rubber and resin are formed in the assimilating tissue and pass from there in an unknown form into the latex tubes. Rubber is not a waste material but plays a pos. role in the metabolism of the plant.
B. D Walter



S/149/61/000/001/006/013
A006/A001

AUTHORS: Anisimov, C.M., Saval'skiy, S.L., Osipov, A.P.

TITLE: The Separation of Selenium and Tellurium From Platinum Metals in the Form of Trivalent Ferric Selenite and Tellurite

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Tsvetnaya metallurgiya, 1961, No. 1, pp. 101 - 105

TEXT: A method for the separation of selenium and tellurium from platinum metals used in analytical practice is based on their joint precipitation with ferric hydroxide (Ref. 1). This method was tested and described by M.P. Proshkovich and P.V. Paleyev (Ref. 2). The control of the full separation of selenium and tellurium from platinum metals would be facilitated and simplified, if there were data available on the solubility of trivalent ferric selenites and tellurites in hydrochloric acid solutions at different acidities and temperatures, and on the effect of ammonium chlorides on their solubility. If in hydrochloric acid solutions, containing tetravalent tellurium and trivalent iron, the amount of the latter is not sufficient to form ferric tellurite, tellurium dioxide may be precipitated if the solutions are neutralized. To bring about tellurium separation in

S/149/61/000/001/006/013
A006/A001

The Separation of Selenium and Tellurium From Platinum Metals in the Form of Trivalent Ferric Selenite and Tellurite

the form of dioxide, the optimum pH value must be known at which its speeded up precipitation and the effect of ammonium chloride take place. Eventually, to obtain ferric selenite and tellurite precipitates, enriched with selenium and tellurium, the pH values must be selected, at which not only the coprecipitation of platinum metals but also that of some impurities (iron) can be prevented. The aforementioned problems were studied by the authors with the participation of Engineer K.S. Perel'muter. Ferric selenite was prepared by the interaction of ferric sulfate and sodium selenite by a method given in Reference 3, according to which the precipitate has a constant composition with a Fe:Se molar ratio corresponding to $Fe_2(SeO_3)_3$. The composition of the dry precipitate of Fe selenite obtained is expressed by the formulae $Fe_2(SeO_3)_3 \cdot 3H_2O$. Ferric tellurite was prepared by the interaction of 0.1 n. solution of sodium tellurite (pH = 1.1) with 0.3 n. solution of ferric sulfate. The molar Fe:Te ratio exceeded 2 - 3 times the stoichiometric ratio of these elements in the formula $Fe_2(TeO_3)_3$. The composition of the dry precipitate is expressed by the formula $Fe_2(TeO_3) \cdot H_2O$. The solubility of selenite and tellurite of trivalent iron was studied at 19, 40 and 70°C in hydrochloric acid solutions with pH = 1; 1.5; 2.0 and 2.5 and also in HCl solu-

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tions containing 10% NH_4Cl with pH = 1 and 2.5, at 19°C. It was found that the solubility of ferric tellurites and selenites decreased with a lower acidity of the solutions; it was higher in HCl solutions with 10% ammonium chlorides. At elevated temperatures in HCl solutions with pH = 1, a slight increase of trivalent ferric selenite and tellurite solubility takes place. In saturated solutions with pH 1.5, 2.0 and 2.5, the Te, Se : Fe ratio increases. To investigate the stability of HCl solutions of tetravalent tellurium, two initial solutions were prepared by dissolving TeO_2 in HCl. The former had a pH value of 0.85 and contained 0.98 mg/ml Te; the latter contained 2 mg/ml Te and 50 g/l NH_4Cl with a pH value equal to 0.5. It was found that the precipitation of tellurium dioxide from HCl solutions of tetravalent tellurium proceeded already at a pH value of 0.5 and attained a maximum rate at pH = 5.3 - 5.4. The precipitation of tellurites and selenites of trivalent iron from HCl solutions containing free HCl, NH_4Cl and ammoniates of platinum, palladium rhodium, ruthenium, iridium was investigated at their neutralization with soda. The initial solution was composed of Se - 665; Te - 766; Fe - 708; Pd - 69; Pt - 40; Re - 50; Ru - 30, and Ir - 30 (mg/l). The results

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