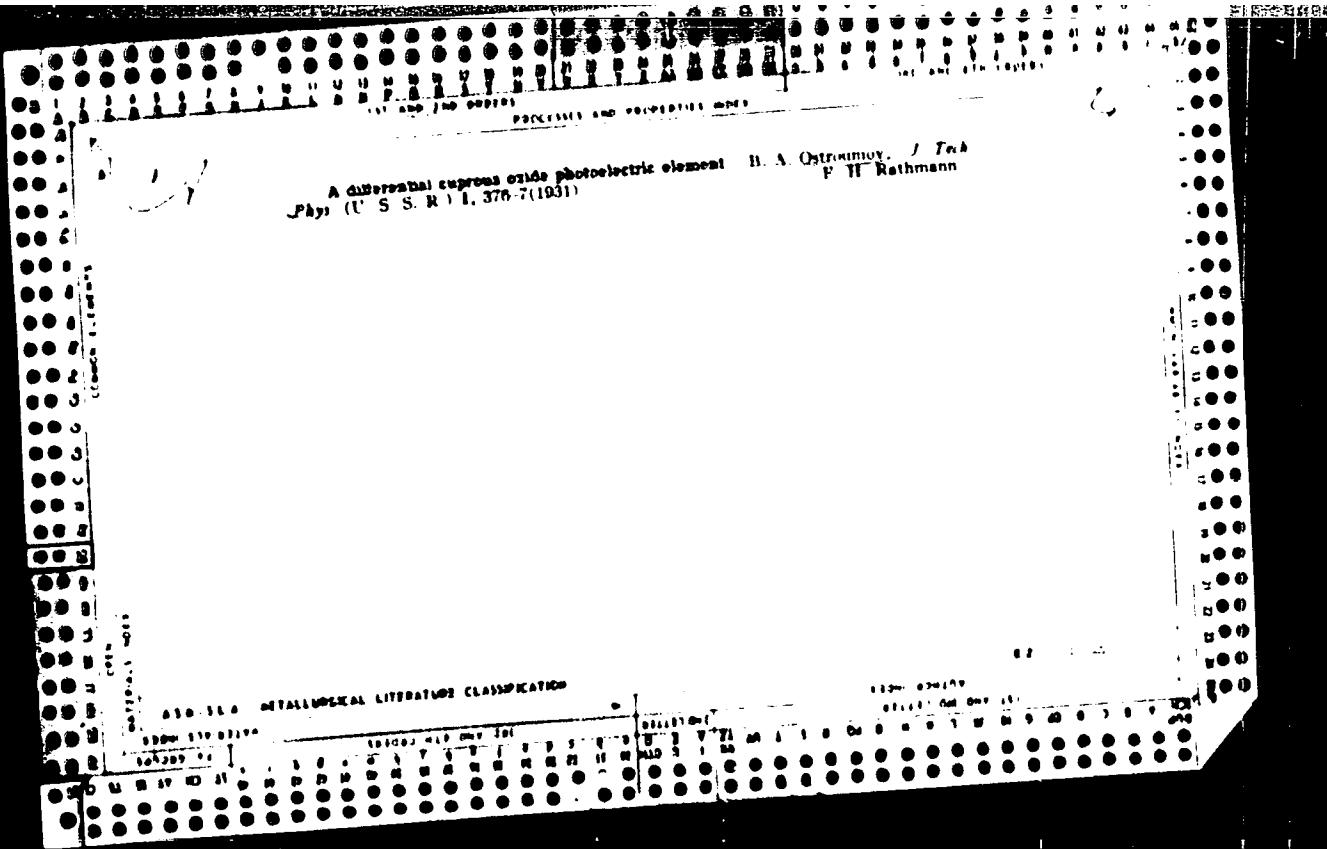
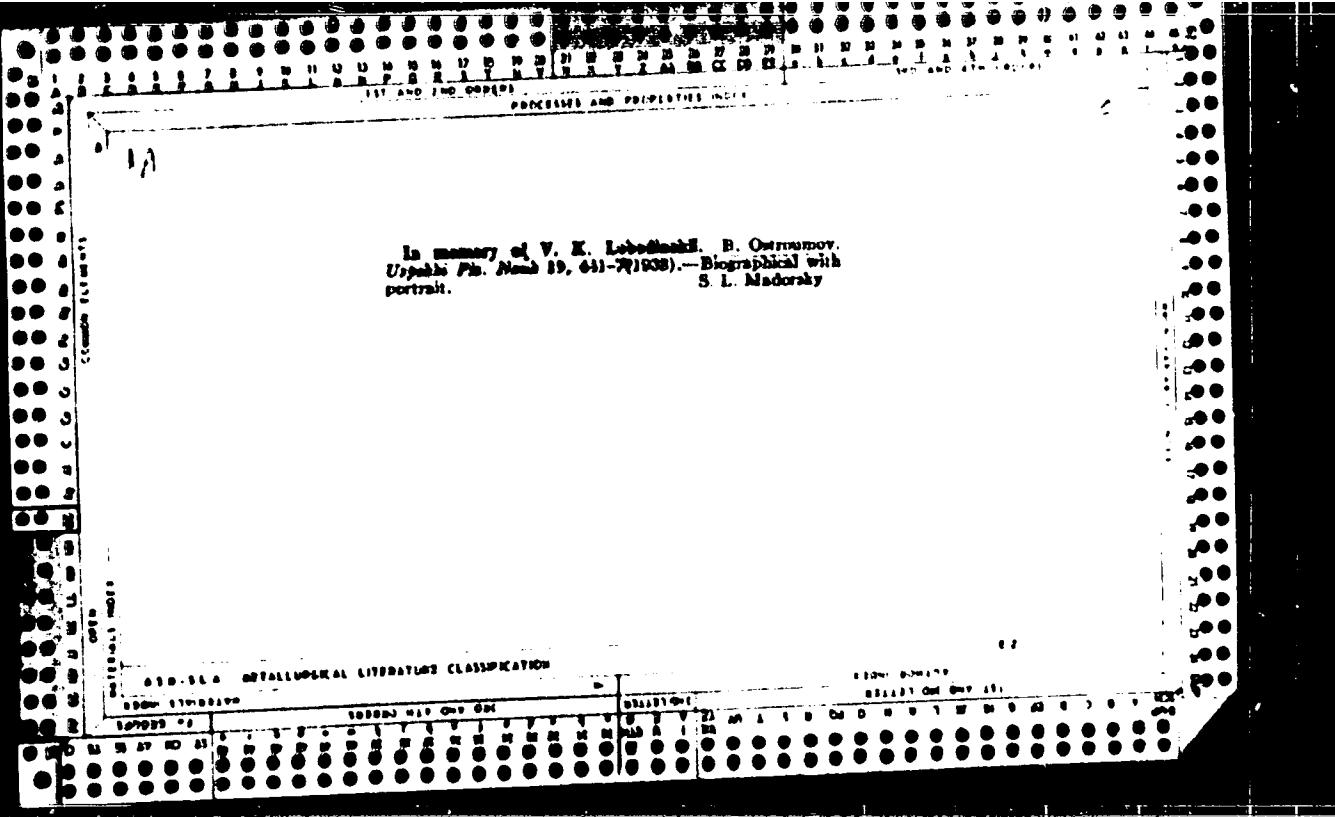


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CA

A new type of discharge tube for obtaining a continuous hydrogen spectrum in the ultraviolet region II. A histogram. J. Tech. Phys. (U.S.S.R.) 10, 1677 (1940) — The usual capillary is replaced by two metal diaphragms 25-30 mm apart. Rokselana Gamow

3

ABSTRACT METALLURGICAL LITERATURE CLASSIFICATION

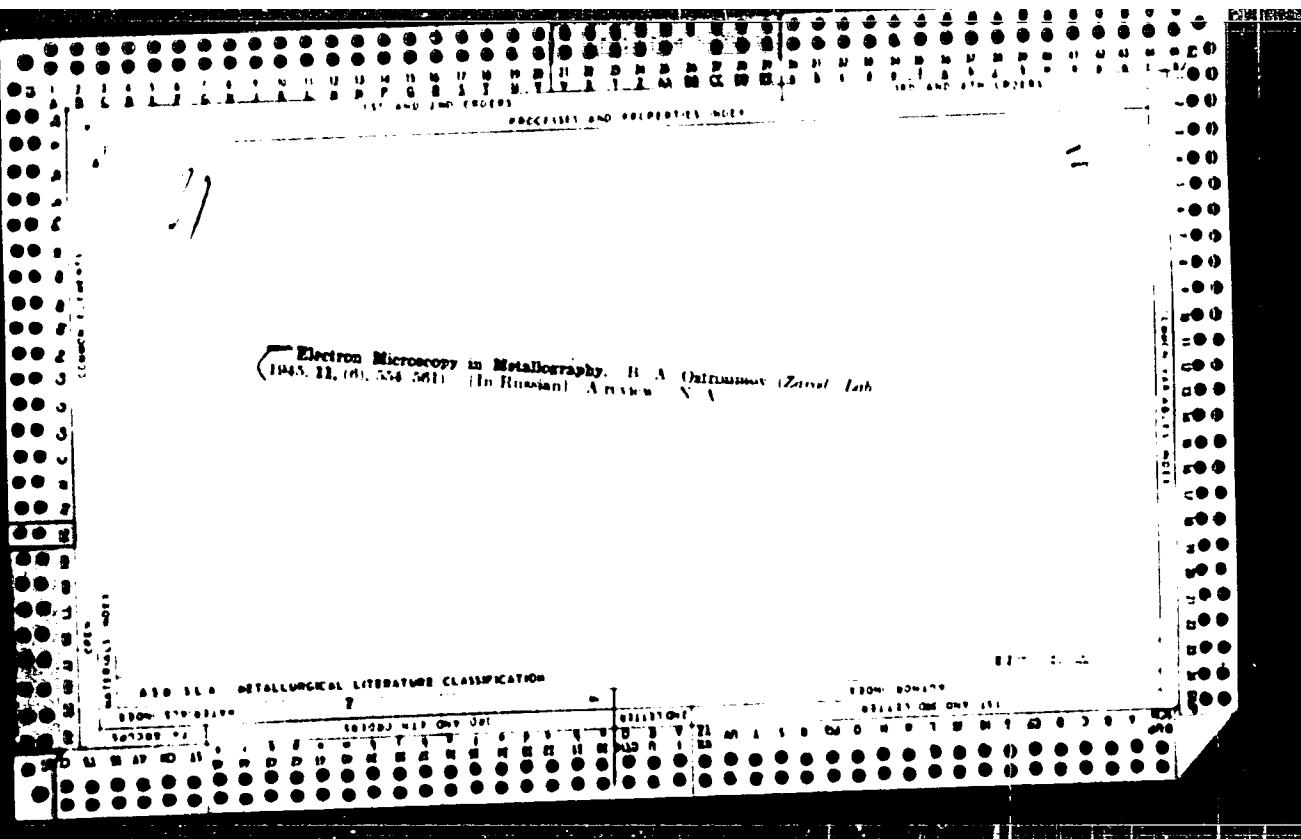
APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001238

2/2
2/2

1470 Piezoelectric Semiconductors [making Use of the
Highly Developed Character of the Ear and the
Extremely High Sensitivity (Not Inferior to that
of the Sense of Touch) of the Nernst-Hall Crystal]
"Ostrumny A Lepashinshaya" (Lepashin, Nester)
(Doklady) 207, Acad des Sci de l'URSS, with Jan
1953, Vol 30, No 2/3, pp 81-84 (in English)

"APPROVED FOR RELEASE: Wednesday, June 21, 2000

CIA-RDP86-00513R001238



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CIA-RDP86-00513R001238

SHEMBEL', B.K.; OSTROUMOV, B.L., prof., red.; YANOVSKIY, B.M., prof.,
otv.red.; DVORAKOVSKAYA, A.A., tekhn.red.

[Studying the equivalent resistance of quartz resonators] Issle-
dovanie ekvivalentnogo soprotivleniya kvartsevogo rezonatora.
Leningrad, Izd. VNIIM, 1948. 56 p. (Leningrad, Vsesoiuznyi nauchno-
issledovatel'skii institut metrologii. Trudy, no.2) (MIRA 11:10)
(Oscillators, Crystal)

KRAMP, L.I.; KUZNETSOV, N.P.; OSTROUMOV, B.A.

Equipment for studies in the infrared regions of spectra. Trudy
VNIIM no.16:23-41 '51. (MIEA 11:6)
(Spectrum, Infrared) (Optical instruments)

LOSEY, O. V., OSTROUHOV, B. (Prof.) SHLYAKHTER, I. (Engineer)

Losev, Oleg Vladimirovich, 1900-1942

Inventor of "crystodine." Radio no. 5, 1952.

9. Monthly List of Russian Accessions, Library of Congress, August ² 1958, Incl.

Category : USSR/Electronics - Semiconductor devices and photoelements

H-0

Abs Jour : Ref Zhur - Fizika, No 1, 1957. No 1/44

Author : Ostroumov, B.A., Roginskiy, V.Yu.
Title : Semiconductor Devices.

Orig Pub : 60 let radio. M , Svyaz'izdat, 1955, 32-10c

Abstract : Survey article on the theory and technology of manufacture of semiconductors and semiconductor devices. The latest types of semiconductor devices such as the laminated transistor with electric-field control and the semiconductor tetrode are briefly described and mention is made of a germanium triode with photoelectric control. The accomplishments of Soviet scientists in the development and application of photocells and photoresistors to radio engineering and automation are mentioned. The advantages of the use of semiconductors in certain circuits are briefly examined.

Card : 1/1

BONCH-BRUEVICH, Mikhail Aleksandrovich, inzhener; PISTOL'KORS, A.A.;
VOLOGDIN, V.P. [deceased]; KUGUSHEV, A.M., professor; BIKITIN, N.A.,
professor; OSTROGINOV, B.A., professor; OSTRYAKOV, P.A., professor
[deceased]; BONCH-BRUEVICH, A.N., dotsent; ZENDEL', P.Ye.,
tekhnicheskiy redaktor

[A collection of works] Sobranie trudov. Moskva, Izd-vo Akademii nauk
SSSR, 1956. 526 p.

(MLRA 9:10)

1. Chlen-korrespondent AN SSSR (for Bonch-Bruevich,M.A., Pistol'kors,
Vologdin)
(Radio)
(Bonch-Bruevich, Mikhail Aleksandrovich, 1888-1940)

OSTROUMOV, B.A.

The V.I. Lenin Nizhni Novgorod Radio laboratory as the cradle of
Soviet radio engineering. Radiotekhnika 13 no. 5:74-80 My '58.
(MIRA 11:6)

1. Deystvitel'nyy chlen Vsesoyuznogo nauchno-tehnicheskogo obshchesh-
stva radiotekhniki i elektrorasyazi im. A.S. Popova.
(Gorkiy--Radio)

Ostrooumov, B. A.,

[Transactions of the] Conference on the Occasion of the SOV/108-13-8-11/12
40th Anniversary of the Nizhniy-Novgorod Radio Laboratory imeni

V. I. Lenin (22-24 May, at Gor'kiy) (Radiotekhnika, 13-8, 71-9, 1958)

K. M. Kosikov reported in short on two important discoveries
of M. A. Bonch-Bruyevich in the field of the propagation of
radio waves (1932-1933).-

A. A. Pistolkors, B. A. Ostroumov, N. N. Izotov, and V. I. Ge
spoke about the Tver' radio station as well as of the Nizhniy-
Novgorod Radio Laboratory.

The participants in the conference visited the laboratory
establishments of the NIRFI at Gor'kiy State University where
they became acquainted with the observations made according to
the program of the International Geophysical Year.

Aboard the motor ship "Ukraina" by which the participants in
the conference sailed to Gor'kiy a readers' conference of the
periodical "Radiotekhnika" was held. It was arranged by the
Chief Editor M. R. Reznikov and the First Editor R.D.Mel'nikova-
kaya. M. R. Reznikov spoke about the activity of the editorial
staff. Ya. M. Sorin (Moscow) stressed the fact that the peri-
odical supplies only little information on the problems
turning up in industry. I. M. Kogan (Moscow) was of opinion
that more articles concerning applied theory should be dealt
with. A. V. Bogdanov (Leningrad) suggested to publish a special

Card ~~✓~~

DOLINSKIY, Ye.P.; AGALETSKIY, P.N.; GAYEVSKIY, N.A; LASSAN, V.L.; OSTROUMOV, B.A.;
SMDLICH, S.A.; STEPANOV, L.P.; YANOVSKIY, B.M.

Metrological activities in the field of mechanical measurements.
(MIRA 11:11)
Trudy VNIIIM no.33:39-59 '58.

1. Rukovoditel' otdela mekhanicheskikh izmereniy Vsesoyuznogo nauchno-
issledovatel'skogo instituta metrologii imeni D.I. Mendeleyeva (for
Dolinskij) (Mensuration)

CIA Reference

3/025/60/000/00/02/00;

18.5100

AUTHOR: Ostroumov, B.A., Professor (Leningrad)

TITLE: Micrometallurgy

PERIODICAL: Nauka i zhizn', 1960, No 8, pp 10 - 16 and 37

TEXT: Professor A.V. Ulitovskiy, N.M. Averin and V.G. Krasil'nikov were awarded the 1960 Lenin Prize for their research into the preparation of thin and super-thin metal filaments directly from the liquid state. Two methods of effecting this were devised: the fountain method and the drawing method. In the fountain method molten metal was forced through a nozzle under a pressure of 4-5 atmospheres of inert gas to form a jet 0.2-0.5 mm thick. This is cooled by air or water to form wire at the rate of 5-15 m/sec. The method has proved successful with aluminum, zinc, lead, brass and aluminum bronze. V.N. Yakovlev and B.A. Ostroumov prevented the wire from knotting into "wool" (caused by air resistance to the jet of metal) by feeding the jet into a tube containing air or inert gas moving at the same rate as the jet. The resultant wire is fed into a revolving metal drum inside which it coils. The wire can be used for reinforcing auto-tires or plastics. The metal jet can be regulated to give a metal powder of even grain

X

Card 1/3

Micrometallurgy

8/025/60/000/08/02/003

size, excellent for metal ceramics. Ulitovskiy was assisted in his work by V.A. Shpirnov, S.D. Bogoslovskiy and staff of the Institut metallurgii imeni Baykova Akademii nauk SSSR (Institute of Metallurgy imeni Baykov at the Academy of Sciences of the USSR). Method II consisted in preparing the wire in a liquid state within a protective envelope of glass. Assisted by engineer Yu. V. Denisov, Ulitovskiy designed a micro-furnace using a high-frequency heater (30 kw/cm³) capable of melting tungsten or molybdenum. A small piece of metal is placed in a glass tube and fitted in the heater. The metal melts and then melts the glass which can then be drawn out into a fine capillary containing molten metal. This is cooled by air or water into fine glass-insulated wire which is wound onto a spool. The thickness can be varied from 2 to 300 microns and more, with insulation 1 micron thick. With a diameter of 50-60 microns and less the wire and insulation is quite flexible, while above this diameter the brittleness of the glass coating can be offset by heating the wire to 400-600°C before use, when the glass becomes quite plastic. The wire can be made of manganese, copper, bronze or iron. N.M. Averin has been successful in developing the technology of wire-drawing from these metals, and several wire-drawing devices have been designed. Ulitovskiy's apparatus, designed at the Institute of Metallurgy at the Academy of Sciences of the USSR, can be seen facing page 16, while a

X

Card 2/3

Micrometallurgy

S/025/60/000/08/02/00:

second device was exhibited at the 1959 Soviet Exhibition in New York. The super-fine wire has made possible the production of miniature transformers, relays and resistances, which can be sealed in glass under a high vacuum to improve their efficiency, reliability and independence from the external medium. Since the glass conducts heat away from the wire quite efficiently the wire can stand temperatures up to 600-800°C, making it useful in devices used in hot furnaces or in the chemical industry. Thanks to this, it can also withstand a 2-3-fold current overloading and is therefore useful in transformers for high-frequency equipment, giving a 4-5-fold saving in size and a 100-fold saving in weight. Using the wire, engineer D.V. Timashev has increased the sensitivity of mirror galvanometers to weak currents 1,000-fold, while Candidate of Technical Sciences B.K. Zavarikhin has designed a galvanometer with a damping period of 0.01 sec, leading to the development of simple and cheap electrocardiographs. The wire gives even, good-quality windings with little danger of a breakdown in insulation. If the winding or coil is heated steadily at 400-600°C, the glass insulation fuses into a homogeneous, well-insulated structure with no need for a form or carcass. There are 4 sets of diagrams.

X

Card 3/3

OSTROUMOV, B.A.

Radio engineering in Russia in the period after A.S. Popov (1894-
1912). Trudy Inst. ist. est. i tekhn. 44:233-256 '62.
(MIRA 18:3)

OSTROUM V, B.A., prof.

The first application of radio in geodesic work beyond the polar circle (1922-1924). Izv. vys. ucheb. zav.; radiotekh. 6 no.3: 320-322 Mj-Je '63. (MRA 16:9)
(Polar regions--Radio in surveying)

Castello, D.

Nizhniy Novgorod Radiolaboratory (Radio-physical Institute) was founded in 1918 by V. I. Lenin personally. It was directed by V. V. Kostylev, later by V. V. Slobodchikov, V. V. Goryainov, V. V. Tikhonov, V. V. Shchegolev, V. V. Kondrat'yev, V. V. Vologdin, V. V. Verbitskiy, V. V. Kostylev, V. V. Zhilinskaya, N. S. Gol'din, and the hydrographer V. V. Patarinov. The following of the local specialists took part in the work: V. V. Patarinov, the first manian radiolaboratory, V. V. Lebedev, and some young students, among them V. V. Kostylev, V. V. Petrov, and V. V. Kondrat'yev. Furthermore there were working: V. V. Kostylev, V. V. Listov, V. V.

Nizhniy Novgorod Radiolaboratory (renamed V. I. Lenin - the 18-15-111
Ministry of Soviet radio engineering)

Chalyarev, V. N., Makovlev, I. N., Bushchuk, 1929 came to them:
others B. A. and G. K. Ostroumov, V. A. Pavlov, A. A.
Strelkov, N. N. Al'kin, V. V. Leushin, I. I. Sloboda,
A. A. Nikolayenko. For the consolidation of the scientific-
technical basis of industry the laboratory was ceded to the
competence of the Supreme **Council of the National Economy** in
1939. The time later it was merged into the Central Radio
Laboratory of the Electrotechnical Trust of **Electronics**
Ministry.

REF ID: Library of Congress

I. Radio engineering--Development--USSR

Card 2 of 2

PREDIL'YEV, Boris Vasil'yevich; GABE, Dina Rufinovna; OSTRUOMOV, B.A., prof.,
otv. red.; VIKHREV, S.D., red. izd-va; ZAMARAYEVA, R.A., tekhn. red.

[Capillary methods of studying micro-organisms] Kepilliernye metody
izuchaniia mikroorganizmov. Moskva, Izd-vo Akad. nauk SSSR, 1961.
534 p.

(MIRA 14:5)

(Soil micro-organisms)

OSTROUMOV, B.A., prof. (Leningrad)

Micrometallurgy. 'Nauka i zhizn' 27 no.8:10-16,37 Ag '60.
(MIRA 13:9)

(Ulitovskii, Aleksei Vasil'evich, 1893-1957)
(Metallurgy)
(Wire drawing)

ACC NR: AP7002973 (A) SOURCE CODE: UR/0413/66/000/024/0069/0003

INVENTOR: Kotrelev, V. N.; Ostroumov, B. D.; Opolovenkov, A. F.; Krasnov, V. A.

ORG: none

TITLE: Method of preparing a chemical composition from fluoroplast 40.
Class 39, No. 189571

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 24, 1966, 69

TOPIC TAGS: plastic, teflon, polytetrafluoroethylene, fluorocarbon ~~plastic resin~~
~~fluoroplastic~~

ABSTRACT: An Author Certificate has been issued for a method of preparing a composition based on fluoroplast-40 (an unidentified fluorocarbon plastic). The technological properties of the composition are improved by adding up to 10% of polytetrafluoroethylene to the fluoroplast-40 during processing. [Translation]

[NT]

SUB CODE: 11/SUBM DATE: 18Dec64/

Card 1/1

UDC: 678.743.41-139

MAKSIMOV, Vasiliy Mikhaylovich, dotsent, kand.geologo-miner.nauk; ASATUR, K.G., dotsent, kand.tekhn.nauk; DAVIDOVICH, V.I., dotsent, kand.tekhn.nauk; ALBUL, S.P., kand.geologo-miner.nauk; PAUKER, H.G., inzh.-gidrogeolog; OSTROUMOV, B.P., gidrotekhnik; ZAYTSEV, I.K., doktor geologo-miner.nauk; TOLSTIKHIN, N.I., prof., doktor geologo-miner.nauk; REZNIKOV, A.A., kand.khim.nauk, starshiy nauchnyy sotrudnik; MERSHALOV, A.F., assistant; VOROTYNTSEV, V.T., dotsent, kand.tekhn.nauk; MARKOV, I.A., dotsent, kand.geologo-miner.nauk; KERKIS, Ye.Ye., dotsent, kand.geologo-miner.nauk; KHITROV, I.N., inzh.-geolog; BOROVITSKIY, V.P., kand.geologo-miner.nauk; RAVDONIKAS, O.V., kand.geologo-miner.nauk; ONIN, N.M., kand.geologo-miner.nauk; BASKOV, Ye.A., inzh.-gidrogeolog; NOVOZHILOV, V.N., dotsent, kand.geologo-miner.nauk; PEKEL'NYY, I.S., inzh.-gidrogeolog; NEVEL'SHTEYN, Yu.G., inzh.-gidrogeolog; BOSKIS, S.O., inzh.-gidrotekhnik; NIKIFOROV, Ye.M., inzh.-gidrogeolog; GATAL'SKIY, M.A., prof., doktor geologo-miner.nauk, nauchnyy red.; DOLMATOV, P.S., vedushchiy red.; GEN-NAD'YEVA, I.M., tekhn.red.

[Hydrologist's handbook] Spravochnoe rukovodstvo gidrogeologu. Leningrad, Gos.nauchno-tekhn.izd-vo neft. i gorno-toplivnoi lit-ry, (MIRA 12:4) Leningr. otd-nie, 1959. 836 p.

1. Vsesoyuznyy geologicheskiy nauchno-issledovatel'skiy institut
(for Reznikov).
(Hydrology)

OSTROUDMOV, B.P.

Electric level recorder for measuring the dynamic water level in
wells. Zap.Len.gor.inst.32 no.2:148-152 '56. (MLRA 10:2)
(Water, Underground) (Electric measurements)

ZHELTOV, P.I., dotsent; OSTROUMOV, B.P.

Instrument for determining the filtration factor in rocks under pressure. Zap.Len.gor.inst.32 no.2:153-155 '56. (MLRA 10:2)
(Hydraulics)

OSTROUMOV, B.P.

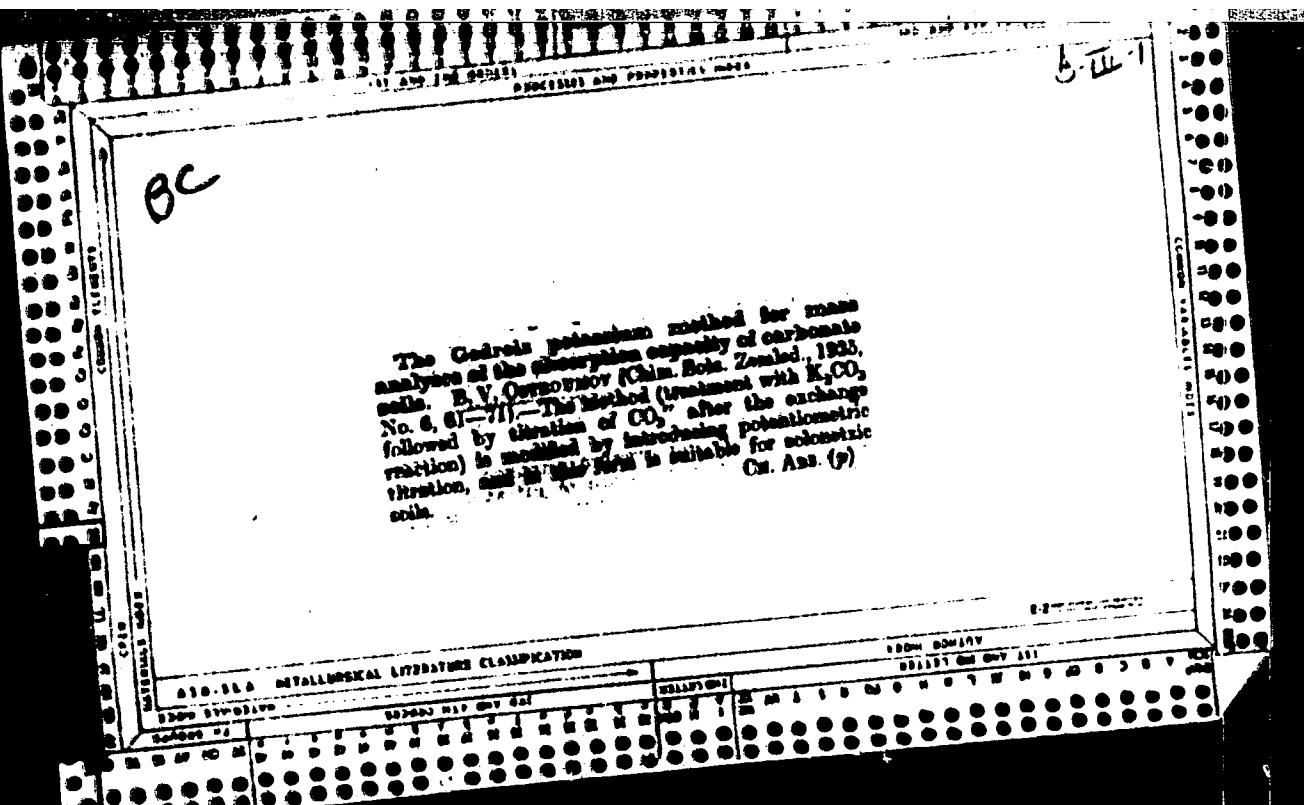
Automatic recording instrument for observations on underground
water levels in bore holes. Zap. LGI 34 no.2:148-153 '58.
(MIRA 12:6)
(Water, Underground) (Liquid level indicators)

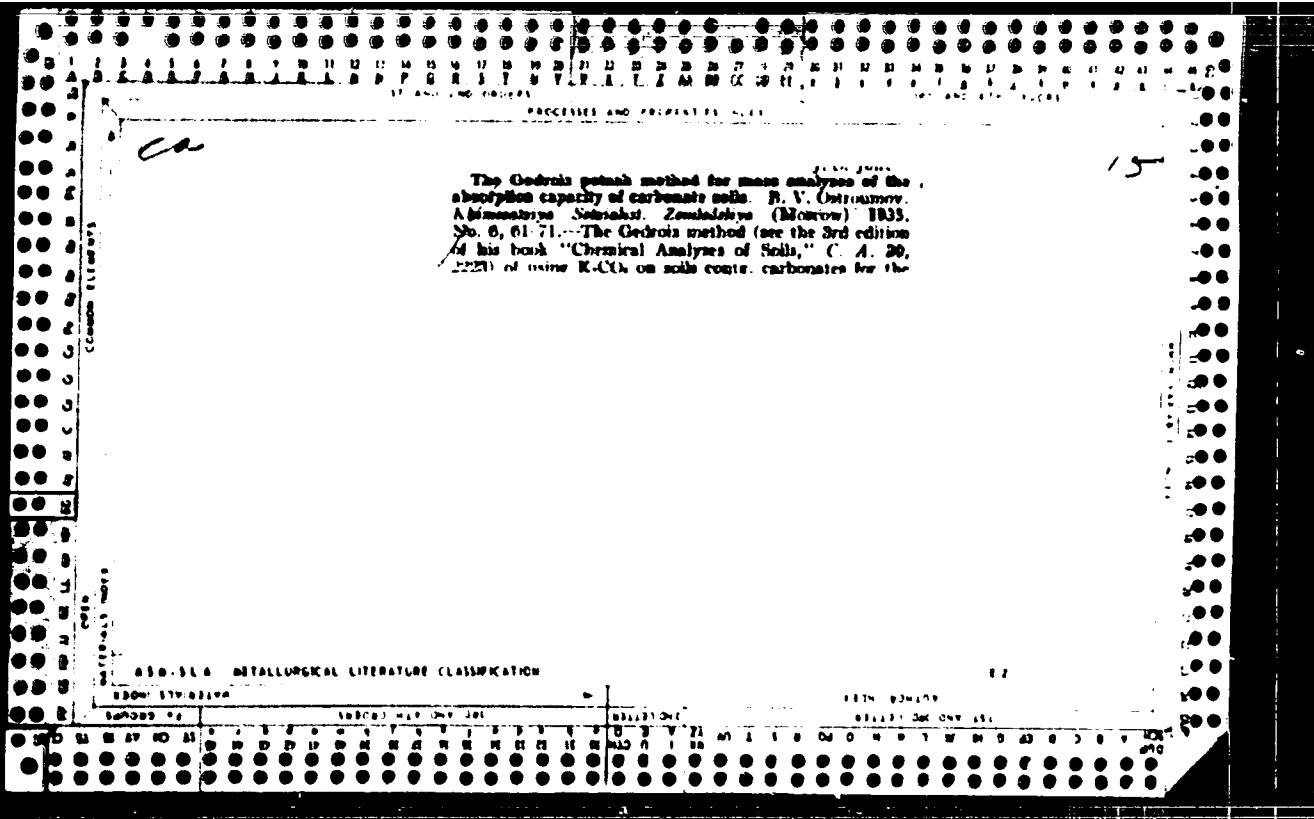
OSTRoumov, B.V. [deceased)

Characteristics of Chernozem meadow soils in the Mayma Valley (Gorno-Altay Province) [with French summary in insert]. Pochvovedenie no.6:110-124 Je '56.

(MLRA 9:10)

(Mayma Valley--Chernozem soils)





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CIA-RDP86-00513R001238

Composition of the tar remaining as a residue after distilling α -naphthylamine in vacuo. V. A. LENKHOLD AND E. A. OSTRUMOV. *J. Chem. Ind. (Russia)* 6, 216-9 (1929). The following substances were found: Fr. oxides, lubricating oil, not more than 6% $C_6H_5NH_2$, together with 1,5-C₆H₄(NH)₂, about 0.12% α -naphthol, about 0.20% α -naphthol. The tar portion which is red in alkali must be analyzed, in it the presence of 1,5-C₆H₄(OH)₂ or of its oxidation product is suspected. B. N.

ASG SLA METALLURGICAL LITERATURE CLASSIFICATION

A rapid method of analysis of radium ores. Yu. A. Chernikov and I. A. Ostroumov. Zasidch. na Lab. 1932, No. 10, p. 11. "Khim. Zhur." 1934, III, No. 8. A simplification of the analysis of Ra ores, especially those from Eniga Monum, is described. M. G. Moiseyev

CA

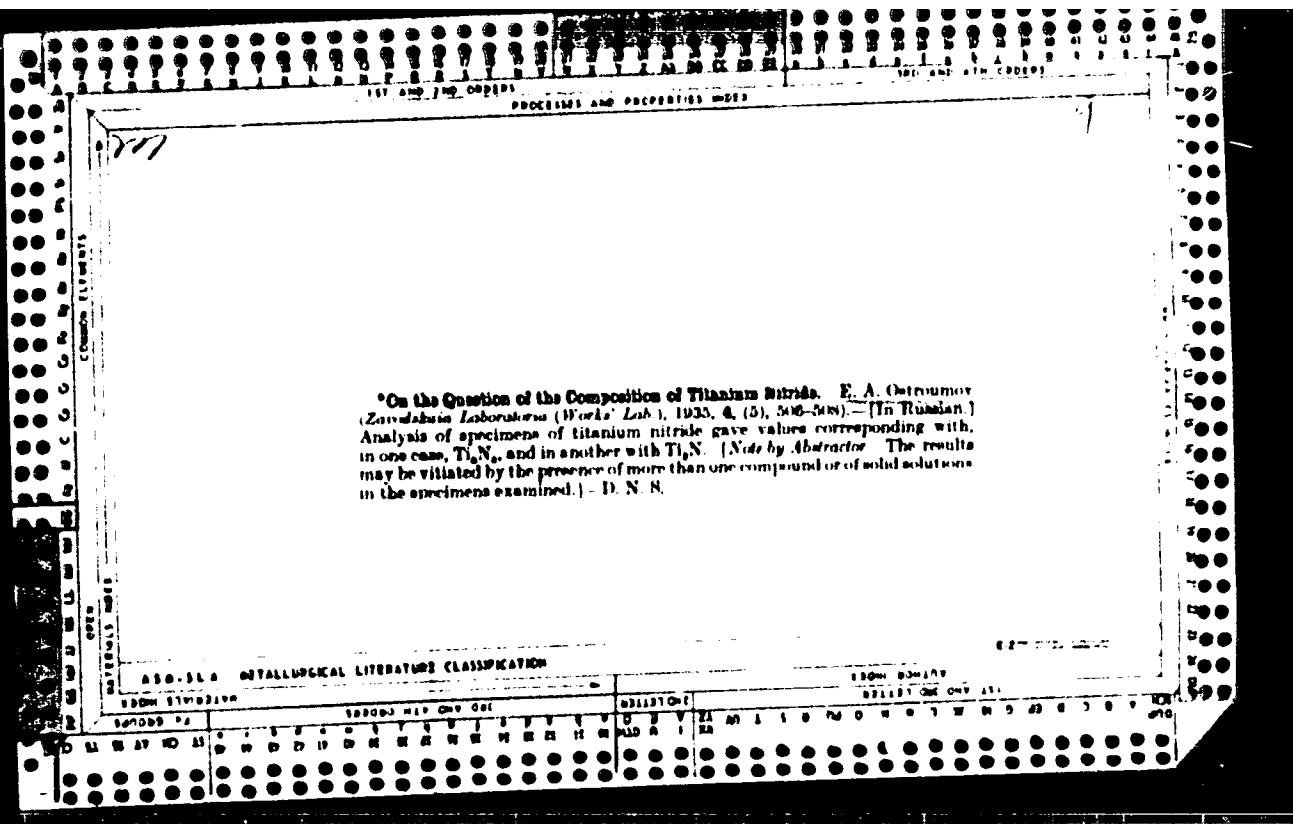
Separation of Beryllium from Aluminum and Iron. E. A. Ostrovskii
(*Russk. Metallofiz. (Russ. Metall.)*, 1933, 8, (6), 25-29). (In Russian). After the separation of $\text{Si}^{(IV)}$ and sulphides the solution is boiled and $\text{Fe}^{(II)}$ is oxidized with bromine. After neutralization with Na_2CO_3 a few drops of HCl are added, and Al and Fe are precipitated with a 3% solution of tannin in a saturated solution of $\text{CH}_3\text{COONH}_4$. The solution to be analyzed must be added to the boiling solution of tannin. The filtrate is evaporated with HNO_3 until it clears and Be(OH)_3 is precipitated with NH_4OH . D.N.S.

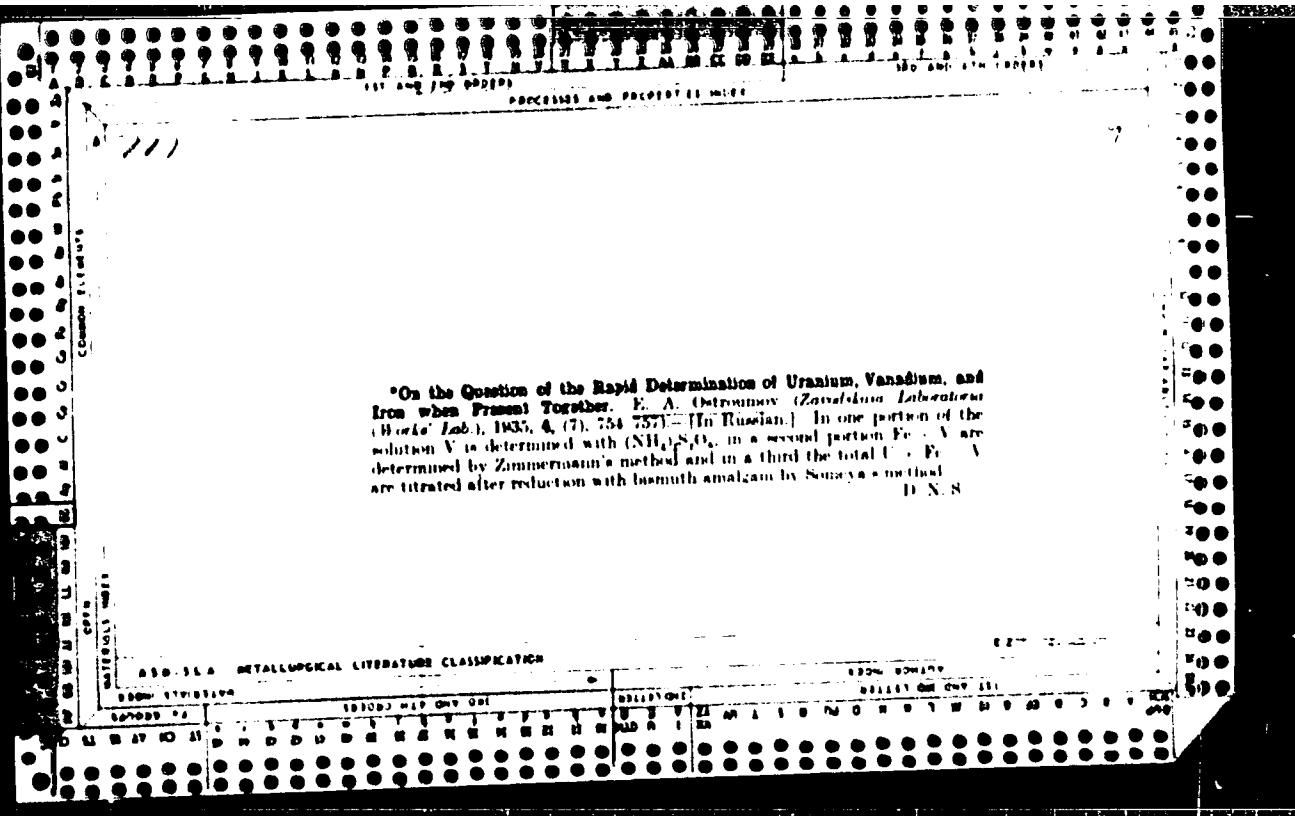
Determination of minute quantities of vanadium in
uranium preparations N. I. Chervyakov and R. A.
Golosovskiy Zavodskii lab. J. RSCA 10(1961) 7

Volumetric data is based on the reaction of V with HCl or
H₂O₂, salt of p-H₂NCH₂COOMe (I) with the formation of
Wurster red. (A similar color reaction is obtained with
p-C₆H₅(NH)₂, Kataoka et al., C. A. 28, 12711c, 27, 1963.)
The color, fugitive in HCl, is stabilized with a large excess
of ac. Fe salts give a similar color reaction and are con-
verted into an effective complex complex with glycerol and
H₂O₂. V was determined in an artificial matrix of 0.2 UO₂,
0.0001 g. V₂O₅ and 0.0012 g. Fe(OH)₃ with an accuracy of
0.0001 g. V₂O₅ or better. Dissolve 0.2-0.5 g. UO₂ in
0.0001 g. V₂O₅ (nitrate or acetate must be converted into
the chloride or sulfate in 10cc H₂O₂, add 3-5 drops of 50%
HCl, 0.5 cc. H₂O₂, 40cc. ac (or more), 3-4 cc. glycerol,
mix (dissolve any turbidity with a min. of HCl), add 1 cc
of 0.5% I and compare with the standard with prep. in
the same way with c. p. UO₂Cl₆ by adding a titrated soln
of V(ck) until the 2 colors match. Chas. Blaw

The nature of the selenium compounds in the anode sludge in electrolytic copper refining. R. A. Chitrapure, Zemelkaya, Lab. 3, 1957-9(1954).—The total Se in the sludge was detd. by a method similar to that of Bruckner (C. A. 28, 681). The tests for free Se were made by extn with CS₂ and oxidation with HNO₃. Selenites were detd. by extn. the sludge with NH₄OH, pptg. Ag with HCl and repeatedly pptg. Se with Fe(OH)₃ (Bradwell). The selenides were detd. in the extn residues from the preceding detn. by oxidation of Se with 60% HNO₃ to H₂SeO₃ and proceeding as above. The analysis showed that the sludge contained Ag 0.22, Cu 0.12, As 0.87%, and no free Se.

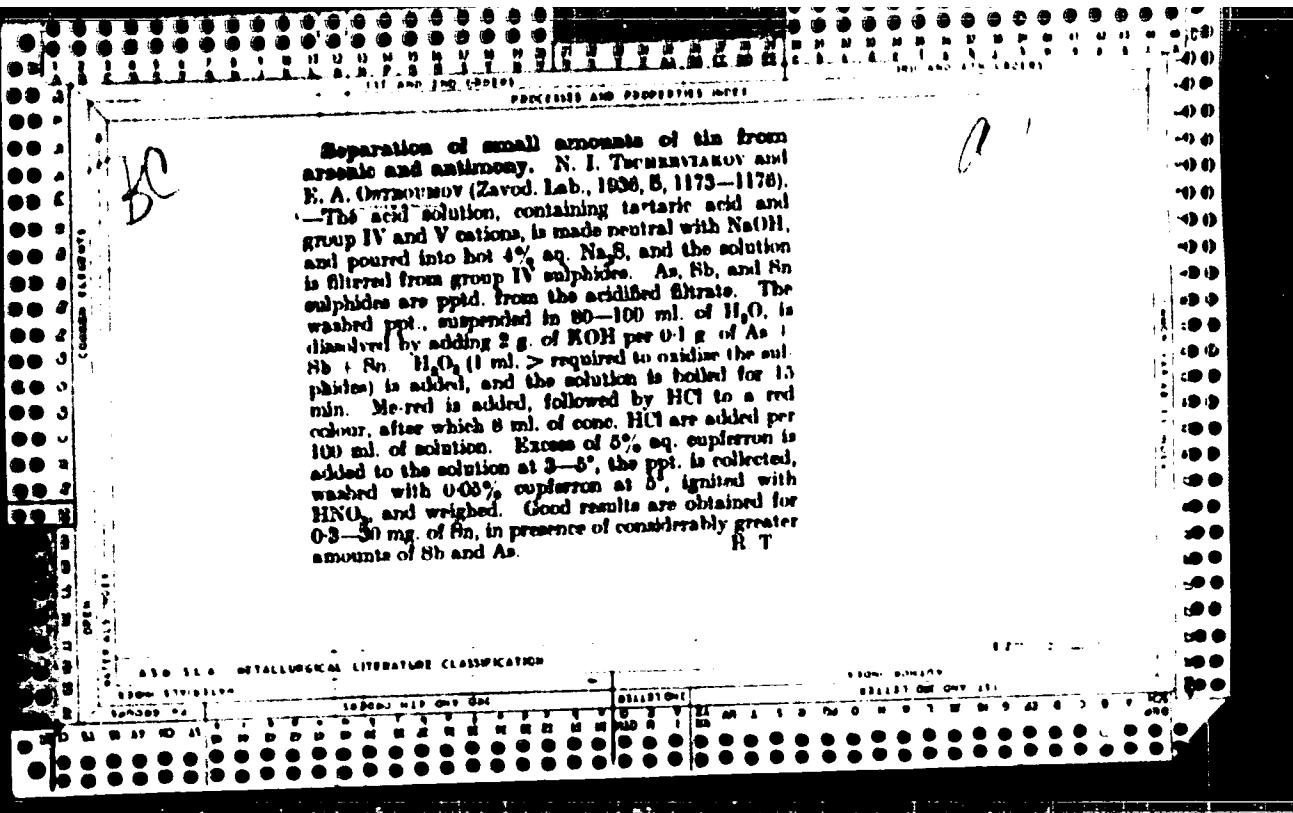
Separation of calcium from strontium and barium
Chesnakov and E. A. Ostrigunov. Zavodskaya Lab.
DVI. 3-1956. Various attempts to effect quantitative separation of Ca from Sr and Ba with Kifer's CN₃ by the method of Macchini (C. A. 22, 2120), gave unsatisfactory results. Chas. Blans.





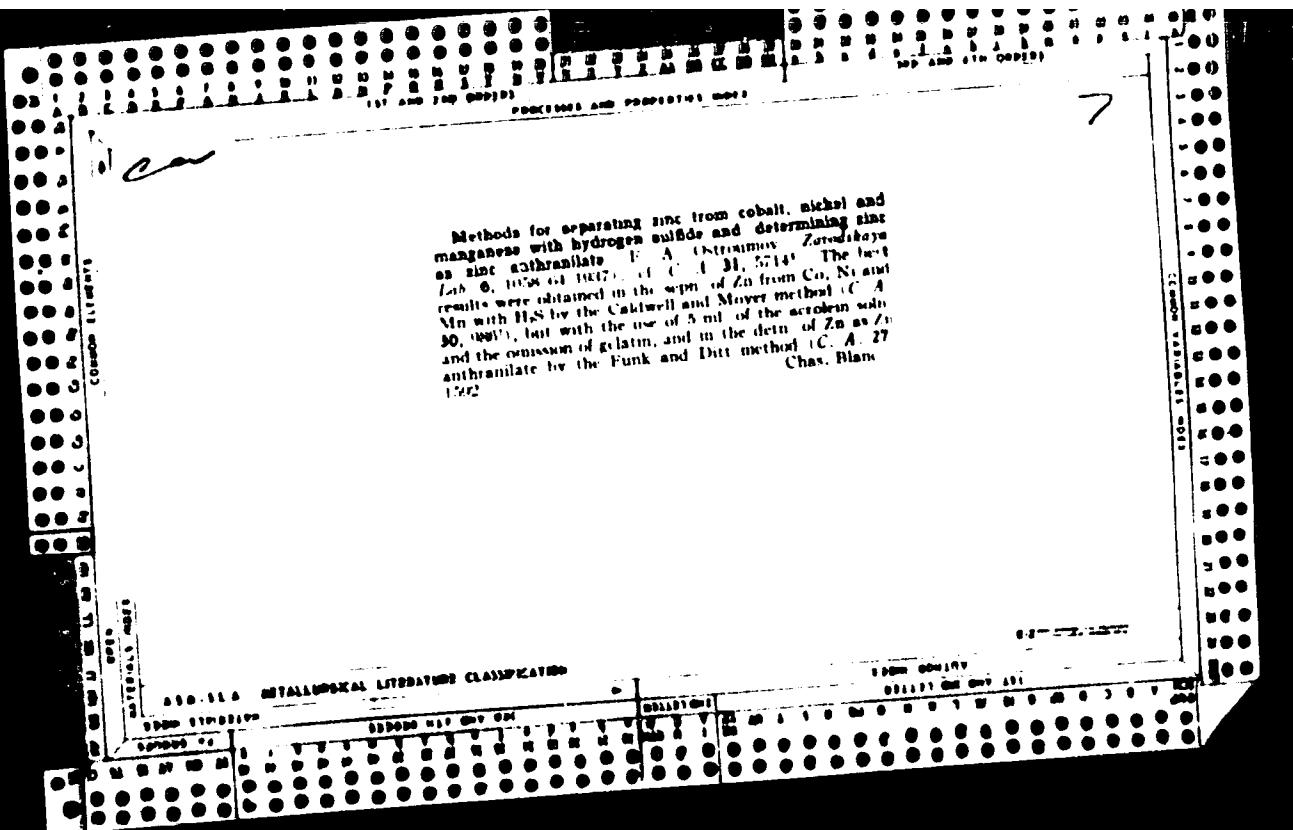
1777
9

*On the Separation of Bismuth from Lead and Copper. E. A. Ostryumov (Zavodskie Izbraniya (Works' Izbr.), 1935, 6, (9), 1016 (1936). [In Russian.] The following methods for separating Bi from Pb were studied with synthetic mixtures: (1) hydrolysis of the Bi salt with (a) $K_3[Fe(CN)_6]$ and $K_3[Cr_2O_7]$; (b) $HgCl_2$, Na_2S ; (2) precipitation with pyrocalcite; (3) precipitation with cupferron. Method (1a) was the most reliable and method (1b) the least satisfactory. Method (2) can also be used for separating Bi from Cu; good results are also obtained by converting the Cu into a cyanide complex and precipitating the Bi with alkali. The basic carbonate method is unsatisfactory - D. N. R.

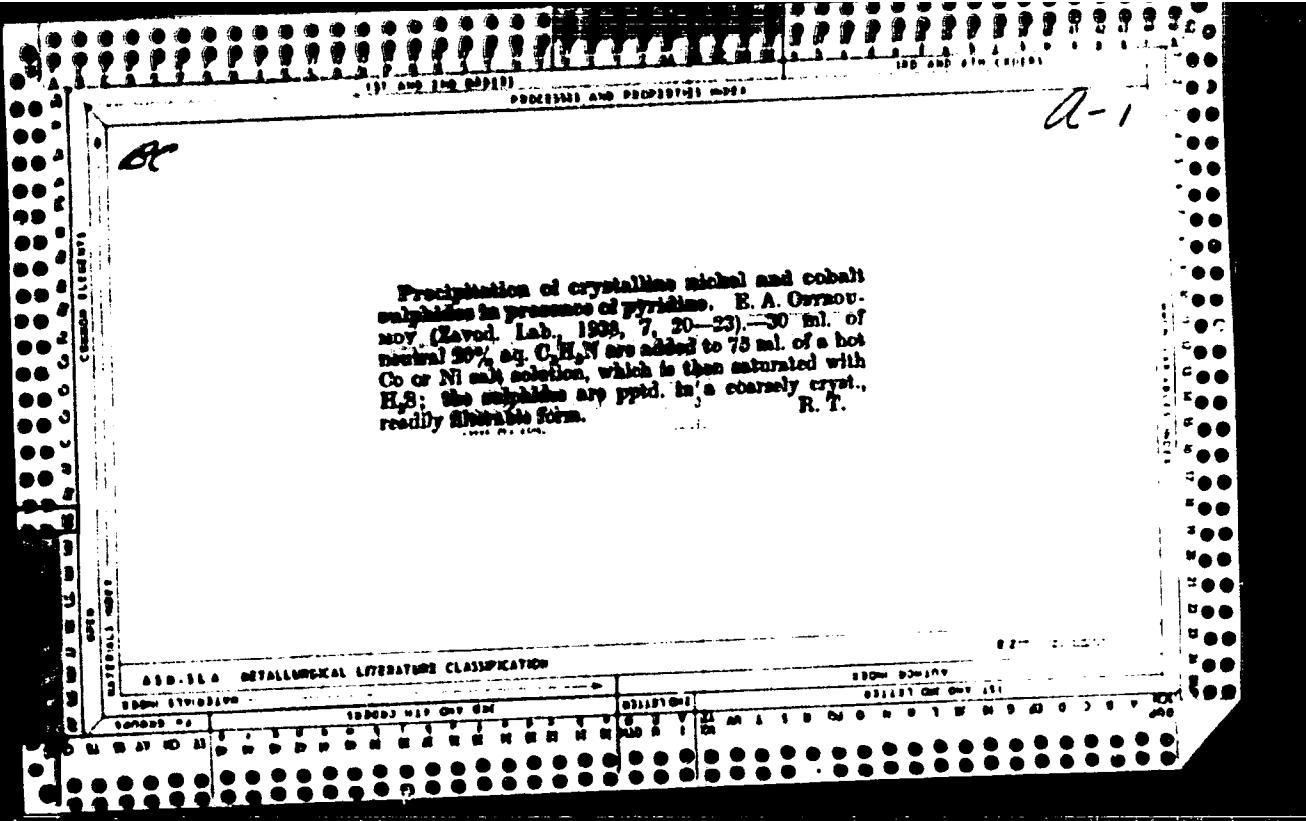


Separation of iron, aluminum, chromium, uranium, niocium and titanium from manganese, cobalt, nickel, magnesium, alkaline earth metals and alkalies by means of pyridine. A. I. Stepanov. Izvestia Akad. Nauk SSSR, No. 1, p. 30, 1949. In the aqueous solution of 0.1 g. of Fe, Cu, Al, Zr and Ti with excess pyridine, the hydrolysis of Zr and Ti with the formation of highly dispersed basic salts is eliminated in the presence of 5 to 10% NaCl for every 100 cc. of the solution. The procedure effects a good sepn. from Mn, Co, Ni, alk. earth metals and alkalies.

7



Precipitation of crystalline nickel and cobalt sulphides in presence of pyridine. E. A. Gor'kovoy. (Zavod. Lab., 1939, 7, 20-23).—30 ml. of neutral 20% aq. C_6H_5N are added to 75 ml. of a hot Co or Ni salt solution, which is then saturated with H_2S ; the sulphides are pyrid. in a coarsely cryst. readily filtrable form. R. T.



Separation of cobalt and nickel from manganese. E. G. Chernov and O. S. Mademukova. *Zh. neorg. khim.* 7, 207 (1938). In the modified procedure Co and Ni can be completely separated from Mn by precipitation with HgS in the presence of pyridine-HCl instead of pyridine alone. A neutral or slightly acid solution (250 ml.) is treated with the addition of pyridine-HCl (5 ml.) of concd HCl in 20-5 ml. H₂O neutralized with pyridine to methyl red. The hot solution is then treated with 5-10 ml. of 20% pyridine and a HgS current for 10-15 min. The crystallized CoS and NiS are filtered from the sol. Mn-pyridine complex and are dried as before. Chas. Blau.

Precipitation of manganese in a crystalline state by hydrogen sulfide in the presence of hexamethylenetetramine. E. A. Otrroumov. Zneshchaya Lab. 7, 123-7 (1980). If a slightly acid soln is treated with 2 g hexamethylenetetramine (for max 0.5 g. Mn) and then the soln at pH 7 is added with H₂S, an orange-red ppt. of MnS is obtained which is easily filterable. The MnS can be calcined and analyzed by any known method. Alkalies and alk. earths are detd. in the filtrate from MnS. In the analysis of ores Co and Ni are pptd. as sulfides with pyridine and H₂S (C. A. 32, 6881) and the filtrate is used for detg. Mn after the pyridine is driven off. Chav. Blanc.

CH

Precipitation of uranium with hydrogen sulfide in the presence of urethane. I. A. Chernenkov and R. I. Bakhstein. Zavodskaya Lab. 6, 555-61 (1960). Heat 100 ml. of nearly neutral UO_2Cl_2 soln. in a 250-ml. flask to 60°, add 2 g. of $(\text{CH}_3)_2\text{N}_2$ and pass in H_2S for 15 min. and then for 15-20 min. more with the flask on the hot plate. Shake frequently, cool, allow the ppt. to settle for 15 min., filter, wash with 3% NH_4NO_3 soln. 2-3 drops of NH_3 , 250 ml. and ignite to UO_3 . For weighing of UO_3 NH_3 250 ml. and ignite to U_3O_8 . The red ppt. in the sample the results showed 0.0401 g. The red ppt.

is believed to be $\text{U}(\text{NH}_3)_6\text{O}_2\text{S}$. It does not contain NH_4S and shows negligible adsorption. The reaction can be used to separate from U , Mg and alkalies with satisfactory results. (I. Z. Kondratenko)

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"Separation of Bismuth from Lead, Copper, and Cadmium with the Aid of Pyridine. V. A. Istroumov (Zavod. Lab. (Works' Lab.), 1939, 8, 1226-1229, C. A., 1940, 34, 5770). [In Russian.] The separation is based on precipitation with a mixture of pyridine and its nitrate. Heat 100 ml. of the solution containing Bi, Cd, and Cu to about 10° C. and neutralize gradually with 10% NH₃. Then add concentrated HNO₃, dropwise until the solution is clear, add 6-8 grm. NH₄NO₃, heat to boiling, remove from burner, and while shaking add dropwise 20 ml. of the reagent, which is prepared by mixing 20 ml. of 6N HNO₃ or 15 ml. 8N-HNO₃ with 34 ml. pyridine, and diluting to 100 ml. Heat to boiling, allow to settle for 30-40 minutes, and filter without cooling. Wash the precipitate with a hot solution of 3% NH₄NO₃ containing 1% by volume of the precipitant. Dissolve the precipitate in hot 6N-HNO₃ diluted with an equal amount of water, collect in a Pt cup and evaporate to dryness on a water bath. Moisten the residue with 1-2 ml. water, add 8-10 drops of 10% NH₃, and evaporate to dryness. Repeat this process so that the pyridine is completely removed. Ignite gradually and weigh as Bi₂O₃. If less than 0.1 grm. Pb is present it is not necessary to reprecipitate the Bi. The method gives good results."

A54-51-A METALLURGICAL LITERATURE CLASSIFICATION

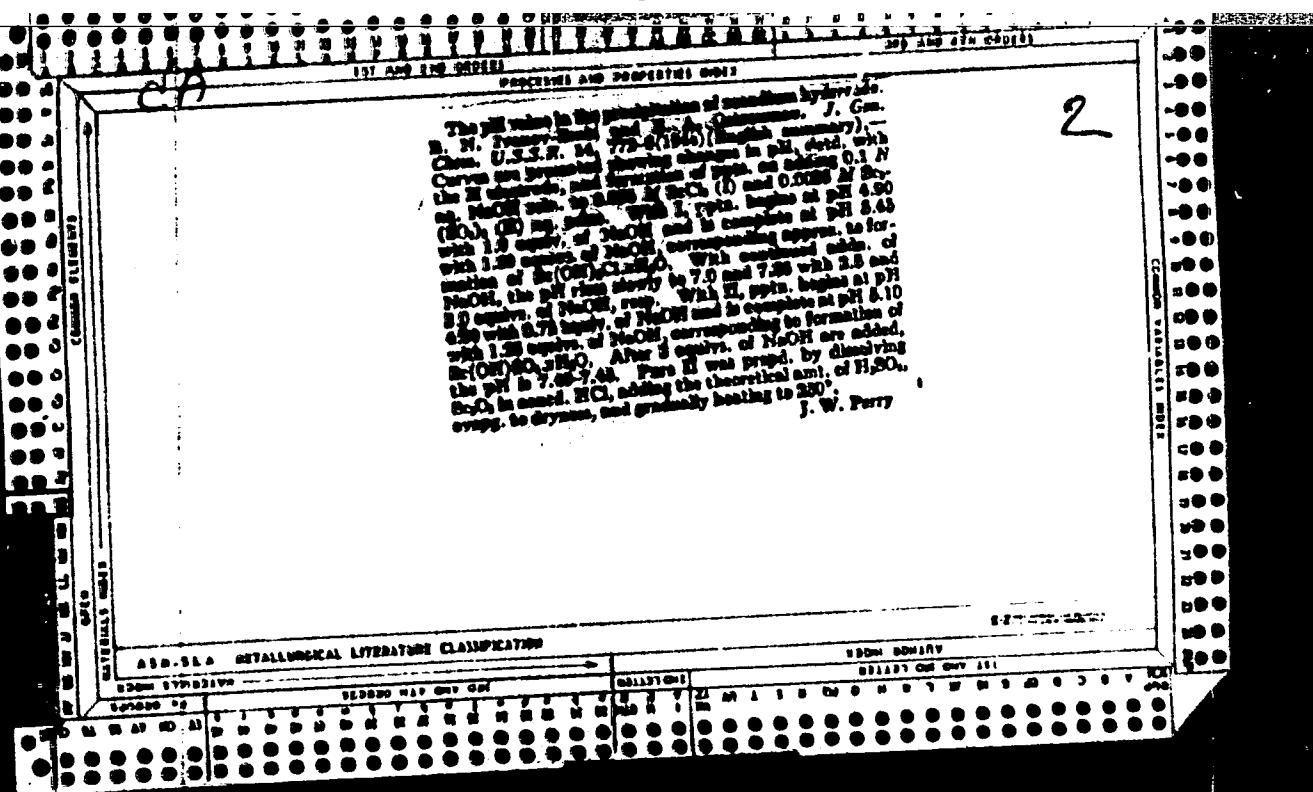
ca

New method for separating ions of the third group from calcium, magnesium and alkali ions by means of hydrogen sulfide in the presence of hexamethylene-triamine. P. A. Ovchinnikov and N. I. Romashina. Zavodskaya Lab. 9, 132-142 (1940). — The report is based on the pptn. of sulfides in the presence of $(CH_3)_6N_3$ in a soln. of gradually increasing pH. The sample should contain not over 0.6-0.8 g. of the third group elements calc'd. as oxides. Add 20-25 g. NH_4Cl , neutralize with NH_3 to cloudiness, dissolve the ppt. with a few drops of HCl , and dil. to 150 ml. Add macerated paper pulp, beat to 60°, add dropwise, while shaking, 6 ml. of pyridine hydrochloride, and introduce H_2S . After 10-15 min. add dropwise, while shaking, 35 ml. of a 20% $(CH_3)_6N_3$ soln., transfer to a hot plate and continue passing in H_2S for 45-60 min. without boiling. Remove from the hot plate and pass in H_2S until the soln. has cooled to room temp. Filter and wash with slightly ammoniacal 3% NH_4NO_3 . Acidify the filtrate with HNO_3 to methyl red and evap. to 20-25 ml. Destroy the org. matter with HNO_3 , dil. with water and det. the Ca and Mg in the usual manner. Det. the alkalies as sulfates by evapg. with H_2SO_4 ; after the org. compds. have been destroyed. The method is useful for the analysis of Mn oxes and similar products. B / K

New method of precipitating metal sulfides with aqueous hydrogen polysulfide. E. A. Chernousov and G. S. Alyashevskaya. Znaniye, 1969, 5(2), 21-1940. Add 5 ml. hydrochloric acid to each 100 ml. of chloride or sulfate solution of the metals, some filter paper, and 0.1M polysulfide. Stopper and shake strongly. Remove the stopper, heat on an electric plate with frequent shaking without bringing to boiling. Filter, wash with cold water and separate the metals by the usual methods. The point of ignition of As is very low and it is preferable reduced to the divalent state with $S_2O_3^{2-}$. In the presence of Mn it is advisable to make the soln. more acid and to increase the length of heating to 1.5-2 hrs. After the separation of the sulfide of Mn the soln. should be diluted to precipitate the other sulfides. The sulfides thus obtained can be washed with dried water.

D. Z. Kamich

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The chemistry of aluminum. I. The pH value in the precipitation of aluminum hydroxide. B. N. Ivanov-Zakharov and E. A. Chukhareva. *J. Russ. Chem. U.S.S.R.* 16, 777-787 (1941) (Russian summary).—Curves are presented showing changes in pH, color, with titration (cf., C. A. 35, 3850), and formation of precip. on adding 0.1 N aq. NaOH soln. to 0.0008 M $\text{Al}(\text{ClO}_4)_3$ and 0.0008 M $\text{Al}(\text{SO}_4)_2$; (2) soln. to 0.0008 M $\text{Al}(\text{ClO}_4)_3$ and 0.0008 M $\text{Al}(\text{SO}_4)_2$. WH II, paper, begins at pH 3.70 with 0.4 equiv. of NaOH and is complete at pH 6.70; pH 6.70-6.73 with 0.7-0.8 equiv. of NaOH. These data do not indicate formation of a basic salt of aluminum oxoacids. After adding 3.0 equiv. of NaOH, the pH is 7.30-7.40. WH II, paper, begins at pH 3.37-3.40 with 0.30 equiv. of NaOH and is complete at pH 3.75 with 1.00 equiv. of NaOH which corresponds approx. to formation of the ppt. $\text{Al}(\text{OH})_3 \cdot \text{H}_2\text{O}$ as was confirmed by analysis of the ppt. WH II, paper 7.14 is reached on adding 3.0 equiv. of NaOH. The close similarity between the behavior of In and Al salts toward NaOH is pointed out. J. W. P.

2

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001238

RECORDED AND INDEXED BY [initials]

Separation of iron, aluminum, and chromium from zinc by means of pyridine E. A. Ostromov and R. I. Romanova Zavodskaya Lab. 11, 146 (1945) It was found possible to effect a satisfactory separation of Fe from Zn by a double pptn. of $\text{Fe}(\text{OH})_3$ in a soln made basic by means of the dropwise addition of pyridine to the boiling hot, nearly neutral, soln. In the filtrate the Zn was pptd as ZnS in a soln contg CH_3COO^- also buffered with NaAc . The ZnS ppt was heated to oxide and the Zn dectd as orthovanadate. Somewhat less-satisfactory results were obtained in the same way from a soln contg $\text{Al}_2(\text{SO}_4)_3$ and ZnCl_2 , but in the case of $\text{CrCl}_3 + \text{ZnCl}_2$ the results were unsatisfactory unless the boiling soln contained about 20% of NH_4Cl . M references. W. R. Henn

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Analysis of anhydrous aluminum chloride. E. A. Ostrovskaya and B. N. Ivanov-Kim. *Zemstvoskay Lab.* II, 27-92 (1945).—To prep. a sample for analysis, take 12 g. of AlCl₃ and hydrate carefully by adding 30 ml. of concd HNO₃ + water to make one l. After 24 hrs. repeat this treatment and in 48 hrs. the sample should be all dissolved. Of the solution soobt., take 30 ml. and ppt. Fe(OH)₃ with the usual precautions by NH₄OH in the presence of NH₄Cl. Dissolve the Fe(OH)₃, ppt. in HCl and titrate the Fe by the Zimmermann-Reinhardt procedure. If less than 0.3% Fe is present, the colorimetric detn. with salicylic acid is preferred. To det. Ti, first remove any alkali salt by the usual evapn., neutralize, filter, wash with hot dil. HCl and ppt. the Al, Fe, and Ti with NH₄OH as hydrated cubane. Burn the ignited ppt. with K₂MnO₄ and in the dil. H₂O₂, eat. of the melt the Ti with Na₂C₂O₄. The Al content from the wt. of the Pech. + Al(OH)₃ TKA, ppt. after deducting the Fe and Al contents. Det. Cl⁻ in the original soln. by the Volhard titration after adding excess AgNO₃ and filtering off the AgCl⁺. A method for detg. the quantity of hydrated AlCl₃ and suitable apparatus are described. The procedure is based on the fact that the anhyd. AlCl₃ is completely volatilized by heating in a current of dry air at 200-300° but the hydrated chloride forms a taut salt on being heated, and is not volatilized. W. R. Hinman

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7

RECEIVED AND INDEXED 1961
Precipitation of beryllium hydroxide by means of α -picoline. E. A. Ostrovskiy and B. N. Ivanov-Emin. Ral'skii Provincialno-Vsesoyuznyi Inst. Metal'noy Sverdy (V.I.M.S.). Zarudskaya Lab. No. 11, 380-01. 1945. —The pptn. of $\text{Be}(\text{OH})_2$ by means of α -picoline can be used for the quant. sepn. of the Be from Mn, Co, Ni, and Zn (which form complexes with α -picoline), and from Ca, Sr, Ba, Mg, and bases. Neutralize 150-200 ml. of the soln. with NH_3OH (adding it dropwise with const. stirring until a slight turbidity appears, which is removed by addn. of 2-3 drops of 10% HCl); add 8 g. of NH_4Cl (in the presence of Zn the quantity of NH_4Cl added should be approx. 0.15 g./ml.) and several drops of methyl red. Heat the soln. to boiling, add dropwise with stirring enough of 20% α -picoline soln. to change the color of the indicator to yellow; then 10-15 ml. more, cover the beaker with a watch glass, heat the soln. to boiling, transfer the beaker to a water-bath for approx. 20-30 min. (to precip. the ppt. to settle and coagulate), filter the soln. while hot, wash the $\text{Be}(\text{OH})_2$ ppt. with hot 3% NH_4NO_3 contg. several drops of 20% α -picoline soln. Be is sepd. by a single pptn. In the presence of very large quantities of Zn, Mn, Co, and Ni, for a complete sepn. dissolve the $\text{Be}(\text{OH})_2$ ppt. in 10% HCl and repeat the pptn. as described. Dry the $\text{Be}(\text{OH})_2$ ppt., ignite it in a Pt crucible at 1000-1000°, cool, and weigh as BeO . The cations remaining in the filtrate can be sepd. by methods described previously. Three references. W. R. Hamm.

Separation of indium hydroxide by means of pyridine
L. A. Ostromoukh and B. N. Ivanov-Kunn Zvezdochka 20% pyridine soln, dry and ignite in a porcelain crucible.
Lub. 11, 1944-42 (1945). Pyridine can be used to sep. and weigh as In(OH)₃. The method proposed can be used in
quantitatively from its salts as In(OH)₃, which loses analytical chemistry, in org. chemistry, and in the
part of its water on heating and is transformed into a prep. of pure In compound. Four references. W.R.H.

from page 2

Pyridine in the presence of Mn, Co, Ni, Zn, Cd, and Cu
leads to the formation of mixed ppt consisting of
hydrates of these metals and of In(OH)₃. This is explained
by the equal between the ionic radius of the bivalent metal and
its pyridine complex. It is possible to sep. In from the
metals mentioned in the form of In(OH)₃ by displacing the
equal in the direction of the formation of the pyridine complex by the addition of NH₄Cl. The method proposed can
be used to sep. In from Ca, Sr, Ba, Mg, etc. Neutralize the soln. of chlorides by adding dilute H₂O₂ drops
at a const. mixing until slight turbidity appears,
dil. the turbidity with 2-3 drops of dilute HCl, add water
to approx 150 ml., 15 g. of NH₄Cl (10 g. of NH₄Cl per
each 10 ml. of soln.), and some macerated paper, heat
the soln. to boiling, add 20% pyridine in the presence of
methyl red, mixing constantly until the color changes to
yellow, add an additional 10-15 ml. of pyridine, cover the
beaker with a watch glass, heat the soln. to boiling, keep
it on a water bath for 1.0-1.5 hrs. to coagulate the ppt
(rapid boiling the soln.), filter while hot, and wash the
In(OH)₃ ppt with hot 20% NH₄Cl contg. several drops of
20% pyridine soln. Repeat the result for a more complete
sepn. of In(OH)₃. Dissolve the residue on the filter
with hot dilute HCl, wash with hot water, cool, neutralize
with NH₄OH until a turbidity appears, dissolve it with
2-3 drops of dilute HCl, and repeat the sepn. as previously.

<i>CIA</i>		PROCESSES AND PROPERTIES INDEX																			
<p>Separation of gallium hydroxide by pyridine. B. N. Ivanov-Kunin and K. A. Ustremova, Zavodskaya Lab. 12, 674-8 (1960). Pyridine ppts. quantitatively Ga(OH)₃, which on heating loses part of its water, and is transformed into an almost insol. form. A small excess of pyridine and considerable amounts of NH₄ salts do not increase its solv. to any considerable degree. In the presence of salts of Mn, Cu, Na, Zn, Cd, and Cu, pyridine ppts. Ga(OH)₃ contaminated by these metals, owing to a partial formation of gallates, especially with Cu, Zn, and Cd. In the presence of large amounts of NH₄Cl it is possible to sep. nearly pure Ga(OH)₃ in one pptn. The method can be used not only for analytical purposes, but also to prep. high-purity Ga compds., and to sep. Ga from alk. earth metals, Mg, and alk. metals. To an acid soln. of a Ga salt contg. Mn, Cu, Na, Zn, Cd, or Cu add with const. mixing dil. NH₄OH until a slight turbidity is formed; dissolve by adding several drops of dil. HCl, add approx. 15 g. of NH₄Cl, bring the vol. to 150 ml., add some uncreased paper, heat to boiling, add methyl red indicator and 20% pyridine soln. (dropwise with mixing) until the color changes to yellow, heat liquid with the pptn. to boiling, let stand for 3-4 hr. at a temp. close to boiling (owing to evapn. of pyridine the color of the soln. changes to red and therefore, during the pptn., pyridine soln. sufficient to change the color of the indicator should be added). Filter, wash the pptn., dissolve in HCl, and measure the color produced with a suitable reagent (Mn with (NH₄)₂SeO₄, Cu and Na with dimethylglyoxime, Cu with pyridine thiocyanate). The pyridine carbamate complexes of Zn and,</p>																					
especially, of Cd (general formula [MPy ₃]Cl ₂) are slightly sol. in the cold, and therefore the liquid should be kept warm during the filtration and the pptn. washed with hot 2% NH ₄ NO ₃ . In the washed pptn. Zn and Cd are detd. spectroscopically. The sepn. of Ga from Zn and Cd is so nearly complete that no reppn. is required. Addn. of NH ₄ NO ₃ to the soln. also results in the formation of pyridine complexes of greater solv., and the sepn. of Ga from Zn and Cd is less nearly complete; complete sepn. requires reppn. The alk. earth metals and Mg form no gallates under the conditions of Ga(OH) ₃ formation by pyridine, and they can be sepd. completely from Ga. Ga can be sepd. also from K, Na, and Li. W. R. Henn																					
APPENDIX METALLURGICAL LITERATURE CLASSIFICATION																					
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Separation of thorium hydroxide by means of pyridine.
E. A. Chumakov and S. Beruch'yan. *Zerodibaya Lab.*,
12, No. 2 (1960). To the acidic soln add NH₄Cl or NH₄
NO₃, neutralize with NH₄OH until slight permanent
turbidity is produced, dissolve this with a little HCl, heat
to boiling and add 20% pyridine soln until added methyl
red indicator soln turns yellow. The presence of SO₄²⁻
interferes owing to the formation of sol. double salts such
as (NH₄)₂Th(SO₄)₂, but this error is in some cases overcome
by adding considerable NH₄Cl. Pptn of Th(OH)₃ by
pyridine is often advantageous in sepr. Th⁴⁺ from many
bivalent cations. W. R. Henm

OSTROV'OV, E. A. Dr. Tech. Sci.

Dissertation: "New Methods for Investigating the Composition of Mineral Raw Materials Using Organic Bases." All-Union Sci. Res. Inst. of Mineral Raw Materials, 2 Jul 47.

SC: Vechernyaya Moskva, Jul, 1947 (Project #17836)

OSTROUMOV, E. I.
OSTROMOV, E. A.

"New Methods for Investigating the Composition of Mineral Raw Materials
Using Organic Bases." Sub 2 Jul 47, All-Union Sci Res Inst of Mineral Raw
Materials. In Technical See

Dissertations presented for degrees in science and engineering in Moscow
in 1947

SO: Sum No. 457, 18 Apr 55

Separation of cerium from rare earths by the bromate-pyridine method. P. A. Chiriacov. *J. Russ. Chem. Soc.*, 18, 111-117 (1947). Ce can be separated quantitatively from other rare earths as a basic bromate in a min. buffered with pyridine and pyridine-HCl. Evap. the min. in 2.8 ml. of HCl, add approx. 100 ml. of hot NaOH, and 0.3 g. of NaBH₄ (to oxidize Ce⁴⁺). Stir, cover with a watch glass, and boil carefully on a hot plate, adding hot NaOH from time to time as it evaporates. Boil for 30-45 min., until the color of the vanishes. Remove from the hot plate, add 1 g. of NaBH₄, mix, and repeat the above boiling five approx. 1 hr. Remove from the hot plate, and after 3-4 min., add N HCl + 20 ml. water + 25 ml. of pyridine + 35 ml. of water. Let stand overnight, filter, and wash the ppt. with cold H₂O; basic Ce bromate is ppd. quantitatively. Treat the ppt. with 80 ml. of a hot, 10% oxalic acid soln., add 0.8-1.0 g. more of oxalic acid, and boil for 30-45 min. to complete the conversion of bromate to oxalate. Dil. the mix. to its original vol. and keep overnight. Filter, wash with dil. oxalic acid soln., ignite, and weigh as CeO₂. Excellent results were obtained. M. Howch

Determination of pyritic sulfur in the presence of sulfides - A. V. Arshinov and B. N. Ivanov. *Zhur. Akad. Nauk. SSSR*, 2, 311-322 (1947). The purpose of this investigation was to test and improve the Bartisch procedure (C.A. 13, 1570). The formation of free S can be prevented by carrying out the reaction in the presence of metallic Sn. The formation of Hg droplets is prevented by increasing the length of the neck of the reaction flask. The harmful effect of sul- sulfates is prevented by the addition of BaBr₂ soln. To det. FeS₂ in gypsum, take 0.5 g. of sample and place it in a thimble of Sn foil. Moisten the solid in the thimble with BaBr₂ soln. and a little EtOH if necessary to wet the powder well. Place the thimble in the reaction flask and connect the flask to a condenser and to 2 receivers contg. Cd(OAc)₂ soln. While introducing CO₂ into the app., add 50 ml. of HBr, through a dropping funnel in the neck of the flask, and 1-1.5 ml. of EtOH. Heat very slowly at first but continue heating below the b.p. for 3-4 hrs. Eventually boil 10 min. and allow to cool while continuing the stream of CO₂. To the combined contents of the receivers add dropwise a 12% soln. of CuSO₄ in 7 N H₂SO₄. Cool, filter off the CuS ppt., wash the ppt. to remove all Cu²⁺ ions and ignite to CuO in a porcelain crucible. To det. FeS₂ in the presence of other sulfides, first carry out the above procedure with HBr and no Sn. After the other sulfides have been removed, filter the soln. in the reaction flask and treat the residue as described.

M. Hirsch

410-11A METALLURGICAL LITERATURE CLASSIFICATION

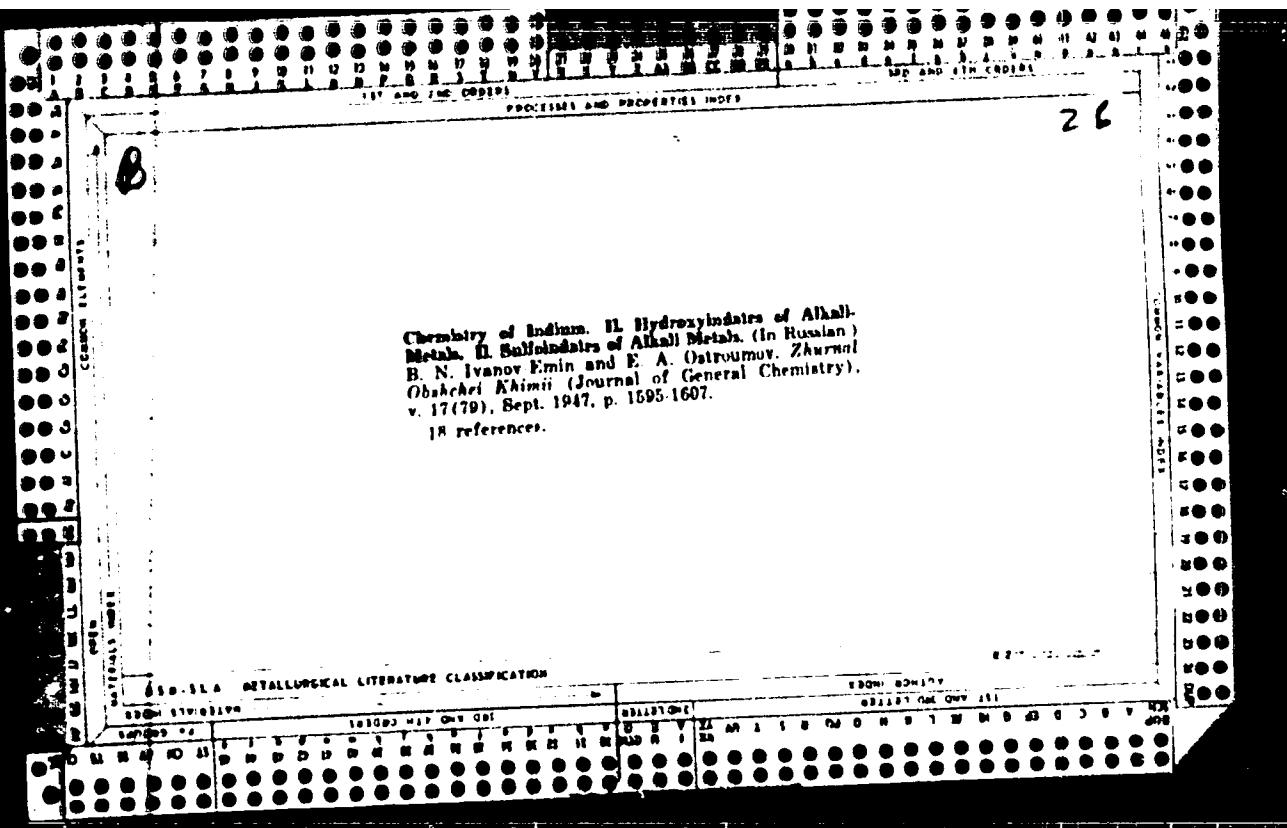
fundamentals of new analytical methods with pyridine, pyrazine, and hexazotized heteroaromatics. N. A. Gitterman, Zemidze, Lab. 15, 604-10X (1947).—The methods are based on the use of pyridine as a regulator of the pH value, during hydrolysis and formation of complexes, in adding pyridine to a weakly acidic soln., a ppt. of about 6 results when some metal salts are pd. by hydrolysis while pyridine salts, among pyridine nitrate will give a stable soln. of 1:1-4:2; under these conditions it is possible to separate Pb (and also from Cu and Cd which form insoluble salts with pyridine) and some rare metals from tri-alkaline and their oxides. In reaction between *o*-picric acid, and alkali. Two procedures are proposed: (1) Remove the cations of the 3rd group with Hg²⁺ in the presence of hexamethylenetetramine. Destroy org. material in the filtrate with HNO₃ and det. alk. earths, Mg, and alkali as usual. Ash the sulfide ppt. of the 3rd group, heat carefully, and treat the ash with excess HCl while acidify, and add to the filtrate. Then, with the aid of pyridine, sep. Fe, Al, Cr, Ti, Zr, In, Ga, and some rare metals from Mn, Zn, Ni, and Co. From the filtrate, after Zn with H₂S, thus sep. them from Mn. (2) sep. Fe, Al, Cr, In, Ga, Ti, Zr, and some rare metals with pyridine.

From the filtrate, after the addition of pyridine hydrochloride, ppt. Ni, Co, and Zn with HgS. From the filtrate, after the elimination of the pyridine, ppt. Mn with HgS in the presence of hexamethylenetetramine. In the filtrate from Mn, after the destruction of the org. material with HNO_3 , det. the alk. earths, Mg, and alkali as usual. (1) is preferred when Ca, Mg, and alkali are added as usual. (1) contg. large amounts of Mn, Co, and Ni are added in products to be used in all cases except when the product contains considerable phosphate and small quantities of Al, Ti, and Zr, because then some of the Ca may be pptd as phosphate. But if the Al, Ti, and Zr are sufficient to combine with all PO_4^{3-} in the solution, then the method is applicable. (2), with sufficient Fe^{3+} in the soln., is also suitable when P and V are present. In sepi., Zn from Ni and Co it is preferred to NaOAc . Rare earths should be sep'd. as oxalates and then $\text{CH}_3\text{COOCO}_2^-$ and NaOAc . Tb should be sep'd. from Ce and rare earths with the then pyridine and its nitric acid salt. If the product contains Be, it is necessary to use α -picoline for complete pptn. In the 4th group it is possible to sep. Bi from Pb, Cu, and Cd by dissolving in presence of its nitric acid salt.

7

120 110 METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001238-



Separation of scandium with the aid of pyridine. N. A. Schinnerer (All Union Inst. of Mineral Raw Materials, Moscow). Zavod. Anal. Khim. 3, 163-61 (1958).—A method for seprg. Sc from other rare earths is based on the difference in pH at which their hydroxides ppt. Thus, Sc(OH)₃ ppts. at pH 4.9 (C.I. 39, 5152) whereas the hydroxides of other rare earths start pting. at pH 6.3 (Yb and Lu) and higher. The desired pH is attained with buffer solns. of pyridine or its salts (C.I. 34, 5779). To prep. the pting. soln., measure into a 200-ml. flask enough concd. HNO₃ free of N oxides, and standardize, to correspond to 27.3 g. of 100% HNO₃. Add approx. 20 ml. of H₂O, mix, and add slowly 130 ml. of pure pyridine with const. shaking and cooling. When the soln. is at room temp., dil to the mark and mix thoroughly. To det. Sc, dissolve the sample, add approx. 5 g. of NH₄NO₃, carefully neutralize with dil. NH₄OH until a slight permanent turbidity appears, and then add 3 drops of concd. HNO₃ to dissolve it. Dil. to definite vol. (e.g. 100 ml.) and bring to a boil. Add a little macerated paper pulp and then from a dropping funnel add approx. 15 ml. of the pting. soln. with const. stirring. Cover the beaker, bring to incipient boiling, and keep on a water bath for 40-50 min. to complete coagulation and pting. of Sc(OH)₃. Filter, wash with hot 3% soln. of NH₄NO₃ contg. a small quantity of the pting. soln. (5 ml. per 100 ml. of 3% NH₄NO₃), place the ppt. in a weighed porcelain crucible, dry, and ignite at 1000-1100°, cool, and weigh. For 12 analyses in which Sc₂O₃ was 0.0015-0.0016 g., there was no difference between "taken" and "found" in 6 cases, and in the other 6 analyses the difference did not exceed ±0.0001 g. The filtrates were evapd. to a small vol. and tested for Sc; none was found. It is thought that Sc(OH)₃NO₃ is first formed, which upon addn. of more pyridine soln. changes completely to Sc(OH)₃. Trials were run on seprg. Sc by this method in the presence of other rare earths severally and combined. The contamination of the Sc ppt. was tested by x-rays. When taken severally, complete sepr. of Sc was obtained by double pting.

except for Gd, Ho, and Yb, where for the greatest accuracy, triple pting. was needed. Similar results were obtained when the rare earths were taken together with Sc: rare earths (La, Ce, Pr, Nd, Sm, Cd, Ho, Er, Yb, and Y) ratio of 1:1-1:14
M. Husek

PONOMAREV, A.I.; OSTROUMOV, E.A., doktor khimicheskikh nauk, redaktor;
KISELEV, A.A., "tekhnicheskiy redaktor.

[Method of chemical analysis for minerals and rocks] Metody khi-
micheskogo analiza mineralov i gornykh porod. Moskva, Izd-vo Akad.
nauk SSSR, Vol 1 [Silicates and carbonates] Silikaty i karbonaty.
1951 334 p.

(Silicates) (Carbonates)(Mineralogy),
(Mineralogy, Determinative)

CA

7

Determination of zirconium with mandelic acid. A. A. Astanina and R. A. Ostrovskiy (Inst. of Mineral Raw Materials, Nizhny Novgorod, U.S.S.R.). *Zhur. Anal. Khim.* 6, 27-33 (1951).—The purpose of this investigation was to check the Kumins method (C.A. 41, 4736f). The method was accurate and effective in sepn. of Zr from other metals including the rare earths and Mo. Equally good results were obtained by weighing Zr mandelate without igniting the ppt. to ZrO_2 . The excess mandelic acid was removed by washing the ppt. 2-3 times with EtOH. Zr in quantities below 0.0010 g. does not ppt. at once, particularly in the presence of other elements. In such cases the time allowed for pptn. should be extended to 1 or more days. M. Hesch

"APPROVED FOR RELEASE: Wednesday, June 21, 2000

CIA-RDP86-00513R001238

~~Orlovaia, E. A.: Novye metody khimicheskogo analiza i perekhod k ikh massovomu (New Method of Chemical Analysis with the Use of Organic-Based). Moscow: Gosudarst. Izdatel'stvo Geol. Lit., 1962. 130 pp.)~~

APPROVED FOR RELEASE: Wednesday, June 21, 2000

CIA-RDP86-00513R001238

OSTROUMOV, A. A.; SIIINA, O. M.

Vanadium

Some laws of the distribution of vanadium in contemporary marine deposits.
Dokl. AN SSSR 86 No. 2, 1952.

9. Monthly List of Russian Accessions, Library of Congress, December 19~~XX~~2 Uncl.

OSTROUNOV, E.A.

Method of determining forms of sulfur compounds in deposits of
the Black Sea. Trudy Inst.okean. 7:57-69 '59. (MLRA 7:3)
(Deep-sea deposits--Black Sea) (Black Sea--Deep-sea deposits)

OSTROUMOV, E.A.

Forms of sulfur compounds in deposits of the Black Sea. Trudy
Inst. okean. 7:70-90 '53. (MIRA 7:3)
(Black Sea--Deep-sea deposits) (Deep-sea deposits--Black Sea)

Ostroumov, E. A.

USSR

62
E. A. Ostroumov. Doklady Akad. Nauk S.S.R. 91,
1775-8 (1963). Sediments from deep water regions of the
eastern part of the Black Sea and the heavy mineral fraction
from the sand on the Caucasian coast at Gagra were ana-
lyzed for La_2O_3 , CeO_3 , Pr_2O_3 , Nd_2O_3 , Gd_2O_3 , and Dy_2O_3
(1964). They were also determined by an x-ray method. The
predominant element was Ce. Most abundant in rare
earths are the clayey sands. Those sediments contain alumin-
um and carbonate veins contain less of these earths. The
quantities of these earths in the various sediments are tabu-
lated.
I. N. Ioffe

Inst. Oceanology, AS USSR

PONOMAREV, A.I.; OSTROUMOV, B.A., doktor khimicheskikh nauk, redaktor;
LOSEUTOV, I.P., redaktor; NEVRAYEVA, N.A., tekhnicheskiy redaktor.

[Methods of chemical analysis of minerals and rocks] Metody khimi-
cheskogo analiza mineralov i gornykh porod. Moskva, Izd-vo
Akademii nauk SSSR. Vol.2 [Iron ores, titanomagnetites and chro-
mites] Zheleznye rudy, titanomagnety i khromity, 1955. 343 p.
(Iron ores) (Chromites) (MLRA 8:11)
(Titanomagnetites)

OSTROUMOV, E.A.

Occurrence of manganese in bottom deposits of the Sea of Okhotsk.
Izv. Akad. SSSR. Ser. geol. 20 no. 5:83-98 S-0 '55. (MLRA 8:12)
(Okhotsk, Sea of--Manganese ores)

Ostroumov, E.A.

2

Iron in the bottom sediments of the Okhotsk Sea. [E.A.]
Ostroumov, Doklady Akad. Nauk S.S.R. 102, 129-33
(1955).—Fe (ferrous and ferric oxides) was detd. in samples from more than 200 regions of the Okhotsk Sea sediments. The deposits are divided into 7 zones with Fe content from 1.0 to 7%. The zone with more than 7% of Fe occurs near the Kuril Islands and in the south extremity of the Kamchatka shore. Most of the Fe comes to the sea from terrestrial materials and volcanic breakdown products. Some colloidal Fe in very fine suspension concentrates in the clay slime together with Fe bound with the phytoplankton residue. In the south the concn. of Fe is accord. with the clay-diatom siltae. Another part of the Fe, bound with the volcanic activity products, concentrates in the sand and silt particles, located along the Kuril Islands and the east

shore of Kamchatka. In comparison with other Russian seas, sediments of the Okhotsk Sea have a high content of Fe, which in some places amounts to 11.11%. A map of distribution of Fe by zones is included. M.C.

E

USSR/Cosmochemistry - Geochemistry. Hydrochemistry.

D.

Abs Jour : Ref Zhur - Khimiya, No 9, 1957, 30352

Author : Ostroumov, E.A.

Inst : Institute of Oceanology, Academy of Sciences USSR

Title : Distribution of Titanium in the Deposits of the Sea of Okhotsk

Orig Pub : Geokhimiya, 1956, No ., 90-95.

Abst : The content of Ti was determined in dried samples of the upper level of sediments collected at 209 stations during a number of years of field work by the expedition of the expedition of the Institute of Oceanology of the Academy of Sciences USSR. Ti was determined colorimetrically with H_2O_2 after decomposition of the samples with hydrofluoric and sulfuric acid and fusion with potassium pyrosulfate. A chart of Ti distribution in the bottom deposits has been prepared. The following zones were delineated (TiO_2 in %): less than 0.2; 0.2 - 0.3; 0.3 - 0.4 - 0.5 0.5 -

Card 1/2

USSR/Cosmochemistry - Geochemistry. Hydrochemistry.

D.

Abs Jour : Ref Zhur - Khimiya, No 9, 1957, 30351

Author : Ostroymov, E.A.

Inst : Academy of Sciences USSR

Title : Titanium in the Deposits of the Sea of Okhotsk

Orig Pub : Dokl. AN SSSR, 1956, 107, No 3, 444-447

Abst : See next abstract.

Card 1/1

OSTROUMOV, B.S.; SHILOV, V.M.

Occurrence of iron sulfide and hydrogen sulfide in deposits of deep
trenches in the northwestern Pacific Ocean. Geokhimiia no.7:25-
38 '56. (MLRA 10:1)

1. Institut okeanologii Akademii nauk SSSR.
(Pacific Ocean--Iron sulfides) (Pacific Ocean--Hydrogen sulfide)

OSTROUMOV, R.A.; ASTANINA, A.A.; SHOKHOR, T.O.

Method for determining rare earths in ocean deposits. Trudy
Inst. okean. 19:297-303 '56. (MLRA 10:2)

(Ocean bottom) (Earths, Rare)

OSTROUMOV, E A

USSR/Cosmochemistry - Geochimistry. Hydrochemistry, F

Abst Journal: Referat Zhur - Khimiya, № 19, 1956, 613-9

Author: Ostromov, E. A., Shil'd, V. M.

Institution: None

Title: Iron Sulfide and Hydrogen Sulfide in Bottom Deposits of North-western Part of Pacific Ocean

Original Periodical: Dokl. AN SSSR, 1956, 106, No 3, 501-504

Abstract: Process of reduction (R) of SO_4^{2-} in sediments takes place at definite strata and begins after R of Fe^{3+} to Fe^{2+} at definite stage of decomposition of organic matter necessary for life processes of sulfate-reducing microorganisms. R of SO_4^{2-} is well developed in sediments of Kuriles-Kamchatka and Aleutian troughs where it begins in 10-15 cm strata; amounts of FeS reach 0.3% and free H_2S is present. Farther south east of trough R 0.39% and free H_2S is present. Farther south east of trough R zone is located below layer of red clay and contains little FeS. In the sediment bed this zone continues down to the 120-200 cm layer

Card 1/2

OSTROUMOV, E.A.

Titanium in deposits of the Okhotsk sea. Dokl.AN SSSR 107 no.3:444-447
(MIRA 9:7)
Mr '56.

1.Institut okeanologii Akademii nauk SSSR. Predstavлено akademikom
N.M.Strakhovym.
(Okhotsk, Sea of--Titanium)

VOLKOV, I.I.; OSTROUMOV, B.A.

Forms of sulfur compounds in silt waters of sediments of the Black Sea.
Geokhimiia no.4:337-345 '57. (MIRA 12:3)

1. Laboratory of Marine Sediments of the Institute of Oceanology,
Academy of Sciences, U.S.S.R., Moscow.
(Thiosulfates) (Black Sea--Silt)

OSTROUMOV, B.A.; VOLKOV, I.I.

Interconnection of phosphorus, vanadium and organic matter in the
Black Sea sediments [with summary in English]. Geokhimiia AN
SSSR no.6:518-528 '57. (MIRA 11:2)

1. Institut okeanologii AN SSSR, Moskva.
(Phosphorus) (Vanadium)
(Black Sea--Sedimentation and deposition)

OSTROUHOV, B.A.

Sulfur compounds in bottom deposits of the Sea of Okhotsk. Trudy
Inst. okean. 22:13°-15° 15'.
(Okhotsk, Sea of--Sulfur)

(MIRA 11:3)

OSTROUMOV, N.A.

BEZRUOKOV, P.L.; OSTROUMOV, N.A.

Phosphorus distribution in the sediments of the Okhotsk Sea. Dokl.
AN SSSR 113 no.1:142-145 Mr-Ap '57. (MLRA 10:6)

1. Institut okeanologii Akademii nauk SSSR. Predstavлено академиком
N.M. Strakhovym.
(Okhotsk, Sea of--Sedimentation and deposition)

20-114-4-47/63

AUTHORS:

Volkov, I. I., Ostroumov, E. A.

TITLE:

Determination of Thiosulphates in Silt Waters of the Black Sea Deposits (Opredeleniye tiosul'fatov v ilovykh vodakh osadkov Chernogo morya)

PERIODICAL:

Doklady Akademii Nauk SSSR, 1957, Vol. 114, Nr 4, pp. 853-855
(USSR)

ABSTRACT:

In order to get a better idea of the diagenesis processes it is necessary when studying the types of sulphur compounds in sea deposits, not only to investigate the solid phase, but to determine also the types of sulfur compounds of the water by which these deposits are drenched. In the Black Sea, in which an intensive reduction process of the sulphates takes place, there may also occur sulphites and thiosulphates. The authors investigated, from the expedition ship "Akademik S. Vavilov", at the below mentioned station, whether these soluble compounds occur in the silt waters of the deposits. A method for the determination of sulphites and thiosulfates in the presence of free hydrogen sulfide had been previously worked out by Kurtenacker. Its applicability to the Black Sea was to be checked. The shallow-water deposits here often do not contain any hydrogen sulfide. In

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Determination of Thiosulphates in Silt Waters of the Black Sea Deposits 20-114-4-47/63

the silt water of the deep-sea deposits it is often removed during filtration in vacuum. Tests indicated that the content values of the thiosulfates obtained on this occasion are unstable and vary considerably. This is due to the leaking through into the filtration of small amounts of colloidal sulphurous iron (hydrotoilite). For that reason treatment with zinccarbonate suspension is indispensable. It removes the free hydrogen sulfide and the colloidal iron which is disturbing in the determination of the thiosulfates. The experiments showed that the silt waters in the Black Sea deposits contain virtually no sulfites, at the most very minute traces of them, whose amount lies within the limits of experimental errors. But steady figures for the thiosulfates are obtained in spite of their small amounts. They vary between from 0,0 to 10 mg/lit. The deep-sea deposits are richer in them than those of the shallow water. As is well-known one sulfur atom of the thiosulfates is very mobile and capable of reaction. Therefore the thiosulfates can function as a peculiar type of sulfur transmitters. In this respect the occurrence of thiosulfates may be of great interest in the study of diagenical transformation of the Black Sea deposits. There are 1 table and

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OSTRouMOV, I. A.

20-4-32/51

AUTHORS: Volkov, I. I., and Ostroumov, E. A..
TITLE: Concretions of Iron Sulphide in Black Sea Deposits (Konkretaii sul'fida zheleza v otlozheniyakh Chernogo morya)
PERIODICAL: Doklady AN SSSR, 1957, Vol. 116, Nr 4, pp. 645-648 (USSR)
ABSTRACT: Already in 1890 colloidal iron sulphide was found in the Black Sea deposits and the possibility of a formation of pyrites which was contained in it in form of tiny pellets was assumed. Also at that time concretions of pyrites of a length of 12 mm and a breadth of 0,5 mm were found there for the first time. Beside 90,84% pyrites they consist of a small quantity of silicates which apparently are of the deposit itself. A further reference review shows the presence of mel'nicovit, hydrotroilite, and marcasite also in the old Black Sea deposits. Transitions between the two latter minerals occur, too. The research of these transitions and of the process could throw a light on one of the questions of the autogenous mineral formation of the bottom of the sea. In summer 1956 a pillar of the ground of a length of 6m was taken in a depth of 54c m by the expedition ship "Akademik S. Vavilov" from one of the stations beside the cape Kodor (42°54',0 north latitude, 40°54',8 east longitude). It was clayey mud, grey coloring with bluish tinge and with single intermedia-

Card 1/2

OSTROYMOV, E. A.

Ostroysmov, E. A., Astanina, A. A.

"Determination of Thorium by the Weight and Colorimetric Methods" p. 5.

in book Methods of Determining Radioactive Elements in Mineral Raw Materials,
1958, 68 pp

AUTHOR:

Petelin, V P., Ostroumov, F A

TITLE:

Some Peculiarities in the Distribution of Iron in the Shells
of the Sea of Okhotsk // Nekotorye osobennosti raspredeleniya zheleza v osadkakh Okhotskogo moreya

PERIODICAL:

Byulleten' Moskovskogo geologicheskogo in-ta im. V.I. Vernadskogo
Otdel geologicheskiy. 1958. Nr 1. pp. 17-18.

ABSTRACT:

The research work done during 1942-1957 by an expedition of the ship "Vityaz" has proved that a special feature can be noted in the distribution of the Okhotsk sea fauna in contrast to other seas. The author of this article based his research on the studies of I. I. Petelinov and others of Udnitsev. He established that the greatest percentage of iron (on the average 5%) can be observed in the sandy sediments in regions adjoining the Kurile Islands and according to Figures 1 and 2, the maximum percentage, about 10%, has been found in the Fourth Kurile Strait. Figure 1 quotes various Soviet scientists who have made studies in this field, such as A. N. Lavrent'ev, V. I. Udnitsev, G. S. Liverovskiy and N. M. Strakhov, and arrives at the conclusion that the basic mass of iron gets into the shells of the organisms together with organic material consisting of the

part 1/2

Some Peculiarities in the Distribution of Iron in the Sediments of the Sea of Okhotsk

band of erosion products of the dry land, and on the other hand of products of recent volcanic activity. The concentration of the main iron-containing minerals in the sedimentary clastic material, and the distribution of these minerals according to the granulometric spectrum determines the character of the iron distribution in the sediments of the Okhotsk Sea. Therefore, as far as the distribution is concerned, the Okhotsk Sea can be regarded as a special type of sea basin - a basin with maximum "bank-type" concentrations of iron in the coastal zones.

There are 4 maps, 1 table and 1 reference, 1 figure in one Soviet and 1 German.

1. Sea of Okhotsk --Properties 2. Sedimentation 3. Iron-Distribution 4. Iron-Sources

Card 2/2

AUTHOR:

estrov, v. n.

TITLE:

Separation of the rare earths by means of pyridine and its nitrate salt of cerium at reduction by zinc chloride, pyridine, and iron hydroxide (Abstract)

PERIODICAL:

Journal Analytiques, ... 1951, Vol. 11, No. 1,
p. 261-70 (32 p.)

ABSTRACT:

The author showed in a previous paper (Ref. 1) that the quantitative separation of thorium from manganese, nickel, cobalt, copper, zinc, and cerium is possible by means of pyridine. Thus the problem was raised, whether a possibility of a separation of thorium from the rare earths with pyridine exists. The fraction of the rare earths to pyridine has been investigated to a very small extent. Watters and Koltkeff (Ref. 3) pointed out that tetravalent cerium is precipitated together with pyridine quantitatively by iron hydroxide. Trivalent cerium is precipitated quantitatively by iron hydroxide on the condition that iron oxide is present in four-fold excess. In the case of a method described earlier by the author for the precipitation of metal hydroxides, the first

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Separation of Thorium from Rare Earth Metals by Means
of Pyridine and Its Nitrate

June (Ref. 5) a p_{H} -value of 4.5 precipitates thorium hydroxide. On the strength of the experimental data one can conclude that in the case of weakly basic oxides of the rare earth metals they are precipitated (Ref. 5) it can be established that at the precipitation of hydroxides with pyridine the p_{H} -value at which the rare earth metals are not precipitated quantitatively if the p_{H} of the solution amounts to 4.5. This is the case if the conditions under which the separation is carried out. The precipitation of the hydroxides of thorium and of the rare earth metals can be used for their quantitative separation. In order to prevent the separation of the hydroxides of the rare earth metals in the precipitation of thorium hydroxide the p_{H} -value of the solution must be kept low. It has been shown (Ref. 5) that the p_{H} -value of the solution must be 4.5 or lower, to be high enough for the quantitative precipitation of thorium hydroxide. For this purpose the application of pyridine in presence of pyridine nitrate was most expedient. As it was shown earlier (Ref. 5) the p_{H} -value must be very

Card 2/3

Separation of Thorium From Rare Earths by Means
of Pyridine and Its Nitrate

75-12-2-1/27

precisely regulated in the precipitation and kept on a value of 4,1-4,2 by means of this solution. In the precipitation of thorium hydroxide it is desirable to add ammonium nitrate in order to accelerate the formation of a denser precipitation and to accelerate the deposition. By experiments it was proved that even in the case of a singular precipitation of thorium hydroxide by means of a mixture of pyridine and pyridine nitrate a practically complete separation of thorium from the rare earth metals can be obtained. Yttrium, lanthanum, trivalent cerium, neodymium, praseodymium, erbium, samarium and ytterbium remain in the solution. Thorium is precipitated in such pure form that a re-precipitation is not necessary. The experimental carrying out of the separation is described very precisely.

There are 1 figure, 7 tables and 6 references, 4 of which are Soviet.

SUBMITTED: March 12, 1957

Card 3/3 1. Rare earths--Precipitation 2. Thorium--Determination
 3. Pyridines--Chemical reactions 4. Pyridine nitrate--Chemical reactions

5(2)

AUTHORS: Volkov, I. I., Ostroumov, E. I. SOV/75-13-4-14, 21

TITLE: Determination of Sulfates by Their Reduction to Hydrogen Sulfide (Opredeleniye sul'fatev vosstanovleniyem ikh do serovodoroda)

PERIODICAL: Zhurnal analiticheskoy khimii, 1958, Vol 13, Nr 6, pp 696-699 (USSR)

ABSTRACT: Among the titrimetric methods for determining sulfates, those basing on a reduction of sulfate to hydrogen sulfide and a subsequent iodometric titration, are of particular interest (Refs 1-11). In using stannous chloride and phosphoric acid for the sulfate reduction (Refs 7, 8), a disturbance is caused by copper and other elements of the same analytical group, which form sulfides difficult to solve. The authors of the present paper worked out a method for determining sulfates. The reduction to hydrogen sulfide takes place with a reagent obtained from SnCl_2 and phosphoric acid. Owing to the fact that the apparatus for the reduction described by Kiba and collaborators (Ref 8) has a number of defects, it was modified by the authors. The new apparatus is illustrated and described. It is characterized by the fact that it can be quickly

Card 1/3

Determination of Sulfates by Their Reduction to
Hydrogen Sulfide

S-N-77-17-17

reactivated and that it is well protected from oxidation by the concentrate phosphoric acid. The reagent for the reduction was prepared in accordance with similar directions by heating SnCl_2 with concentrated phosphoric acid until a transparent liquid was completely removed. In this connection it was found, however, that a reagent having a constant activity was not obtainable. Investigations carried out gave evidence of the fact that small amounts of chlorides remaining in the reagent after boiling not only do not disturb the reduction process but even intensify the latter. A prolonged heating of the reagent for the purpose of removing hydrogen chloride effected a considerable decrease of the reducibility, this being apparently caused by the formation of considerable amounts of pure phosphoric acid. A very accurate description is given of the preparation of the $\text{SnCl}_2 \cdot 7 \text{H}_2\text{O}$ used for the reagent, as of the concentrated phosphoric acid, and also of the optimum conditions for the preparation of the reagent. Temperature is not increased beyond 300° . The dense liquid obtained is rinsed on KOH or CaCl_2 and stored. This method was tested on the analysis of pure salts. As became apparent, the presence of

Card 2/3

Determination of Sulfates by Their Reduction to
Hydrogen Sulfide

SOV 75-11-6-14 31

Ca, Ba, Fe, Al, Cr, Mn, Co, Ni and Zn does not cause any disturbance. The reduction process is accelerated up to 10% by the presence of alkali metals. Neither do Li, Pb and Bi disturb the reduction. Copper and mercury salts cause a disturbance. The same method was also adopted to analyze natural materials, as gypsum, Black Sea ooze and sea water. The results are on the same level with those obtained by the gravimetric determination of sulfate as BaSO_4 . A number of practical indications for this method is also given. There are 2 figures, 3 tables, and 11 references.

ASSOCIATION: Institut okeanologii AN SSSR, Moskva (Institute of Oceanography of the Academy of Sciences, USSR, Moscow)

SUBMITTED: October 1, 1957

Card 3/3

OSTROUMOV, R.A.; SHILOV, V.M.

Distribution of ferrous sulfide and hydrogen sulfide in bottom
deposits of the northwestern part of the Pacific Ocean. Trudy
Inst. okean. 27:77-85 '58. (MIRA 11:4)
(Pacific Ocean--Iron sulfide) (Pacific Ocean--Hydrogen sulfide)

"APPROVED FOR RELEASE: Wednesday, June 21, 2000

CIA-RDP86-00513R001238

CHINA 1954 V, W. R.

"The distribution of supplies in the Soviet Union is discussed.
Report by the Soviet Central Statistical Bureau, Moscow, dated 10
Aug - 11 Sep 1955."

(Inst. of Economic History, Moscow)

APPROVED FOR RELEASE: Wednesday, June 21, 2000

CIA-RDP86-00513R001238

5(2)

AUTHORS: Ivanov-Emin, D. N., Ostroumov, E. A.

307/78-4-1-1-1-1

TITLE: On the Question of the Formation of Hydroxy-scandiates of the Alkali Metals (K voprosu ob obrazovanii gidroksoskandiatorov shchelochnykh metallov)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 1, pp 71-74
(USSR)

ABSTRACT: The separation of hexahydroxo-sodium scandiate, having the composition $\text{Na}_3[\text{Sc}(\text{OH})_6] \cdot 2\text{H}_2\text{O}$, is described. For the synthesis of this compound scandium hydroxide produced by the method of N. A. Tananayev was dissolved by heating in 18 n sodium hydrate. The compound separated out was analyzed and the formula mentioned above was confirmed. The coordination number of scandium in this compound is 6. The crystalline compound has a rhombic lattice. The crystals frequently form druses. At a temperature of 25° the crystal density is 2.01-2.05 as measured by the micropycnometer by V. V. Syromyatnikov (Ref 10). The compound sodium hexahydroxo-scandiate decomposes on the effect of

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