"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2

SHESHUKOVA-PORETSKAYA, V.S.

Fossil diatoms of southern Sakhalin (marine Neogene). Vest.LGU 14 no.15:36-55 '59. (MIRA 14:4)
(Sakhalin--Diatoms, Fossil)

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SHESHUKOVA-PORETSKAYA, V.S.

Diatoms of some peat bogs of the Baltic shore; the Estonian S.S.R. and Kaliningrad Province. Uch. zap. LGU no.313:137-170 '62. (MIRA 15:12)

(Estonia--Diatoms)
(Kaliningrad Province--Diatoms)

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SHESHUKOVA-PORETSKAYA, V.S.; GLEZER, Z.I.

Diatoms, Silicoflagellatae and Ebriideae from Maikop sediments in the Shibik River; Krasnodar Territory. Uch. zap. LGU no.313:171-202 '62. (MIRA 15:12)
(Shibik River—Algae, Fossil)

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SHESHUKOVA-PORETSKAYA, V.S.

New and rare Bacillariophyta from the diatom series of Sakhalin.
Uch. zap. LGU no.313:203-211 '62. (MIRA 15:12)
(Sakhalin--Diatoms, Fossil)

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SHESHULIN, G.I.

Composition of gas-liquid inclusions in minerals of spodumene.
Geol.mest.red.elem. no.9:67-79 '61. (MIRA 14:9)
(Spodumene) (Pegmatites)

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PUZANOV, L.S.; SUDERKIN, A.I.; SHESHULIN, G.I.; DORZAKOV, B.A.; GUDKOV, A.S., nauchnyy red.; SEMILETKOVA, Ye.K., red. izd-va; SHMAKOVA, T.M., tekhn. red.

[Industry's requirements as to the quality of mineral raw materials]Trebovaniia promyshlennosti k kachestvu mineral'nogo syr'ia; spravochnik dlia geologov. Moskva, Gosgeoltekhizdat. No.31[Piezoelectric and optical minerals]P'ezoelektricheskoe i opticheskoe syr'e. Izd.2., perer. 1962. 46 p. (MIRA 15:10)

1. Moscow. Vsesoyuznyy nauchno-issledovatel'skiy institut mineral'nogo syr'ya.
(Quartz) (Iceland spar) (Fluorite)

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SHESHULKA, V.

The relation between ten percent and flash equilibrium distillation curves [of coal tar]. S. Landa and V. Šešulka. *Palivo* 35, 263–7(1955).—Various articles dealing with this relation for crude oils have been published, but not for tar. To remedy this situation, tars obtained from various coals and processes were investigated. A flash b.p. equil. distn. app. was constructed, consisting of: const.-temp. bath with mixt. of $NaNO_3$ and KNO_3 salts in mol. ratio, elec. mixer, flash evaporator with thermometer on top and also condenser with thermometer insert for liquid fractions. The bottom part contained 2 openings, one for 3-part spray nozzles and the 2nd for removal of the nonliquid portion of tar. The results of Engler-type distn. were compared to flash evapn. A series of curves was constructed showing that the middle point of Engler distn. was also the center for flash equil. distn. curves. From the slope of 10% distn. curves the slope of flash distn. curves was detd. mathematically. Jos. Lederer

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BUTSLOV, M.M.; MEDVEDEV, M.N.; FILIPPOV, P.I.; CHUVILO, I.V.; SHESHENOV, V.M.

Recording of a Vavilov-Cherenkov radiation cone from isolated particles. Atom. energ. 12 no.5:412 My '62. (MIRA 15:5)
(Cherenkov radiation)

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2

SHESHUNOVA, V.

Sheshunova, V. (Exchange of Experience) Help in the work of the regional mining inspectors of the Central Statistical Bureau, USSR. P. 61

SO: Herald of Statistics (Vestnik), No. 2, 1951

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2

SHESKIN, A.

Tool for sharpening safety-razor blades. Prom.koop.no.8:29-31 Ag '55. (MLRA 9:1)

1.Starshiy inzhener proizvodstvenno-tekhnicheskogo upravleniya promsoveta Estonskoy SSR.
(Razors)

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[illegible], I. D.

[illegible] in the maintenance of pneumatic hammers. Sverdlovsk, Cos. nauch.-tekhn. izd-vo mashinostroit. lit-ry, 1940. 31 p. (50-24144)

TJ1005.S4

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[redacted], F. N.

[redacted], F. N. -- "The Use of Streptomycin in Tuberculosis of the Kidneys." Kiev Order of Labor Red Banner Medical Inst imeni Academician A. A. Bogomolets. Kiev, 1956.
(Dissertations for the Degree of Candidate in Medical Sciences).

So: Knizhnaya Letopis', No 9, 1956.

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2

SHESKIN, F.M., kand.med.nauk

Conservative treatment in tuberculous epididymitis. Vrach. delo no.5:150-151 My '62. (MIRA 15:6)

1. Poliklinicheskoye otdeleniye 2-y bol'nitsy Oktyabr'skogo rayona Kiyeva.

(EPIDIDYMIS--TUBERCULOSIS)

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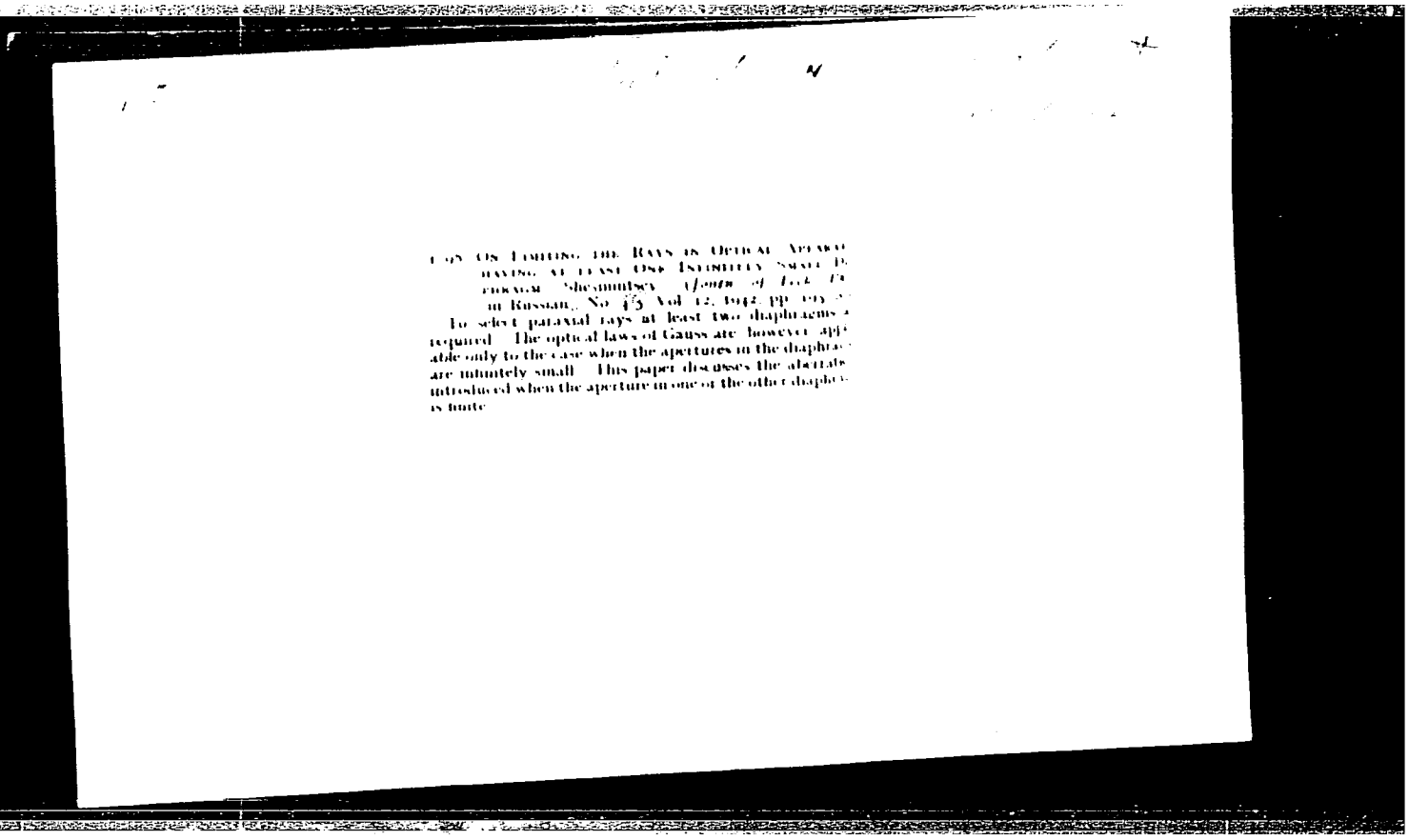

1 95 ON LIMITING THE RAYS IN OPTICAL APPARA[illegible] HAVING AT LEAST ONE INFINITELY SMALL D[illegible] PHRAGM Shesmintsev (Journ of Tech Ph[illegible] in Russian), No 4/5 Vol 12, 1942, pp 195 [illegible]

To select paraxial rays at least two diaphragms a[illegible] required The optical laws of Gauss are however app[illegible] able only to the case when the apertures in the diaphra[illegible] are infinitely small This paper discusses the aberratio[illegible] introduced when the aperture in one or the other diaphra[illegible] is finite

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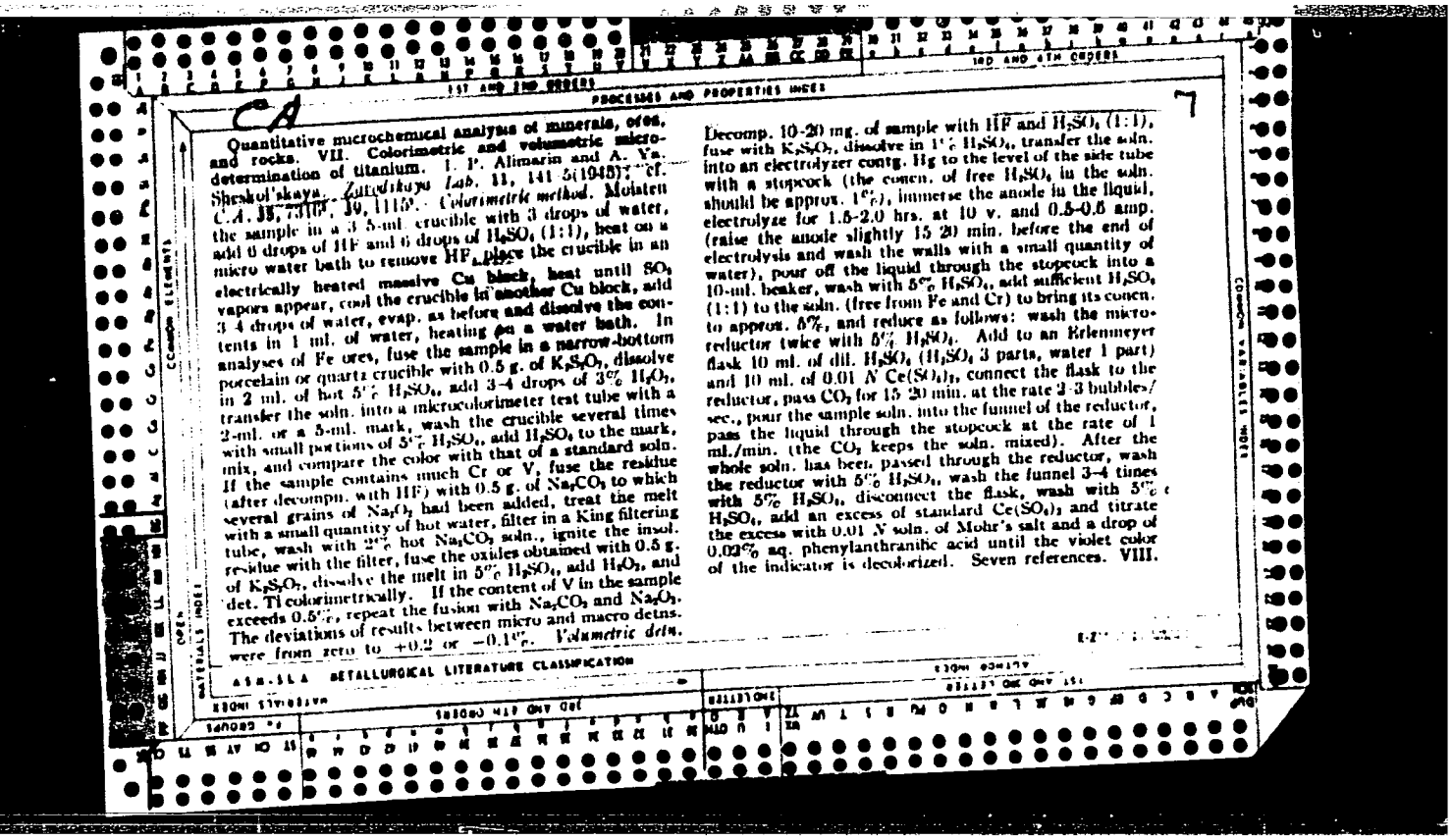

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

CA

7

Quantitative microchemical analysis of minerals, ores, and rocks. VII. Colorimetric and volumetric micro-determination of titanium. I. P. Alimarin and A. Ya. Sheskol'skaya. *Zavodskaya Lab.* 11, 141-5(1945); cf. *C.A.* 35, 7310[5], 39, 1115[5]. *Colorimetric method.* Moisten the sample in a 3-5-ml. crucible with 3 drops of water, add 6 drops of HF and 6 drops of H_2SO_4 (1:1), heat on a micro water bath to remove HF, place the crucible in an electrically heated massive Cu block, heat until SO_3 vapors appear, cool the crucible in another Cu block, add 3-4 drops of water, evap. as before and dissolve the contents in 1 ml. of water, heating on a water bath. In analyses of Fe ores, fuse the sample in a narrow-bottom porcelain or quartz crucible with 0.5 g. of $K_2S_2O_7$, dissolve in 2 ml. of hot 5% H_2SO_4, add 3-4 drops of 3% H_2O_2, transfer the soln. into a microcolorimeter test tube with a 2-ml. or a 5-ml. mark, wash the crucible several times with small portions of 5% H_2SO_4, add H_2SO_4 to the mark, mix, and compare the color with that of a standard soln. If the sample contains much Cr or V, fuse the residue (after decompn. with HF) with 0.5 g. of Na_2CO_3 to which several grains of Na_2O_2 had been added, treat the melt with a small quantity of hot water, filter in a King filtering tube, wash with 2% hot Na_2CO_3 soln., ignite the insol. residue with the filter, fuse the oxides obtained with 0.5 g. of $K_2S_2O_7$, dissolve the melt in 5% H_2SO_4, add H_2O_2, and det. Ti colorimetrically. If the content of V in the sample exceeds 0.5%, repeat the fusion with Na_2CO_3 and Na_2O_2. The deviations of results between micro and macro detns. were from zero to +0.2 or −0.1%. *Volumetric detn.* Decomp. 10-20 mg. of sample with HF and H_2SO_4 (1:1), fuse with $K_2S_2O_7$, dissolve in 1% H_2SO_4, transfer the soln. into an electrolyzer contg. Hg to the level of the side tube with a stopcock (the concn. of free H_2SO_4 in the soln. should be approx. 1%), immerse the anode in the liquid, electrolyze for 1.5-2.0 hrs. at 10 v. and 0.5-0.6 amp. (raise the anode slightly 15-20 min. before the end of electrolysis and wash the walls with a small quantity of water), pour off the liquid through the stopcock into a 10-ml. beaker, wash with 5% H_2SO_4, add sufficient H_2SO_4 (1:1) to the soln. (free from Fe and Cr) to bring its concn. to approx. 5%, and reduce as follows: wash the micro-reductor twice with 5% H_2SO_4. Add to an Erlenmeyer flask 10 ml. of dil. H_2SO_4 (H_2SO_4 3 parts, water 1 part) and 10 ml. of 0.01 *N* $Ce(SO_4)_2$, connect the flask to the reductor, pass CO_2 for 15-20 min. at the rate 2-3 bubbles/sec., pour the sample soln. into the funnel of the reductor, pass the liquid through the stopcock at the rate of 1 ml./min. (the CO_2 keeps the soln. mixed). After the whole soln. has been passed through the reductor, wash the reductor with 5% H_2SO_4, wash the funnel 3-4 times with 5% H_2SO_4, disconnect the flask, wash with 5% H_2SO_4, add an excess of standard $Ce(SO_4)_2$ and titrate the excess with 0.01 *N* soln. of Mohr's salt and a drop of 0.02% aq. phenylanthranilic acid until the violet color of the indicator is decolorized. Seven references. VIII.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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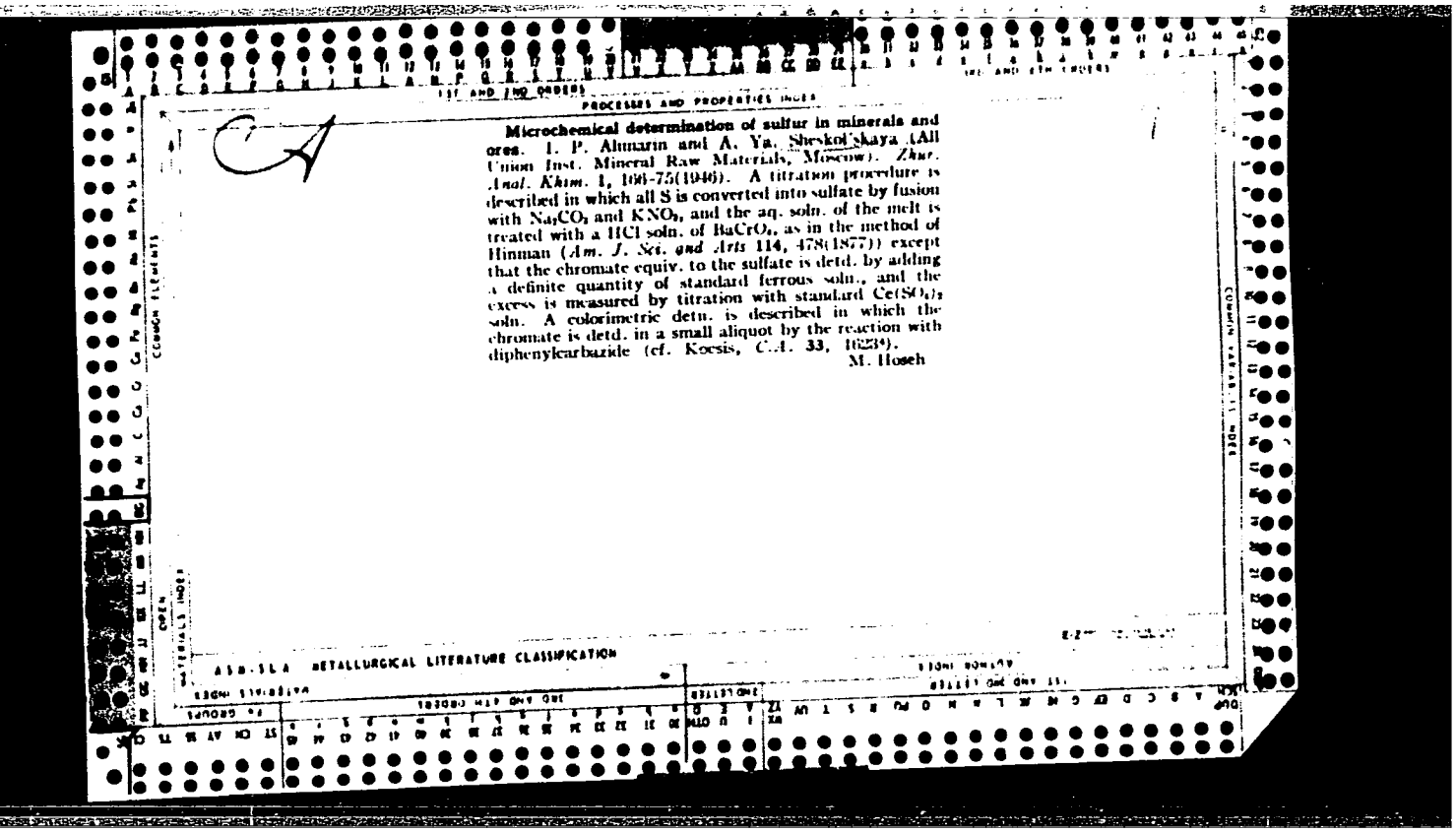

PROCESSES AND PROPERTIES INDEX

Microchemical determination of sulfur in minerals and ores. I. P. Alimarin and A. Ya. Sheshkol'skaya (All Union Inst. Mineral Raw Materials, Moscow). *Zhur. Anal. Khim.* 1, 166-75(1946). A titration procedure is described in which all S is converted into sulfate by fusion with Na_2CO_3 and KNO_3, and the aq. soln. of the melt is treated with a HCl soln. of $BaCrO_4$, as in the method of Hinman (*Am. J. Sci. and Arts* 114, 478(1877)) except that the chromate equiv. to the sulfate is detd. by adding a definite quantity of standard ferrous soln., and the excess is measured by titration with standard $Ce(SO_4)_2$ soln. A colorimetric detn. is described in which the chromate is detd. in a small aliquot by the reaction with diphenylcarbazide (cf. Koesis, *C.A.* 33, 1623⁹).

M. Hoseh

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

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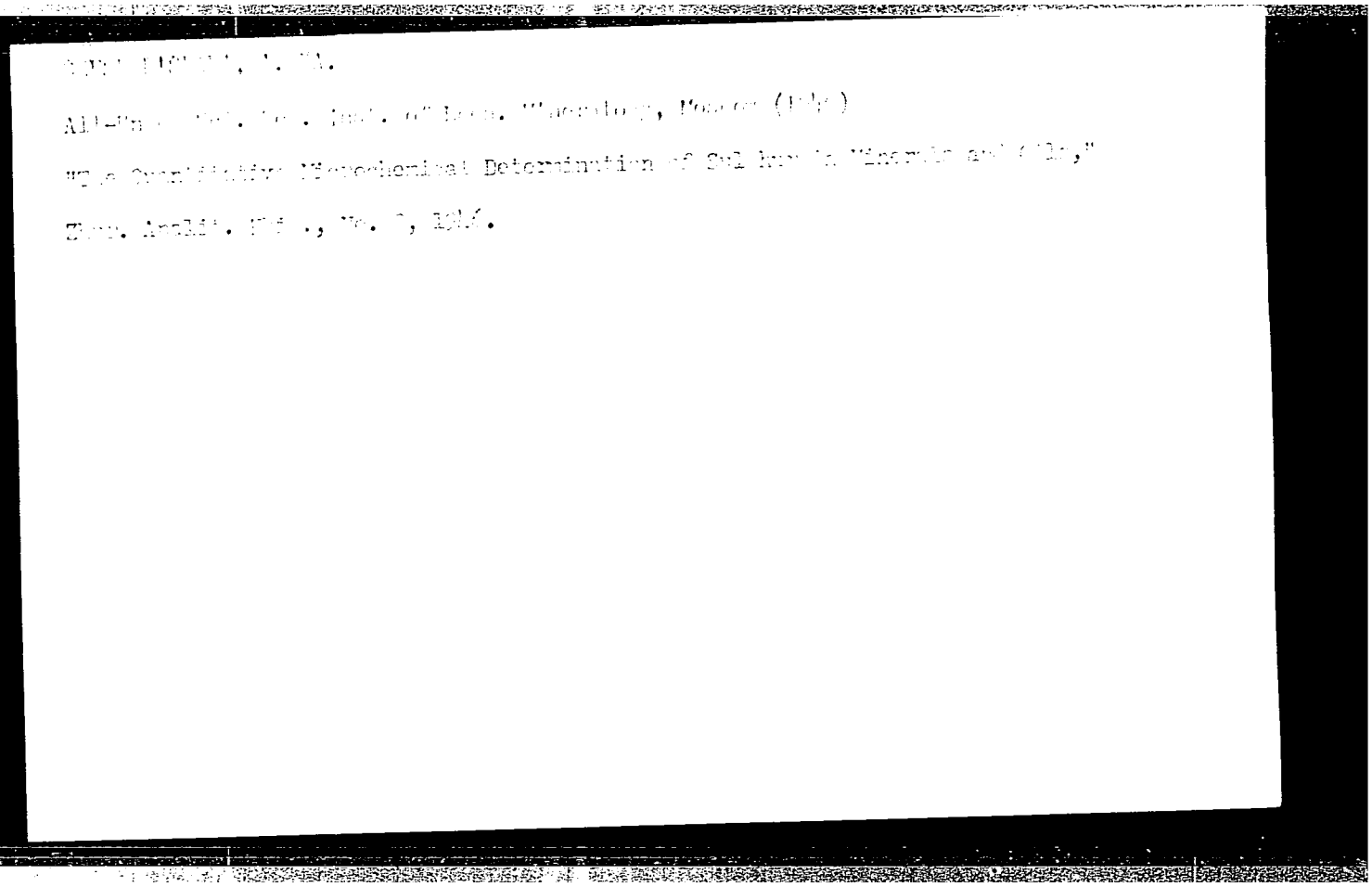

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SHESKOL'SKAYA; A. Ya.

7586
BENZOATE METHOD OF ALUMINUM DETERMINATION.
A. I. Ponomarev and A. Ya. Sheskol'skaya (Baikov Moscow Inst. of Metallurgy). Zhur. Anal. Khim. 11, 102-5 (1956) Feb.
(In Russian)

A newly developed weighing method for the determination of aluminum in iron ores and industrial products has indicated that the quickest and most reliable precipitation of aluminum is effected by ammonium benzoate in a medium of weak acetic acid. The iron reduced by sodium hydrosulfite to a bivalent state does not interfere with the determination of Al. The method permits a quick qualitative determination of aluminum in the presence of a high content of iron. (tr-auth)

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SHESKOL'SKAYA A. YA.

466. **Determination of niobium in the presence of large amounts of titanium.** A. I. Ponomarev and A. Ya. Sheskol'skaya (A. A. Baikov Inst. of Metallurgy, Acad. Sci., USSR, Moscow). *Zhur. Anal. Khim.*, 1957, 12 (3), 355–358.—The use of ascorbic acid to form a complex with Ti which is not pptd. by tannin is recommended. The sample (0·5 g), *e.g.*, of perovskite, is decomposed with H_2SO_4 and HF, etc., and the residue after evaporation of H_2SO_4 followed by re-evaporation after addition of water is treated with 5 ml of water and 10 ml of conc. HCl. The soln. is treated with 0·1 g of ascorbic acid and 2 g of NH_4Cl, diluted to 180 ml, mixed at 50° with 10 to 20 ml of a 1% freshly prepared soln. of tannin added dropwise, and with paper pulp when the soln. becomes cloudy, and then set aside at 50° for 2 to 3 hr. The niobium complex with tannin is filtered off from the cold soln. and washed with cold 4% HCl soln. After ignition the ppt. if white is fused with 0·5 to 1 g of $K_2S_2O_7$ and the melt is dissolved in 20 ml of 5% H_2SO_4 soln. with the addition of 1 or 2 drops of H_2O_2. If the soln. is yellow, indicating the presence of Ti, the colour is matched with a standard soln. of Ti. The calculated amount of TiO_2 is deducted from the wt. of the impure Nb_2O_5. With a coloured ppt. the Nb is re-pptd. after dissolution of the ppt. in H_2SO_4 and HF, etc. The method gave satisfactory results with samples containing 0·3 to 0·9% of Nb.

G. S. SMITH

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1-4E3d
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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2

5(2),5(3)

AUTHORS: Ponomarev, A. I., Sheskol'skaya, A. Ya. SOV/75-14-1-13/32

TITLE: Determination of Niobium in the Presence of Tungsten by the Aid of Cupferron (Opredeleniye niobiya v prisutstvii vol'frama pri pomoshchi kupferona)

PERIODICAL: Zhurnal analiticheskoy khimii, 1959, Vol 14, Nr 1, pp 67-70 (USSR)

ABSTRACT: A method is devised in the present paper, permitting the determination of niobium in alloys, steels and other objects containing tungsten, without prior separation of the two elements. 3 niobium standard solutions were employed for the elaboration of this method: with tartaric acid, with oxalic acid and with ammonium oxalate. The determination takes place by precipitation of niobium with a 3% aqueous solution of cupferron from hydrochloric solution, containing one of the three mentioned complex-forming compounds. The precipitate is filtered off, annealed and then decomposed with potassium pyrosulfate. After cooling, a solution of oxalic acid, ammonium oxalate or tartaric acid is added, wherein the melt is soluble on heating. The solution obtained is acidified with hydrochloric acid and precipitation of niobium with cupferron is repeated. The

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precipitate obtained is annealed (~1000°) and weighed out as Nb_2O_5. The precipitation with cupferron takes place at room temperature. Filtering and washing of the precipitate is rapid and reliable. The results obtained from the determination show that for determining niobium in the presence of tungsten all three mentioned complex formers are suitable to the same degree for the masking of tungsten. By the aid of the radioactive isotope W^{185} the precipitates of Nb_2O_5 were investigated as to their tungsten content. The amount of tungsten co-precipitated was found to be dependent on that of niobium. On precipitating 10 mg Nb in the presence of 100 mg W more pure Nb_2O_5 containing no tungsten is obtained. Investigation of the precipitates that are obtained from the alloys W - Si - Nb showed co-precipitation of tungsten to occur only with niobium contents > 30%. The method devised is both rapid and accurate and permits the determination of niobium in the presence of

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Determination of Niobium in the Presence of Tungsten by the Aid of Cupferron

SOV/75-14-1-13/32

large quantities of tungsten. Very detailed working instructions for the niobium determination based on this method are given with respect to W - Si - Nb alloys and tungsten-containing steels. There are 6 tables and 5 references [illegible] which are Soviet.

[illegible]: [illegible] Moskva [illegible] Imeni A. A. Baykov of the AS USSR, Moscow)

[illegible]: March 8, 1958

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S/509/60/000/004/022/024
E111/E152

AUTHORS: Ponomarev, A.I., and Sheskol'skaya, A.Ya.

TITLE: Determination of Niobium in Cast Irons

PERIODICAL: Akademiya nauk SSSR. Institut metallurgii. Trudy, No.4, 1960. Metallurgiya, metallovedeniye, fiziko-khimicheskiye metody issledovaniya, pp.240-242

TEXT: The object of this work was to find a method of determining niobium in cast iron in the presence of iron and titanium, without their preliminary separation. Ascorbic acid $C_6H_8O_6$ was used to form a complex with titanium and for reducing iron to the bivalent form in which it stays in solution. After preliminary experiments the following procedure was developed. 1-1.5 g of the sample is treated with 5 ml of 1.40 s.g. nitric acid. After evaporation almost to dryness on a sand bath, the solution is completed by adding 30 ml of 1:2 hydrochloric acid and boiling. The volume of the solution is maintained by adding water. Ignoring any black light residue the solution is diluted to 180-190 ml, 1-2 g of ammonium chloride and 0.1-0.2 g of ascorbic acid are added and the temperature is raised to 70-80 °C.

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E111/E152

Determination of Niobium in Cast Irons

10 ml of freshly prepared 1% aqueous tannide solution are slowly added with stirring, the heating being continued for 2-3 hours. Macerated paper is added and after cooling the precipitate is filtered and washed 6-8 times with cold 4% hydrochloric acid. The precipitate and paper are heated in a platinum crucible until all graphite has burned off. A few drops of water, 10-20 drops of 1:1 sulphuric acid and 2.3 ml of hydrofluoric acid are added and the crucible is gradually heated on a sand bath until SO_3 fumes have been evolved for 5 min. 1-2 ml of water are added to the cooled crucible and evaporation is carried out until only 2-3 drops of sulphuric acid remain. After cooling, 1-2 ml of water and 5 ml of hydrochloric acid (s.g. 1.19) are added and the crucible is heated until all salts have dissolved. The solution is transferred to a beaker, diluted to 80-90 ml and the niobium is precipitated as before after addition of 0.10 g of ascorbic acid. The filtered and washed precipitate and filter paper are heated to 1000 °C for 5-7 minutes in a platinum crucible which is then cooled in a desiccator and weighed. The residue is fused

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E111/E152

Determination of Niobium in Cast Irons

with potassium pyrosulphate (0.5-1.0 g) and the melt is dissolved in 20 ml of 5% sulphuric acid with 1-2 drops of hydrogen peroxide. If the solution is colourless titanium is absent; if it is pale yellow it is diluted to 25 ml and its coloration compared with that of a standard titanium solution, the equivalent weight of titanium dioxide being subtracted from the weight of the niobium pentoxide precipitate.
There are 2 tables and 5 references: 3 Soviet, 1 English and 1 German.

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S/075/62/017/003/003/004
I017/I217

AUTHOR. Sheskol'skaya, A. Y.

TITLE: Determination of zirconium and niobium in their binary alloys using cupferron

PERIODICAL. Zhurnal analyticheskoy khimii, v. 17, no. 3, 1962, 327–329

TEXT A rapid and precise method for the determination of zirconium and niobium in their binary alloys, based on the successive precipitation of these elements using cupferron.

A review of the problem in the literature is given. Works of Alimarin and Schröder are cited and adapted

The results of a series of determinations of Nb and Zr in synthetic solutions containing tartaric acid are tabulated and the error calculated. The error varies in this case between 0–3% (relative).

The method of analysis of solutions containing Zr and Nb in a ratio of 1:1 and 3:1 is identical with that described here for samples of unknown composition.

PROCEDURE: 1) Determination of zirconium — 0.1 g of the sample is dissolved in a Pt-crucible by addition of 2–3 ml KF and a few drops of HNO_3 to the complete dissolution of the alloy. Then 3–4 ml H_2SO_4 (Sp. gr = 1.84) are added and heated in a sand bath, for 10–15 min. until white vapors appear and all the HNO_3 is removed. After cooling, 25 ml 4% solution of tartaric acid and 10 ml 2% soln. of NH_5fluoride are added and the solution is transferred to a 300 ml beaker. The solution (100–125 ml), is neutralised by

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ammonia using phenol-red indicator the color changes from red, through yellow, to red; 2 drops ammonia are added in excess.The solution is cooled to room temp. and Zr is precipitated by addition of 10–15 ml 6% aqueous cupferron soln. ,which is added slowly with stirring, the soln. is left in the cold one night. The precipitate is filtered off using a filter of 9 cm. M (white band), and washed 5–6 times with cold water. The precipitate with the filter paper is placed in a weighed Pt or porcelain crucible, ignited for 10–20 min. at 1000°C, cooled in a desiccator and ZrO_2 is weighed. The factor for Zr calculation from ZrO_2 is 0.7403.

2) Determination of niobium — 50 ml 2% soln. of boric acid, 5 ml HCl, 20–25 ml 6% aqueous soln. of cupferron are added to the filtrate obtained after the separation of the Zr by vigorous and constant stirring to complete coagulation of the precipitate. After filtration carried out under the same conditions as for the Zr separation, the 20 ml 6% aqueous cupferron soln. The precipitate with the filter is ignited in Pt or porcelain crucible for 15–20 min. at 1000°C cooled in a desiccator and the Nb_2O_4 weighed. The factor for the Nb calculation from Nb_2O_4 is 0.6990.

ASSOCIATION. Institut metallurgii im. A.A. Baykova, Akademii Nauk SSSR. (Institute of metallurgy im. A A. Baykov, Academy of Sciences, USSR) Moscow

SUBMITTED: May 8, 1961

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2

Determination of zirconium in the ... S/075/62/017/008/001/004
E071/E135

ASSOCIATION: Institut metallurgii im. A.A. Baykova, Moskva
(Institute of Metallurgy imeni A.A. Baykov, Moscow)

SUBMITTED: January 19, 1962

Card 2/2

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2

KIUBOV, V.A.; CHESKUKOV, N.I.

Prospects for finding oil in the Orenburg portion of the Kama-Kinel' system of troghs. Neftegaz. geol. i geofiz. no. 5:8-11 '63. (MIRA 17:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy geologorazvedochnyy neftyanoy institut i Neftepromyslovoy upravleniye "Buruuslarneft'".

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2

"Historical Dates of Our Aviation and Aeronautics"

Izdatel'stvo Dosaaf, Moscow 19[illegible]

Translation - Lia [illegible]

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2"

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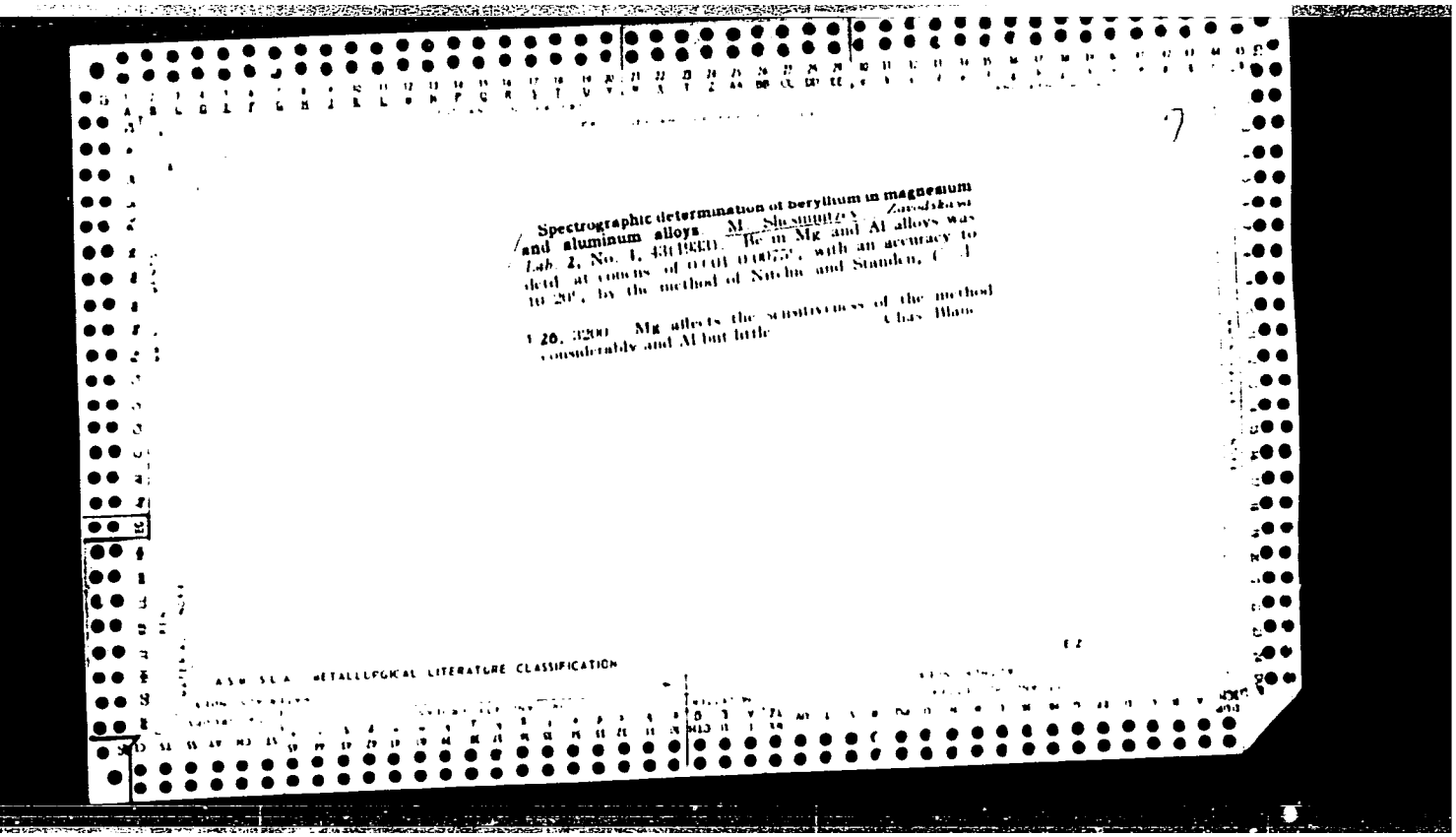

Spectrographic determination of beryllium in magnesium and aluminum alloys. M. Shesmintzev. *Zavodskaya Lab.* 2, No. 1, 43(1933). Be in Mg and Al alloys was detd. at concns. of 0.001-0.0075%, with an accuracy to 10-20%, by the method of Nitchie and Standen, C. A.

1 26, 3200. Mg affects the sensitiveness of the method considerably and Al but little. Chas. Blanc

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2"

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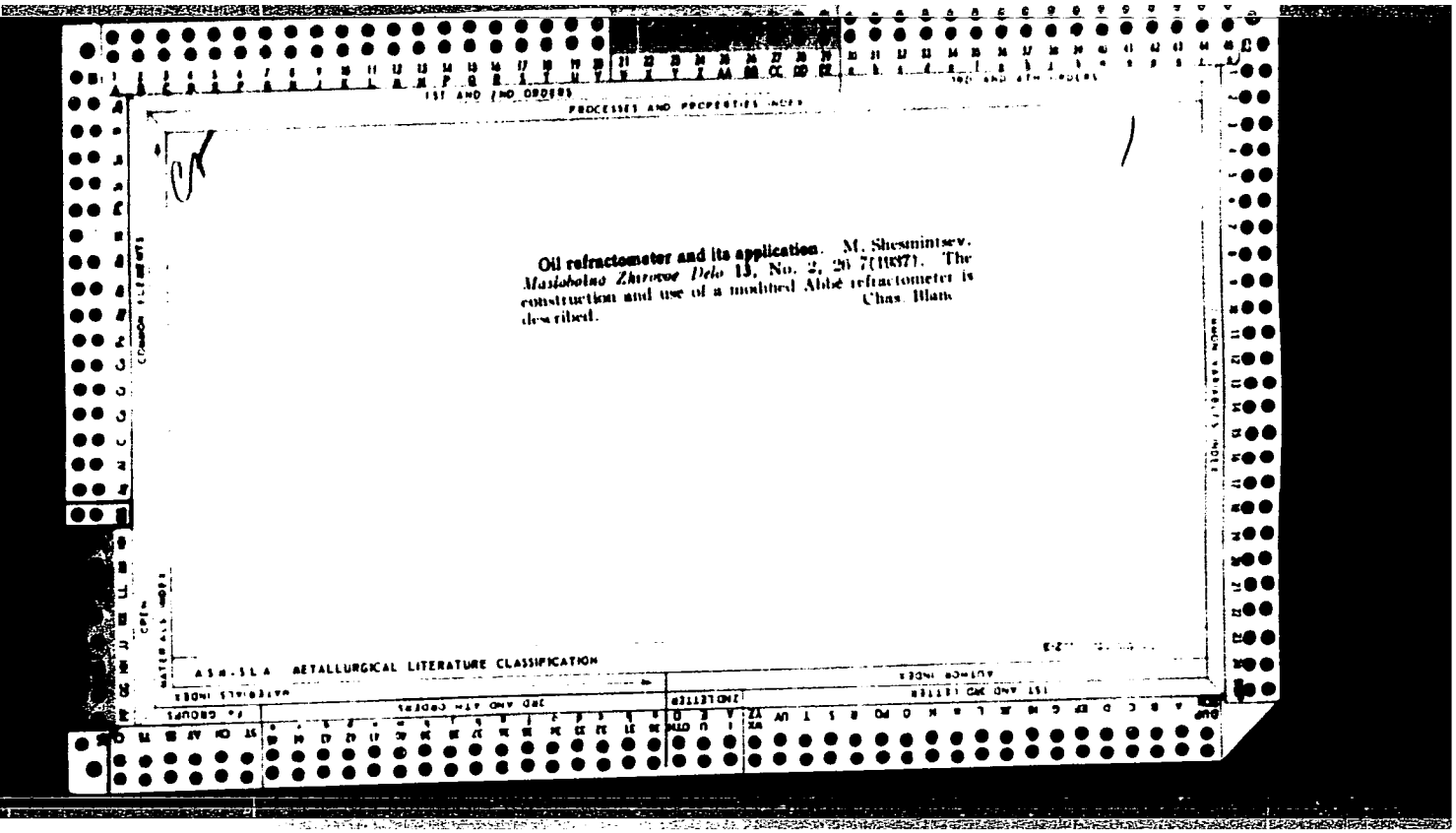

Oil refractometer and its application. M. Shesmintsev. *Maslobolno Zhirovoe Delo* 13, No. 2, 26 7(1947). The construction and use of a modified Abbé refractometer is described. Chas. Blanc

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2

SUM [illegible],

Mbr., All-Union Electro-Technical Inst., Moscow, -1945-. "The Lighting System Aberration Effect on the Illumination of a Screen by an Infinitesimal Source of Light," Zhur. Tekh. Fiz., 14, Nos. 4-5, 1944; "On the Influence of Spheric Aberration on the Photometric Characteristics of Optical Apparatus," ibid., 16, No. 2, 1946; "On the Question of the Distribution of the Illumination in the Plane of the Image of Photographic Objectives," ibid., No. 4, 1946.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2

SHESMINTSEV, M.A.; YAKOVLEV, N.V.

High-illuminance mirror-lens systems used for image transmission.
Opt.-mekh.prom. 25 no.5:24-25 My '58. (MIRA 11:9)
(Optical instruments)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2

ACCESSION NR: AR4041593 S/0137/64/000/005/D038/D038

SOURCE: Ref. zh. Metallurgiya, Abs. 5D225

AUTHOR: Shesno, L. P.; Shevchenko, G. A.

TITLE: Influence of method of heating of bilayer billets (steel E1847-armco iron) under hot rolling on inclination in intercrystalline corrosion of steel E1847 in Hotrolled clad pipes

CITED SOURCE: Sb. Proiz-vo trub. Vy*p. 10. M., Metallurgizdat, 1963, 106-109

TOPIC TAGS: bilayer billet, bilayer billet heating, hot rolling, intercrystalline corrosion, clad pipe/E1847 steel

TRANSLATION: In investigation conducted for clarification of the influence of the method of heating of bilayer billets under rolling on inclination of steel E1847 to intercrystalline corrosion, for abutment boundary contact with Armco Fe hot-rolled billet of steel E1847 from automatic mill was used, which after boring and

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ACCESSION NR: AR4041593

line corrosion, as conducted investigations showed on hot-rolled pipes of steel EI847 with cladding of Armco Fe is usually of a local character, whereupon with strengthening of degree of corrosion the area of sections affected by it increases, including the entire surface of bending of sample. Bibliography: 6 references.

SUB CODE: MM ENCL: 00

Card 3/3

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2

SHESTAK, G.A., kand. tekhn. nauk

Recurrence of basic parameters of one-story industrial buildings of the machinery industry. Prom. stroi. 37 no.6:48-50 Je '59. (MIRA 12:8)

(Factories--Designs and plans)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2

KIKIN, A.I., prof.; SELENYA, Ye.I., prof.; STRELETSKIY, N.S., prof., doktor tekhn. nauk; LESSIG, Ye.N., dots.; LUKHANOV, K.K., dots.; DUBINSKIY, G.S., dots.; SHESTAK, G.A., dots.; IGNAT'YEVA, V.S., dots.; NYRKOV, V.M., dots.; GENIYEV, A.N., prof.; VEDENIKOV, G.S., dots.; TUBIN, S.M., kand. tekhn. nauk, nauchnyy red.; BEGAK, B.A., red. izd-va; OSENKO, L.M., tekhn. red.

[Metal construction; present state and outlook for future development] Metallicheskie konstruktsii; sostoianie i perspektivy razvitiia. Pod obshchei red. N.S.Streletskogo. Moskva, Gos. izd-vo lit-ry po stroit., arkhit. i stroit. materialam, 1961. 333 p. (MIRA 15:4)

1. Moscow. Moskovskiy inzhenerno-stroitel'nyy institut.
2. Kafedra metallicheskikh konstruktsiy Moskovskogo inzhenerno-stroitel'nogo instituta imeni V.V.Kuybysheva (for all except Tubin, Begak, Osenko).

(Building, Iron and steel)
(Aluminum, Structural)

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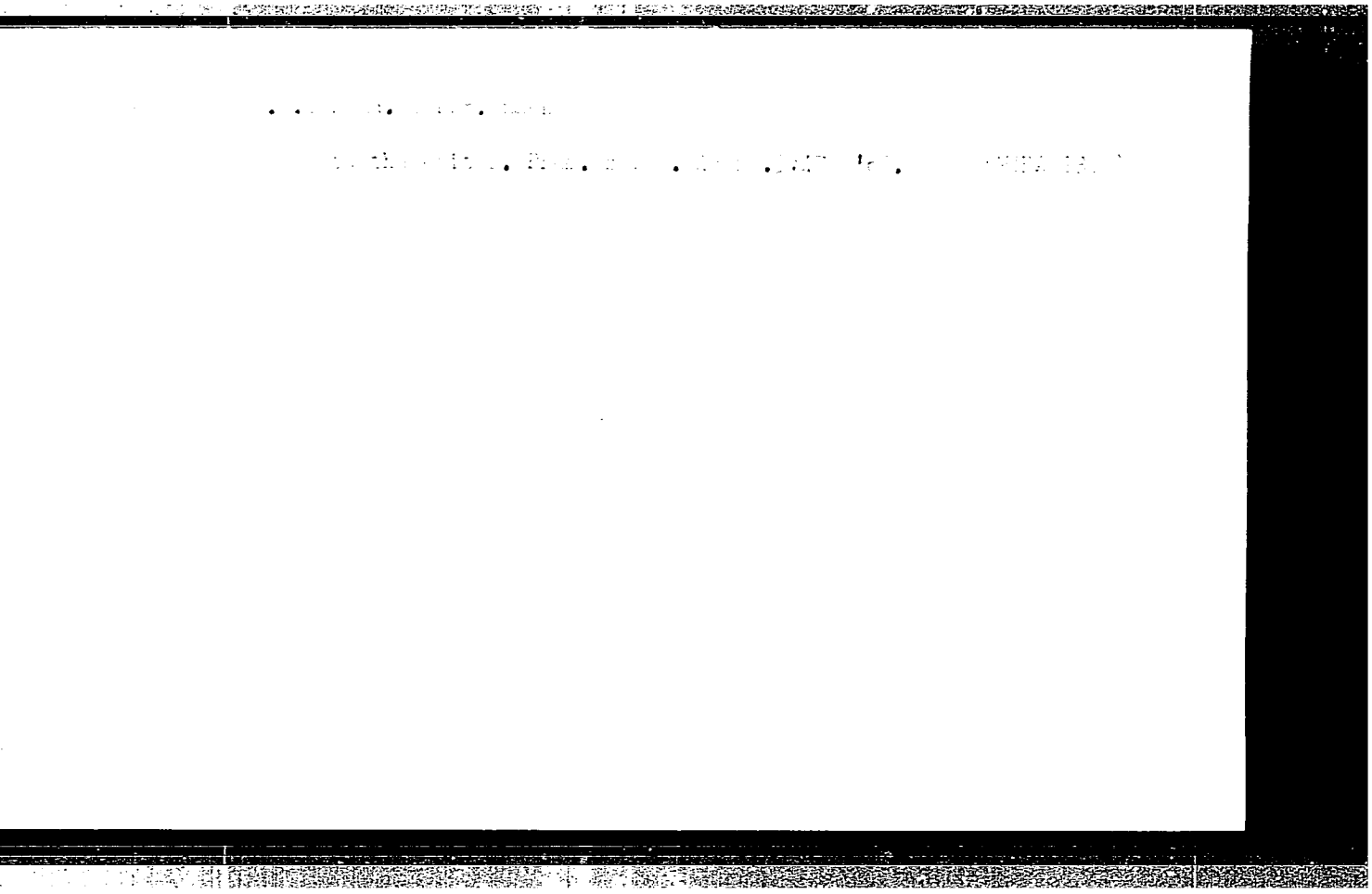

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2

SHESTAK, Georgiy Andrianovich, kand. tekhn. nauk; GENIYEV, A.N., prof., retsenzent; ZELYATOROV, V.N., inzh., nauchn. red.

[Designing steel structures for one-story industrial buildings] Proektirovanie stal'nykh konstruktsii odnoetazhnogo promyshlennogo zdaniia. Moskva, Stroiizdat, 1964. 169 p. (MIRA 17:4)

1. Kafedra metallicheskikh konstruktsiy Leningradskogo inzhenerno-stroitel'nogo instituta (for Geniyev).

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2

SHESTAK, N.A.

Melting glass in furnaces with divided zones. Stek. i ker. 18 no.6:6-7 Je '61. (MIRA 14:7)
(Glass furnaces)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2

SHESTAK, N.A.; ROKHLIN, P.N.

Regenerative glass furnace with crosscurrent alignment of the flame.
Stek. i ker. 19 no.1:12-14 Ja '62. (MIRA 15:3)
(Glass furnaces)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2

SHESTAK, N.A.

Operation of glass furnaces on natural gas. Stek. i ker. 20 no.12:24-26 D '63. (MIRA 17:1)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2

SHESTAK, N.D., inzhener.

Apparatus for unloading loose materials from railroad platforms. (MLRA 9:2)
Avt.der.18 no.6:26 O '55.
(Loading and unloading)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2

SHESTAK, N.D., inzhener.

Erecting the framework of concrete plants. Avt.dor. 19 no.9:11-12 S '56. (MLRA 9:11)

(Concrete plants)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2

SHESTAK, N. P.

S/081/62/000/006/099/117
B162/B101

AUTHORS: Dorogochinskiy, A. Z., Bashilov, A. A., Chertoryzhskiy, A. V., Arutyunova, O. L., Krechetova, P. I., Shestak, N. P.

TITLE: The problem of the choice of solvent for polymerization of ethylene into polyethylene at low pressure

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 6, 1962, 614, abstract 6P35 (Tr. Groznensk. neft. in-t, v. 3, sb. 25, 1961, 17-29)

TEXT: An investigation is made of the possibility of using extraction benzine as a solvent for ethylene when polymerizing it into polyethylene at low pressure. It is shown that the following are suitable: an extraction benzine fraction evaporating at 65-90°C with an aromatic hydrocarbon content of 3.8% before de-aromatization and of 0.7% after de-aromatization, or a fraction evaporating at 75-95°C in the case of which de-aromatization is not needed (aromatic hydrocarbon concentration 0.7%). It is shown that the presence of aromatic hydrocarbons has no effect on the polymerization process, but impairs the regenerability of the solvent. [Abstracter's note: Complete translation.]

Card 1/1

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2

SHESTAK, N. P.; CHERTORIZHSKIY, A. V.; MIRSKIY, Ya. V.; MITROFANOV, M. G.; DEMENKOV, I. A.

Adsorption properties of synthetic zeolites-molecular sieves and their use in the advanced-stage dehydration of monomers. Neftekhimia 2 no.4:512-518 Jl-Ag '62. (MIRA 15:10)

1. Groznenskiy nauchno-issledovatel'skiy neftyanoy institut i Groznenskiy khimicheskiy zavod.

(Zeolites) (Monomers)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2

GARBER, K.S., dotsent; NIKITIN, A.I.; LYAUDIS, B.V.; MALINOVSKIY, B.N., kand. tekhn.nauk; BEL'SKIY, O.I.; VOLKOV, L.G.; KUZNETSOV, M.P.; KUTSENKO, A.D., SOROKIN, A.A.; STAKHURSKIY, A.D.; TRUBITSYN, L.M.; TRUSEYEV, A.I.; SHAFRAN, I.K., inzh.; SHESTAK, P.I.; UL'YANOV, D.P.

Automatic control of converter smelting by means of compu' rs. Stal' 23 no. 7:608-610 Jl '63. (MIRA 16:9)

1. Dneprodzerzhinskiy metallurgicheskiy zavod-vtuz im. M.I. Arsenicheva (for Garger). 2. Institut kibernetiki AN UkrSSR (for Malinovskiy). 3. Zavod im. Dzerzhinskogo (for Shafran).

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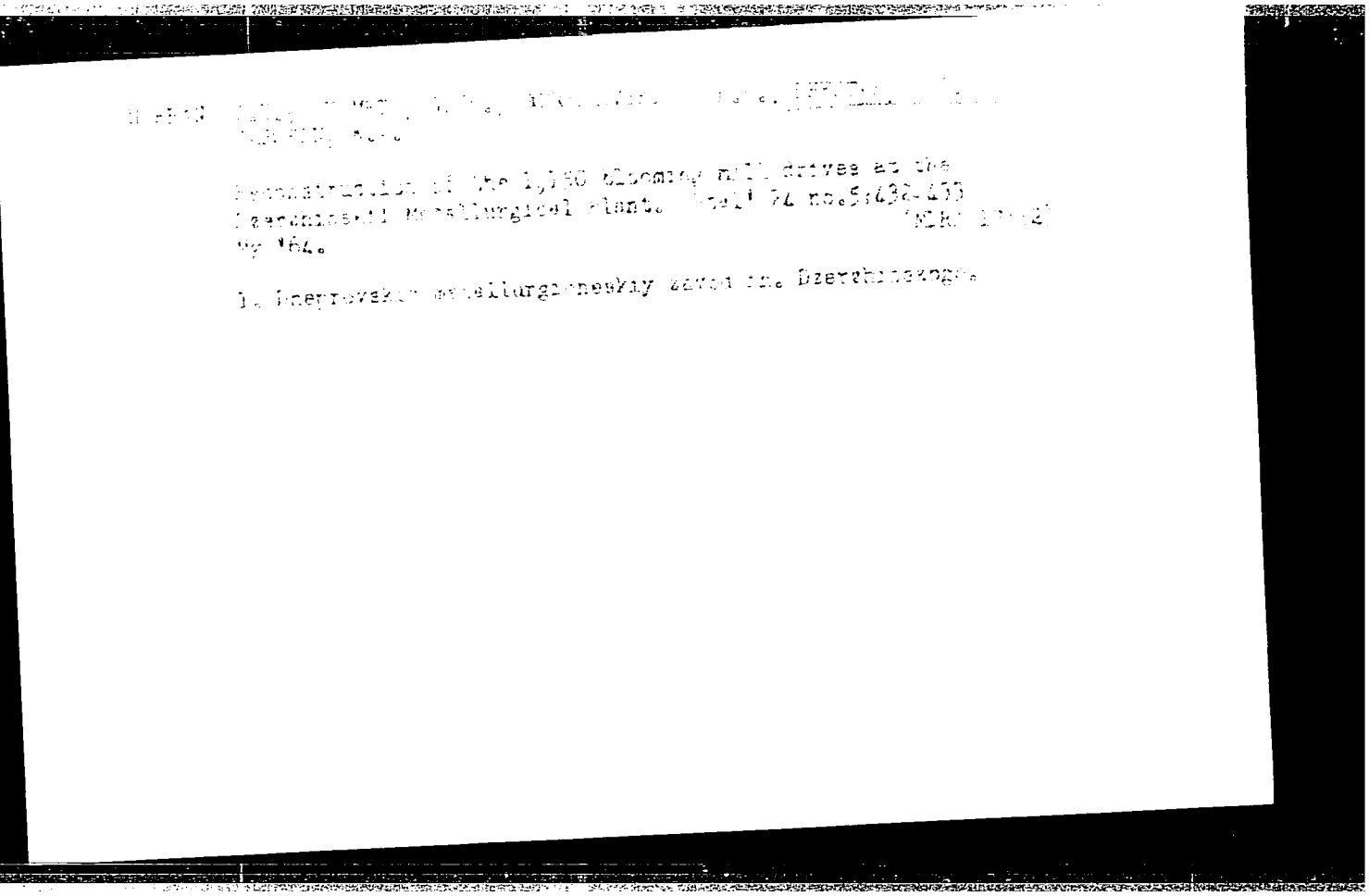

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2

SHESTAK, S., podpolkovnik yustitsii

Temporary center of legal information. Komm.Vooruzh.Sil 3 no.22:92 N '62. (MIRA 15:12)
(Military law—Study and teaching)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2

LUZANSKAYA, Dora Isaakovna; SHPARLINSKIY, V.M., spets. red.; AYNZAFT, Yu.S., red.; SHESTAK, S.N., red.

[Inland-water fisheries of the U.S.S.R. (lakes, rivers, and reservoirs); a guide] Rybokhoziaistvennoe ispol'zovanie vnutrennikh vodoemov SSSR (ozer, rek i vodokhranilishch); spravochnik. Moskva, Pishchevaia promyshlennost', 1965. 597 p. (MIRA 18:7)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2

LAZAREVA, V.S., assist.; SHESTAK, S.S.

Determining the toxicology of grain and combined feeds. Veterinariia 34 no.10:70 O '57. (MLRA 10:11)

1. Chkalovskiy gosmedinstitut (for Lazareva). 2. Zaveduyushchiy khimiko-toksikologicheskim otdelom Chkalovskoy nauchno-issledovatel'skoy veterinarnoy stantsii (for Shestak)
(Feeding and feeding stuffs--Toxicology)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2

SHESTAK, S.S., nauchnyy sotrudnik; KORENEV, G.P.; KORENEVA, T.A.; SAPOGOV, A.G., nauchnyy sotrudnik

Use of SZHK (pregnant mare's serum). Veterinariia 37 no.1:10-12 Ja '60. (MIRA 16:6)

1. Orenburgskaya nauchno-issledovatel'skaya veterinarnaya stantsiya (for Shestak). 2. Direktor Simferopol'skoy mezhsovkhoznoy laboratorii (for Korenev). 3. Simferopol'skaya mezhsovkhoznaya laboratoriya (for Koreneva). 4. Turkmenskaya NIIZhV (for Sapogov).
(Serum therapy) (Veterinary medicine)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2

SHESTAKOV, A.

Reducing the cost of transportation. NTO 2 no.1:22-24 Ja '60. (MIRA 13:5)

1. Predsedatel' pravleniya Nauchno-tekhnicheskogo obshchestva Omskoy zheleznoy dorogi.
(Omsk--Railroad research)

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2

SHESTAKOV, A., tekhnik-stroitel'; DIKIY, V.; TUMASYAN, I.; KLOKOV, N., inzhener-stroitel'; POPOV, F., inzh.

Readers' letters. Sel'. stroi. 15 no.4:27 Ap '61. (MIRA 14:6)

1. Sel'khozinspektsiya Orshanskogo rayona, Mariyskoy ASSR (for Shestakov). 2.Predsedatel' kolkhoza imeni Kirova Yegorlyksogo rayona, Rostovskoy oblasti (for Dikiy). 3. Sekretar' partiynoy organizatsii kolkhoza imeni Kirova Yegorlykskogo rayona, Rostovskoy oblasti (for Tumasyan). 4. Sel'khozinspektsiya Khorol'skogo rayona, Primorskogo kraya (for Klokov).
(Farm buildings)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2

TSURIKOV, V. (Bryansk); SHESTAKOV, A.

From the history of fire prevention. Pozh.delo 8 no.6:32 Je '62. (MIRA 15:6)
(Firemen)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2

SHESTAKOV, Anatoliy, inzh.

Tuning up and launching into operation of the Maritsa-Iztok I. Thermoelectric Plant. Elektroenergiia 13 no.5/6:34-37 My-Je '62.

1. Gl. inzhener na grupata suvetski spetsiali pri Teploelektricheskata tsentrala "Maritsa-Iztok I."

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2

25(1) PHASE I BOOK EXPLOITATION SOV/2330

Shestakov, Andrian Andrianovich

Machinist parovozdushnogo molota (Steam Hammer Operator) Moscow, Mashgiz, 1959. 118 p. Errata slip inserted. 8,000 copies printed.

Reviewer: P. G. Levandovskiy, Engineer; Eds.: B.N. Kazarinov, Engineer, and S. G. Puchkov, Engineer; Tech. Ed.: N. A. Dugina; Executive Ed.: A. V. Kaletina, Engineer (Ural-Siberian Division, Mashgiz).

PURPOSE: This book is intended as a manual for steam hammer operators and repairmen, and may also be used by forging machine workers.

COVERAGE: The book provides information on open and closed die forging processes, on forgeability of metals, and equipment for heating forging stock. This book is primarily concerned with the constructions and performance of steam forging hammers and hydraulic and crank presses. No personalities are mentioned. There are 10 references, all Soviet.

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Concept of the processes of open die and closed die forging 3

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2

SHESTAKOV, Andrian Andrianovich; LEVANDOVSKIY, P.G., inzh., retsenzent: KAZARINOV, B.N., inzh., red.; PUCHKOV, S.G., inzh., red.; DUGINA, N.A., tekhn.red.

[Steam and pneumatic hammer operator] Mashinist parovozdushnogo molota. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1959. 118 p. (MIRA 12:4)
(Forging machinery)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2

SHESTAKOV, A.; GOLOV, Yu.

From the history of fire departments. Pozh.delo 8 no.4:30 Ap '62. (MIRA 15:4)

(Fire departments)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2

SHISTAKOV, A. A., Cand. Physicomath Sci.

Dissertation: "Behavior of Integral Curves of a System of Differential Equations in the Vicinity of a Lingulal Point of Higher Order." Sci Res Inst. of Mathematics, Moscow Order of Lenin State U imeni M. V. Lomonosov., 17 Dec 47.

SO: Vechernyaya Moskva, Dec 1947 (Project #17836)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2

[redacted], A. A.

Mor., Sci. Res. Inst. Math., Moscow State Univ. -c1948-. Mor., Seismologic Inst., Dept. Physico-Math. Sci., Acad. Sci., -c1949-. "Behavior of Integral Curves of the System of Ordinary Differential Equations in the Vicinity of a Singular Point," Dok. AN, 62, No. 2, 1948; "The Asymptotic Behavior of the Solutions of a Non-Linear System of Differential Equations," ibid., 62, No. 5, 1948; "The Behavior of Integral Curves of a System of Differential Equations in the Neighborhood of a Singular Point of Higher Order," ibid., 65, No. 2, 1949.

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2

ŠESTAKOV, A. A.

3000

Šestakov, A. A. On the behavior of the integral curves of a system of ordinary differential equations in the neighborhood of a singular point. Doklady Akad. Nauk SSSR (N.S.) 62, 171–174 (1948). (Russian)

The equations

$$(1)\qquad \dot{x}_1=\sum_{j=m}^{\infty} c_j x_1^j, \quad \dot{x}_i=\sum_{j=1}^{n} a_{ij}x_j+X_i(x_1, x_2, \cdots, x_n), \quad i=2, \cdots, n,$$

are considered, $O: x_1=\cdots=x_n=0$ being an isolated singular point and the X_i being power series beginning with terms of at least the second degree. The characteristic roots λ_j of the matrix (a_{ij}), $i, j=2, \cdots, n$, are supposed to have non-vanishing real parts. Theorem 1. If $\Re(\lambda_j)>0$, $j=1, \cdots, k-1$; $\Re(\lambda_j)<0$, $j=k, \cdots, n$, and if $c_m>0$, then given any system of k sufficiently small numbers $x_1^0, \cdots, x_k^0 (x_1^0>0)$, there is one and only one system $x_{k+1}^0, \cdots, x_n^0$ such that the solution passing through the point $(x_1^0, \cdots, x_n^0)$ tends to O as $t\to-\infty$. The singular point is classified as a node, a generalized saddle of the 1st, 2d or 3d type or a saddle-node, according to the signs of c_m and of the $\Re(\lambda_j)$ and whether m is even or odd. Theorem 2. If the λ_j are real and negative, $m\geqq 2$, the solutions tending to O are tangent at the origin to the curve defined by equating to zero the second members of the last $n-1$ equations (1). *J. L. Massera.*

Source: Mathematical Reviews, Vol 10 No. 4

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2

SHESTAKOV, A.A.

Šestakov, A. A., and Palvin, A. U. On the asymptotic behavior of solutions of nonlinear systems of differential equations. Doklady Akad. Nauk SSSR (N.S.) 62, 495–498 (1948). (Russian)

The asymptotic behavior as $t \to \infty$ of the stable solutions of the system

$$dx_i/dt = \sum_{k=1}^{n} a_{ik}x_k + \varphi_i(x_1, x_2, \cdots, x_n, t), \qquad i = 1, 2, \cdots, n$$

(a_{ik} constant, $\varphi_i(0, 0, \cdots, 0, t) = 0$), has been studied by O. Perron [Math. Z. 29, 129–160 (1928)] and by I. G. Petrovsky [Rec. Math. [Mat. Sbornik] (1) 41, 107–155 (1934)]. In the present note some of those results are stated under weaker hypotheses. Not all of the proofs are given.

W. Wasow (Swarthmore, Pa.).

Source: Mathematical Reviews, Vol 10 No.8

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2

SHESTAKOV, A.A.

Šestakov, A. A. The behavior of the integral curves of a system of the form

$$\frac{dx_1}{dt}=X_1(x_1),\quad \frac{dx_i}{dt}=\varphi_i(x_1,x_i)+X_i(x_1,x_2,\cdots,x_n)$$

in the neighborhood of a singular point. Doklady Akad. Nauk SSSR (N.S.) 62, 591–594 (1948). (Russian)

Previous results of the author [see the preceding review] are generalized to the present systems. He assumes that $O: x_1=\cdots=x_n=0$ is an isolated singular point, that $x_1=0$ is an isolated root of X_1, that $J=\int_0^{x_1}X_1^{-1}dx_1$ diverges, that $0<m<|[\varphi_i(x_1,x_i)-\varphi_i(x_1,\bar{x}_i)]/(x_i-\bar{x}_i)|<M$ if $x_i\neq\bar{x}_i$ $(i=2,\cdots,n)$ and that the X_i have continuous first partial derivatives vanishing at the origin. Theorem 2 of the previous paper is generalized as follows. In order that the integral curves which tend to O enter the origin along one and only one direction, the assumption $dX_1/dx_1\to 0$ as $x_1\to 0$ is sufficient. *J. L. Massera* (Montevideo).

Source: Mathematical Reviews, Vol 10 No. 4

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2

[illegible], A. A.

41962. [illegible], A. A. PAYVIN, A. [illegible].-- Ob asimptoticheskom povedenii resheniy nelineynov sistemy differentsial'nykh uravneniy. Doklady akad. Nauk SSSR, Novaya seriya. T. [illegible]. No 5, 1948. S. 495-98

SO: Letopis' Zhurnal'nykh Statey, Vol. 47, 1948

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2

GTRSPL, NO. 45

Shestakov, A.A. (F.E. Dzerzhinski Moscow Electromechanical Institute of Engineers of Railroad Transportation). Some theorems on instability in the sense of Lyapunov. 25-8

Akademiya Nauk, S.S.S.R.,Doklady, vol. 79, No. 1 1951

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2

SHESTAKOV, A.A.

Šestakov, A. A. **On the behavior of the integral curves of a system of n differential equations ($n \geq 3$) near to a singular point of higher order.** Doklady Akad. Nauk SSSR (N.S.) 79, 205–208 (1951). (Russian)

Let $\dot{x}_i = X_i(x_1, \cdots, x_n)$, where the X_i vanish at the origin and are holomorphic in its neighborhood; the developments may begin with terms of degree higher than one. The author proves the existence of families of integral curves given by equations $x_i = (a_i + z_{i-1})t^{p_i}$ where the p_i are integers, a_i constants and $z_i \to 0$ as $t \to 0$; the precise statement is too lengthy to be formulated here. There are several printing errors.

J. L. Massera (Montevideo).

Moscow Electromechanical Acad. RR Transport Engineers. im F. E. Dzerzhinskiy

Source: Mathematical Reviews, Vol 13 No. 5

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2

SHESTAKOV, A. A.

Šestakov, A. A. Some theorems on stability in Lyapunov's sense. Doklady Akad. Nauk SSSR (N.S.) 79, 25–28 (1951). (Russian)

Let $\dot{x}_s = X_s^{(m)}(x_1, \cdots, x_n) + L_s(x_1, \cdots, x_n)$, where the $X_s^{(m)}$ are relatively prime homogeneous polynomials of degree m and $L_s = O(r^{m+1})$, $r^2 = x_1^2 + \cdots + x_n^2$. Any solution $(a_1, \cdots, a_n)$ of the system $x_1/X_1^{(m)} = \cdots = x_n/X_n^{(m)}$ is a "critical direction" and, if m is odd, it is called "positive" whenever the ratio $x_1/X_1^{(m)}$ is positive. The following results are proved: (1) If a critical direction exists (m even) or if a positive critical direction exists (m odd), the origin is unstable; (2) if n is odd, there is always a critical direction; (3) as a corollary, the case n odd, m even, is always unstable. Another criterion of instability is derived for the case $m = 1$ when several characteristic exponents vanish. *J. L. Massera.*

Source: Mathematical Reviews, Vol 13 No 5

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2

SHESTAKOV, A. A.

USSR/Mathematics - Nonlinear Mechanics 1 Jul 51
Stability, Servo

"Certain Theorems Concerning Stability in Liapounoff's Sense," A. A. Shestakov, Moscow Electromech Inst of Engineers of Railroad Transport imeni F. E. Dzerzhinskiy

"Dok Ak Nauk SSSR" Vol LXXIX, No 1, pp 25-28

Considers the system of differential eqs of disturbed motion: $x_s' = F_s(x_1,..,x_n)$, where $F_s(0,..,0) = 0$ $(s = 1,..,n)$. Derives some new criteria governing the stability or instability (e.g., nature of the roots of the characteristic eq), in the form of 4 theorems. Presented by Acad I. G. Petrovskiy 28 Apr 51.

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APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2

SHESTAKOV, A. A.

"Distribution cs Singular Points of a System of n Differential Equations", Tr. Kazansk, Aviats. In-ta, Vol 27, 1953, pp 41-50.

The author presents a development of Poincare's investigations of the distribution of singular points of a system of n differential equations inside an (n - 1) dimensional manifold, where n is greater than or equal to 3. The system discussed is the following:

$\frac{dx_s}{dt} = X_s(x_1, \ldots, x_n), \quad s = 1, 2, \ldots, n,$

where X_s and the partial derivative of X_s with respect to x_j are continuous and bounded in a bounded region $F(x_1, \ldots, x_n) < 0$ of n-dimensional space. (RZhMat, No 1, 1955).

SO: Sum. No. 443, 5 Apr. 55

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2

FUKS, Boris Abramovich, prof.; BAKHSHIYAN, F.A., prof.; ANDRIYEVSKIY, F.P., dotsent; MIROSHKOV, R.K., dotsent; NAGAYEVA, V.M., dotsent; SOBOLEV, N.A., dotsent; SOKOLOV, A.M., dotsent; SHAPIRO, Z.Ya., dotsent; SHUSHARA, G.N., dotsent; KAPLAN, I.B., starshiy prepodavatel'; POLOZKOV, A.P., starshiy prepodavatel'; POLOZKOV, D.P., starshiy prepodavatel'; TOPAZOV, N.G., starshiy prepodavatel'; SHCHERBAKOV, S.S., starshiy prepodavatel'; Prinimali uchastiye: GOL'DENVEYZER, A.L., prof.; BARANENKOV, G.S., dotsent; BERMAN, Ya.R., dotsent; LUNTS, G.L., dotsent; SHESTAKOV, A.A., dotsent; GMURMAN, V.Ye., starshiy prepodavatel'; Rozental', M.I., assistent; SOKOLOVA, L.A., assistent. ROZANOVA, G.K., red.izd-va; KUZ'MINA, N.S., tekhn.red. (Continued on next card)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2

FUKS, Boris Abramovich--(continued) Card 2.

[Higher mathematics; methodological instructions and control assignments for the students of correspondence technical schools of university level] Vysshaia matematika; metodicheskie ukazaniia i kontrol'nye zadaniia dlia studentov zaochnykh vysshikh tekhnicheskikh uchebnykh zavedenii. Izd.9. Pod red. B.A.Fuksa. Moskva, Gos.izd-vo "Sovetskaia nauka," 1958. 179 p. (MIRA 12:9)

1. Russia (1923- U.S.S.R.) Ministerstvo vysshego obrazovaniya. Metodicheskoye upravleniye.
(Mathematics--Study and teaching)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2

ZAPOROZHETS, G.I.; SHESTAKOV, A.A., red.; MEDVEDEVA, M.A., tekhn.red.

[Methodological handbook for solving problems on mathematical analysis] Metodicheskoe rukovodstvo k resheniiu zadach po matematicheskomu analizu. Moskva, Vsesoiuznyi in-t inzhenerov zhel-dor.transporta. Pt.1. 1959. 202 p. (MIRA 13:5)
(Mathematical analysis)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2

16(1) SOV/42-14-1-23/27

AUTHOR: Shestakov, A.A.

TITLE: Theorems on the Existence of Integral and Critical Straight Lines of a Homogeneous System of n Differential Equations ($n \geq 3$) (Teoremy o sushchestvovanii integral'nykh i kriticheskikh pryamykh odnorodnoy sistemy n differentsial'nykh uravneniy ($n \geq 3$))

PERIODICAL: Uspekhi matematicheskikh nauk, 1959, Vol 14, Nr 1, pp 245-248 (USSR)

ABSTRACT: The author considers the system

(1) $\frac{dx_s}{dt} = X_s^{(m)}(x_1,\ldots,x_n)$, $m \geq 2$, $n \geq 3$,

where the $X_s^{(m)}$ are forms of m-th degree. The real solutions $g = (g_1, g_2, \ldots, g_n)$ of the algebraic equations $x_1 : X_1^{(m)} = x_2 : X_2^{(m)} = \ldots = x_n : X_n^{(m)}$ define the straight lines $x_p : x_n = g_p : g_n$; these are integral curves of (1). Theorem 1 is already announced in [Ref 1]. Theorem 2: If m is odd, then (1) has at least one integral straight line. Definition: If a solution runs at infinity in

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2

Theorems on the Existence of Integral and Critical Straight Lines of a Homogeneous System of n Differential Equations ($n \geqslant 3$)

SOV/42-14-1-23/27

the direction $g = (g_1, \ldots, g_n)$, then this straight line is called critical.

Theorem: The critical straight lines are integral straight lines.

There are 2 references, 1 of which is Soviet, and 1 German.

SUBMITTED: November 4, 1957

Card 2/2

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2

AUTHORS: Pkhakadze, A.V., and Shestakov, A.A. SOV/39-49-1-1/5
(Moscow)

TITLE: On the Classification of Singular Points of a First Order Differential Equation Where the Derivative is Not Given Explicitly

PERIODICAL: Matematicheskiy sbornik, 1959, Vol 49, Nr 1, pp 3-12 (USSR)

ABSTRACT: Given the Differential equation

(1) $F(x,y,y') = 0.$

To the solutions $y = f(x)$ there correspond those curves of the surface

(S) $F(x,y,p) = 0$

for which

(2) $-p\,dx + dy = 0.$

The equations of these curves are

(3) $\frac{dx}{dt} = -F_p, \quad \frac{dy}{dt} = -p\,F_p, \quad \frac{dp}{dt} = F_x + p\,F_y.$

The singular points (x_o,y_o,p_o) of (3) are defined by $F = 0$, $F_p = 0$, $F_x+pF_p = 0$. Definition: If $(x_o,y_o,p_o) \in S$ is a singular point of (3), then (x_o,y_o) is called a singular point of (1).

Card 1/2

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On the Classification of Singular Points of a First Order Differential Equation Where the Derivative is Not Given Explicitly

SOV/39-49-1-1/5

This definition deviates from the definition of J.G.Petrovskiy [Ref 1] and gives the possibility of a classification of the singular points of (1). With the aid of the Taylor development of F the authors obtain the "differential equation of the first approximation":

$$(7) \qquad \frac{1}{2}(F_{pp})p^2+(F_{xp})xp+\frac{1}{2}(F_{xx})x^2+F_y y = 0,$$

where $0(x^3+p^3)$ is neglected since these terms have no influence on the behavior of the integral curves in the neighborhood of the singular point. Differentiating (7) with respect to x and considering p as a function of x, then there follows

$$(13) \qquad \frac{dp}{dx} = \frac{2\beta x+(\alpha+\gamma)p}{-\gamma x-2p},$$

where α, β, γ are certain constants. Now the classification of the singular points is transferred from (13) to (7) and further to (1), where three principal types are distinguished: elliptic, hyperbolic, and parabolic singular points. There are 5 figures, and 2 references, 1 of which is Soviet, and 1 French.

SUBMITTED: November 18, 1957

Card 2/2

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2

13

69986

S/020/60/131/05/14/069

Asymptotic Behavior of Solutions to Multi-dimensional Systems of Ordinary Differential Equations Having a Singular Point of Higher Order

author asserts that (1) has families of solutions of certain dimensions which along these parabolas run through the origin. The author distinguishes several cases. There are 4 long theorems.
There are 2 Soviet references.

ASSOCIATION: Vsesoyuznyy zaochnyy institut inzhenerov zheleznodorozhnogo transporta (All-Union Correspondence Institute for Engineers of Railroad Transportation)

PRESENTED: December 18, 1959, by I.G.Petrovskiy, Academician

SUBMITTED: December 15, 1959

Card 2/2

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2

Asymptotic behavior of the...

$x = (\omega + y)\tau$ and $\bar{\tau} = (c_o - t)^r$, $x = (\bar{\omega} + \bar{y})\bar{\tau}$. The eigenvalues of L and M are characteristic of the asymptotic behavior of the solutions. Several theorems concerning this behavior are derived. There are 10 Soviet references.

SUBMITTED: August 13, 1960

Card 2/2

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2

KHRIPUNOV, A.M., inzh.; SHESTAKOV, A.D., inzh.; SHEPILOV, M.Ye., inzh.

Our method to secure an accurate performance of the regenerative braking circuit of the VL8 electric locomotive; from the practices of the Zlatoust Depot of the Southern Urals Railroad. Elek. i tepl.tiaga no.8:13-16 Ag '63. (MIRA 16:9)

1. Depo Zlatoust Yuzhno-Ural'skoy dorogi.
(Electric locomotives--Brakes)

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2

SHESTAKOV, A.I., red.; IVANUSHKO, N.D., red.; SVESHNIKOV, A.A., tekhn. red.

[Programmed teaching and cybernetic teaching machines; collection of scientific and technical articles] Programmirovannoe obuchenie i kiberneticheskie obuchaiushchie mashiny; nauchno-tekhnicheskii sbornik statei. Moskva, "Sovetskoe radio," 1963. 247 p. (MIRA 17:3)

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2

82292
S/135/60/000/007/010/014
A006/A002

18.7200

AUTHORS: Gritsenko, A.F., and Shestakov, A.I., Engineers

TITLE: Pressure-Butt Welding of Aluminum-Magnesium Alloy Parts of up to 10,000 mm^2 Cross Section

PERIODICAL: Svarochnoye proizvodstvo, 1960, No. 7, pp. 30-33

TEXT: The Laboratory of Electrothermics of the Institut elektrotekhniki AN USSR (Institute of Electric Engineering AS UkrSSR) and a machinebuilding plant developed a technology of pressure-butt welding of aluminum-magnesium alloy blanks (AMr-5BM(AMg5VM) and AMr3 (AMg3)) of up to 10,000 mm^2 cross section. The experimental investigation was carried out on a special installation designed by P.A. Pleskanovskiy (Figure 1). The ring-shaped blanks to be welded were decreased and heated up to 450°C. To carry out additional heating of high-strength alloys the installation was equipped with an induction heater. Welding was performed at a specific reduction pressure of 120 kg/mm^2 (the reduction rate was 0.5 m/min, the magnitude of reduction was 140 mm). One half of the specimens cut out from the weld joints were annealed at 280°C, and were then subjected to tension and bending tests. During tension the specimens broke down in the base metal. The weld joints had a high ductility. Macro- and micro-investigations showed the absence of inter-

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2

82292

S/135/60/000/007/010/014
A006/A002

Pressure-Butt Welding of Aluminum-Magnesium Alloy Parts of up to 10,000 mm^2 Cross Section

face boundaries, pores and cracks. Due to the presence of vanadium in the AMg5VM alloy, relatively short heating and low temperatures, the tendency to grain growth under pressure welding conditions did not considerably affect the mechanical properties of weld joints. The structure of AMg3 alloy joints was slightly coarser grained than that in the initial alloy. A slight increase in hardness was observed in the transition areas of the base metal to the butt. X-ray examination of AMg5VM specimens of 4,500-6,000 mm^2 cross section did not reveal any defects. The tests proved that the strength of weld joints produced by the described technology was equal to that of the base metal, with satisfactory bending angle values. Annealing to 280°C did not have any essential effect on the mechanical properties of the joints. The method is simple and economical. There are 5 photographs and 1 table.

Card 2/2

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2

LL620
S/135/63/000/001/003/016
A006/A101

AUTHORS: Khrenov, K. K., Academician of AN UkrSSR, Shestakov, A. I., Engineer

TITLE: On plastic deformation in pressure butt welding

PERIODICAL: Svarochnoye proizvodstvo, no. 1, 1963, 11 - 12

TEXT: It is proposed to determine plastic deformation in cold and pressure butt-welding from the volume of the extruded metall (burr). The metal cut-off during welding is weighed and the value obtained is divided by the specific metal weight. The proposed method is illustrated by examples which show that the notion of the "deformation degree" should be replaced by the term "deformation value", which can be experimentally determined. Butt welding should be performed with optimum deformation value. It is the decisive factor of the process: lower deformation reduces the strength and ductility of the weld and increased deformation raises the metal consumption. There are 4 figures.

ASSOCIATION: Institut elektrotekhniki AN UkrSSR (Institute of Electric Engineering, AS UkrSSR)

Card 1/1

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2

Pressure welding of rolled....

upsetting is doubled. The metal is heated to plastic state, clamped in special holding clamps, and upset in several reprisals. The clamps have a large gripping surface, hold the metal by friction, and thus do not deform the surfaces. Metal with surface defects and oxide films is squeezed out into the burr. Metallographic investigation of samples taken at different stages of the process reveals diffusion, fine metal structure, and absence of an overheated zone. The structure in the butt joint zone consists mainly of a solid solution of Mg in Al, and a very small β-phase. In tests, the bend angle of metal specimens from the joint is lower than in the base metal, and the impact strength 50% lower, simply because of the anisotropy of Al-Mg alloys. Conslusions: (1) Al-Mg alloy elements can be pressure butt-welded; (2) the quality of welded joints is high; (3) the techniques introduced at some heavy-machinery plants and developed for pressure butt welding elements with a cross section area of up to 10,000 mm^2 are recommended for extensive application. There are 3 figures and 2 tables.

ASSOCIATION: Institut elektrotekhniki AN USSR (Electrical Engineering Institute, AS UkrSSR)

SUBMITTED: February 10, 1962

Card 2/2

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2

KHRENOV, K.K., akademik; SHESTAKOV, A.I., inzh.

Plastic deformation during pressure butt welding. Svar.proizv. no.1:11-12 Ja '63. (MIRA 16:2)

1. Institut elektrotekhniki AN UkrSSR. 2. AN UkrSSR (for Khrenov).

(Welding) (Deformations (Mechanics))

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2

GRITSENKO, A.F., inzh.; SHESTAKOV, A.I., inzh.; YERMOLENKO, D.Ye., inzh.

Cold-pressure welding of dissimilar metals. Svar. proizv. no.2:32-33 F '63. (MIRA 16:2)

(Cold welding)

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2

ACCESSION NR: AP4037197 S/0125/64/000/005/0010/0014

AUTHOR: Shestakov, A. I. (Engineer)

TITLE: Cold and press welding of light alloys

SOURCE: Avtomaticheskaya svarka, no. 5, 1964, 10-14

TOPIC TAGS: aluminum alloy, titanium alloy, aluminum alloy welding, titanium alloy welding, cold welding, press welding, aluminum alloy press welding, aluminum alloy cold welding, titanium alloy press welding, titanium alloy cold welding

ABSTRACT: An experimental study of the potentialities of cold and press welding of aluminum-magnesium alloys (AMg3, AMg5V, AMg6), thermally-hardened alloys D16AT, ATsM, V92, titanium alloys VT1, VT6, and various combinations of the above is reported. The effects of temperature, deformation, pressure, and time upon the quality of the joints were determined. Al alloys were welded at 0.7-0.8 of their melt temperature (AMg5V at 450C). Three types of clamps were tested with different ratios of the clamping pressure to the upsetting pressure.

Card 1/2

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2

L 2097-66 EWP(e)/EPA(s)-2/EWT(m)/EPF(c)/EWP(i)/EPA(w)-2/EWP(t)/EWP(k)/EWP(z)/EWP(b) IJP(c) JD/WW/WH

ACCESSION NR: AP5022538 UR/0226/65/000/009/0001/0005

AUTHOR: Zemskov, G. V.; Shestakov, A. I.

TITLE: Diffusion impregnation of graphite powders

SOURCE: Poroshkovaya metallurgiya, no. 9, 1965, 1-5

TOPIC TAGS: graphite powder, powder particle, graphite particle impregnation, vapor phase impregnation, chromium impregnated graphite, titanium impregnated graphite, molybdenum impregnated graphite, tungsten impregnated graphite

ABSTRACT: A method of diffusion impregnation of graphite powder with carbide-forming elements in the gaseous phase is proposed. The method is based on a reaction between graphite powder mixed with the impregnation metal particles and a vaporized halide of the same metal transported by an inert gas or hydrogen. In the experiments, graphite powder was impregnated with chromium using liquid bromine as the halide and helium for bromine-vapor transport. The impregnation was conducted at 1000—1200C for up to 90 min. It was found that the optimum conditions for obtaining the thickest impregnated layer were a bromine temperature of 25C, a feed of helium and bromine of 7 ml/sec and 0.05 ml/min, respectively, and a weight ratio of chromium particles to graphite powder in the mixture equal to 6. The reaction temperature had the

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ACCESSION NR: AP5022538

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greatest effect on the impregnated layer thickness (see Fig. 1 of the Enclosure). Dense, uniform, strongly adhering layers were obtained on graphite grains 60 and 200 mesh with a 50-min reaction at 200C. X-ray structural analysis showed that all coatings consisted of Cr_3C_2 and Cr_7C_3 carbides with a microhardness of 1840—2440 dan/mm^2. In further experiments, dense, ductile coatings consisting of TiC with a microhardness of 1300—3000 dan/mm^2 were obtained on graphite particles with a 70-mm reaction at 1200C. Mo_2C coatings were obtained with a 50-min reaction at 1200C. Tungsten-carbide coatings were also obtained on graphite particles with a reaction at 1300C. Orig. art. has: 5 figures. [MS]

ASSOCIATION: Odesskiy politekhnicheskiy institut (Odessa Polytechnic Institute)

44.55

SUBMITTED: 13Feb65 ENCL: 01 SUB CODE: MT, MM

NO REF SOV: 000 OTHER: 002 ATD PRESS: 4113

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L 2097-66
ACCESSION NR: AP5022538

ENCLOSURE: 01

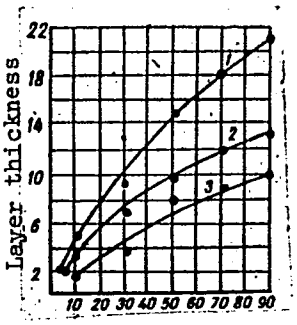

Fig. 1. Dependence of the layer thickness on the temperature and duration of impregnation process

1 - 1200C; 2 - 1100C; 3 - 1000C.

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(N) L 12920-66 EWP(e)/EWT(m)/T/EWP(t)/EWP(k)/EWP(z)/EWP(b)/EWA(c) JD

ACC NR: AP6001008 SOURCE CODE: UR/0286/65/000/022/0079/0079

41
B

AUTHORS: Zemskov, G. V.; Shestakov, A. I.

ORG: none

TITLE: A method for thermodiffusional surface saturation of metals and alloys. Class 48, No. 176475

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 22, 1965, 79

TOPIC TAGS: metallurgy, metal powder, halogen, iodine compound, metal diffusion, alloy

ABSTRACT: This Author Certificate presents a thermodiffusional method for surface saturating of powdered metals and alloys in the atmosphere of halides. To eliminate the harmful effect of nitrogen absorption resulting from the use of ammonium chloride, solid halogen compounds of ICl or IBr are used as sources of halogens.

SUB CODE: 13,11/ SUBM DATE: 04May64

UDC: 621.793.6

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2

ACC NR: AP6029075

INVENTOR: Zemskov, G. V.; Shestakov, A. I.

ORG: none

TITLE: Method of applying a diffusion coating on graphite. Class 48, No. 184093

SOURCE: Izobret prom obraz tov zn, no. 14, 1966, 131

TOPIC TAGS: diffusion coating, graphite ~~coating~~, metal coating, METAL DIFFUSION PLATING

ABSTRACT: This Author Certificate introduces a method of applying metal diffusion coating on graphite. To ensure the homogeneity of the diffusion layers, the process is carried out in an atmosphere of halides, such as bromides, of the metal used as a coating medium. In a modification of the above method, the metal halides are carried into the reaction chamber by an inert gas, such as helium or argon. [TD]

SUB CODE: 11, 13/ SUBM DATE: 20Mar64/ ATD PRESS: 5066

Card 1/1 UDC: 621.793.6:546.26-162-492.2

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ACC NR: AP7001929

as produced by a pneumatic hammer. Welds in aluminum wire 3.5 mm in diameter produced with vibrations had a strength of 11.5 kg, roughly the same as that of welds produced by a static load (11 kg/mm^2), but required lighter equipment. Static cold welding of AMg5V alloy specimens with a cross section of 250 mm^2 requires a press with 50-ton capacity weighing 1.5 ton. The vibration welding device for the same specimens weighs 10 kg. Orig. art. has: 5 figures.

SUB CODE: 13/ SUBM DATE: 11Oct63/ ORIG REF: 004/ ATD PRESS: 5111

Card 2/2

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549120016-2"

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(Electric locomotives) (Diesel locomotives)

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[Organization of the operation of trains with electric and diesel traction; practices of the Omsk Railroad] Opyt organizatsii poezdnoi raboty pri elektricheskoi i teplovoznoi tiage; iz praktiki Omskoi dorogi. Moskva, Gos.transp.zhel-dor.izd-vo, 1959. 65 p. (MIRA 13:3)

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