SOV/[illegible]-58-11-17/21

Comment on S.I.Kuznetsov's Article

experiments, be considered in relation to fluctuations of dispersion of industrial aluminium hydroxide.

Card 2/2

SOV/136-59-11-17/21

AUTHOR: Marichich, S. (Zagreb, Yugoslavia)

TITLE: Comment on S.I.Kuznetsov's Article (Zamechaniye po stat'ye S.I.Kuznetsova)

PERIODICAL: Tsvetnyye Metally, 1958, Nr 11, p 84 (USSR)

ABSTRACT: This letter to the Editor answers criticisms made by S.I.Kuznetsov in "Tsvetnyye Metally, 1958, Nr 3, pp 61-65" on two papers published by the author together with his colleagues, I.Markovchich and M.Vidan, dealing with the crystallization of aluminium hydroxide from aluminate solutions. He considers that Kuznetsov failed to eliminate the finest particles entirely from his seeding preparation and therefore remained active. He suggests that the possibility of inter-crystallization should, in view of this

Card 1/2

MARICIC, S.

TECHNOLOGY

Periodical: KEMIJA U INDUSTRIJI. Vol. 7, no. 7, July 1958.

MARICIC, S. Chemical and technical analysis of the possibility of processing Hercegovinian bauxite by Bayer's process. III. Volume of investments and economic aspect of Bayer's process. p. 169.

Monthly List of East European Accessions (EEAI) LC, Vol. 8, no. 3
March 1959 Unclass.

MARIČIĆ, Siniša

5

Chemical-technological analysis of a possible processing of Herzegovinian bauxite by the Bayer method. Siniša Maričić (Inst. "Ruđjer Bošković," Zagreb, Yugoslavia), Ivanćica Marković, and Milan Vidan. *Kem. i ind.* (Zagreb) 6, 137–40(1957).—The soly. of the Al_2O_3 component of Herzegovinian bauxite (I) was intermediate between those typical for the European and American variations of the Bayer process. The ratios Na_2O/Al_2O_3 are presented graphically *vs.* g. Na_2O/l. of decompn. liquor, for the processing of I. N. Plavšić

Abs Jour: Referat. Zhurnal Khimiya, No 3, 1958, 6999.

greater line width and the absence of the first line bifurcation. In consequence of the clearness of the x-ray diagrams and the absence of line texture in them, this product can be used after some further refining as a standard for roentgenographic dimension determination of sooth crystallites.

MARICIC, S.

YUGOSLAVIA/Physical Chemistry - Crystals. B-5

Abs Jour: Referat. Zhurnal Khimiya, No 3, 1958, 6999.

Author : S. Maricic, M. Wrischer.
Inst :
Title : Note on A Graphite Sample with X-Ray Diagrams Free of "Orientation Effect."

Orig Pub: Croat. chem. acta, 1956, 28, No 4, 307-310.

Abstract: The dissociation product of $CaCN_2$ containing 99.34% of C was studied by the roentgenographic and the electron-microscopic methods. Its electron-microscopic pictures differ from pictures of natural graphites by smaller particle dimensions and by the ramification of their aggregates preserved after the extraction of the sample with benzene or amylacetate. The x-ray diagrams of the sample are basically similar to x-ray diagrams of natural graphites, but they differ by an insignificantly

Card : 1/2 -4-

YUGOSLAVIA/Physical Chemistry - Thermodynamics, Thermochemistry, Equilibria, Physical-Chemical Analysis, Phase Transitions. B-8

Abs Jour : Ref Zhur - Khimiya, No 1, 1958, 390

It is based on the study of the dependence of the ratio between the final number of particles and the initial on time. Also, some proposals concerning the practical application are brought forward. The most convenient method of computation of the distribution of particle weights according to their dimensions is discussed. See part III in RZhKhim, 1957, 25983.

Card 2/2

MARICIC, S.

B-8

YUGOSLAVIA/Physical Chemistry - Thermodynamics, Thermochemistry, Equilibria, Physical-Chemical Analysis, Phase Transitions.

Abs Jour : Referat Zhur - Khimiya, No 1, 1958, 390

Author : P. Bogdanovic, S. Maricic, M. Vidan.

Inst : -

Title : The Kinetics of The Formation of Aluminium Hydroxide by Seeding Sodium Aluminate Solutions with Hydrargillite Crystals. IV. On the "Contact-Intercrystallization."

Orig Pub : Croat. chem. acta, 1956, 28, No 3, 155-162

Abstract : It is shown that the growth of $Al(OH)_3$ grains in solutions of Na aluminate deposited by hydrargillite is caused by merging of separate little particles, which has been called "the contact intercrystallization". A method of choosing among various crystallization mechanisms is proposed.

Card 1/2

MARKIĆ, S.

Kinetics of formation of aluminium hydroxide by seeding sodium aluminate solutions with hydrargillite crystals. II. Experiments with particle-size-classified seed. S. Maričić and L. Markovčić. III. Effect of coarse-grained seed. S. Maričić and M. Vidan (*Ark. Kem.*, 1955, **27**, 41—47, 215—216).—II. The decomposition of Na aluminate solutions initiated by seeding is complex, the process beginning with the formation of new crystallites and ending by crystal growth. The earlier studies (Maričić and Markovčić, *Z. anorg. Chem.*, 1954, **276**, 193) have been followed by studies of seeding with hydrargillite crystals (I). It is shown that the effect is dependent both on the absolute amount and the particle-size of I. For a particle-size <20 μ (especially ~10 μ) the characteristic mechanisms are formation of firmly bound agglomerates (intercrystallization) and of new crystallites, whereas for larger particles, normal crystal growth predominates.

III. Seeding with coarse- and fine-grained particle mixtures of I gave results which confirmed that nucleation is only caused by the finer particles and that coarse particles play a passive role. I. S. C.

Maricic, S.

The kinetics of the formation of aluminum hydroxide by the seeding of sodium aluminate solutions with hydrargillite crystals. I. Experiments with heterodisperse seeding material. S. Maricic and L. Markovtic (Inst. Light Metals, Zagreb, Yugoslavia). *Z. anorg. u. allgem. Chem.* 276, 193–208(1954).—To supersatd. solns. of $Al(OH)_3$ in NaOH soln. were added varying amts. of polydisperse $Al(OH)_3$ crystals. The sepn. of $Al(OH)_3$ was followed by analysis of the supernatant, and measurements of particle-size distribution of the ppt. at different times. In about the first 8 hrs. the main process was the formation of new particles. In the later stages the growth of existing particles predominated. This is contrary to the results of Wrigge and Ginsberg (*C.A.* 46, 3716*b*; 47, 2045*f*) but in agreement with those of Herrmann and Stipetic (*C.A.* 44, 8208*f*) and Calvet, *et al.* (*C.A.* 46, 338*d*).

H. Newcombe

S. MARICIC, S.

6

Quantitative analyses of the mineral composition of böhmite-gibbsite red bauxites. I. The aluminum component of bauxite. S. Maričić, J. Lugar and T. Marin (Inst. fuke metale, Zagreb, Yugoslavia). *Arhiv kem.* 26, 133–61 (1954) (German summary).—The gibbsite and böhmite content of a no. of Yugoslav bauxites was calcd. from their chem. analyses with an accuracy of ±0.3% Al_2O_3.
N. Pavlić

Marić, S.

YUGO

Preparation of bayerite from aluminium. S. Marić and S. Tešak (*Arhiv Kem.*, 1954, 26, 117—118).—The use of 99·99% pure Al and of conductivity water for preparation of bayerite, as recommended by Schmäh (*Z. Naturforsch.*, 1946, 1, 323), is not necessary; equally good results are obtained with ordinary Al, containing Fe 0·33 and Si 0·36%, and with distilled water. The product always contains some boehmite, formed secondarily from bayerite.

R. TRUSCOE.

MARIČIĆ SINIŠA

1

4

YUGO

Note on the apparent density measurement. Siniša Marčić (Inst. fake metale, Zagreb, Yugoslavia). [illegible] 26, 51-2(1954).—A pycnometer is described enabling easy filling with Hg under vacuum. N. Plavšić

MARICIC, S.

Crystallographic form of aluminum hydroxide in bauxite and its extraction by the Bayer process. p. 201. (KEMIJA I INDUSTRIJA, Vol. 3, no. 7, July 1954, Zagreb, Yugoslavia)

SO: Monthly list of East European Accessions, (EEAL), LC, Vol. 4, no. 1 Jan. 1955, Uncl.

MARICIC, S.

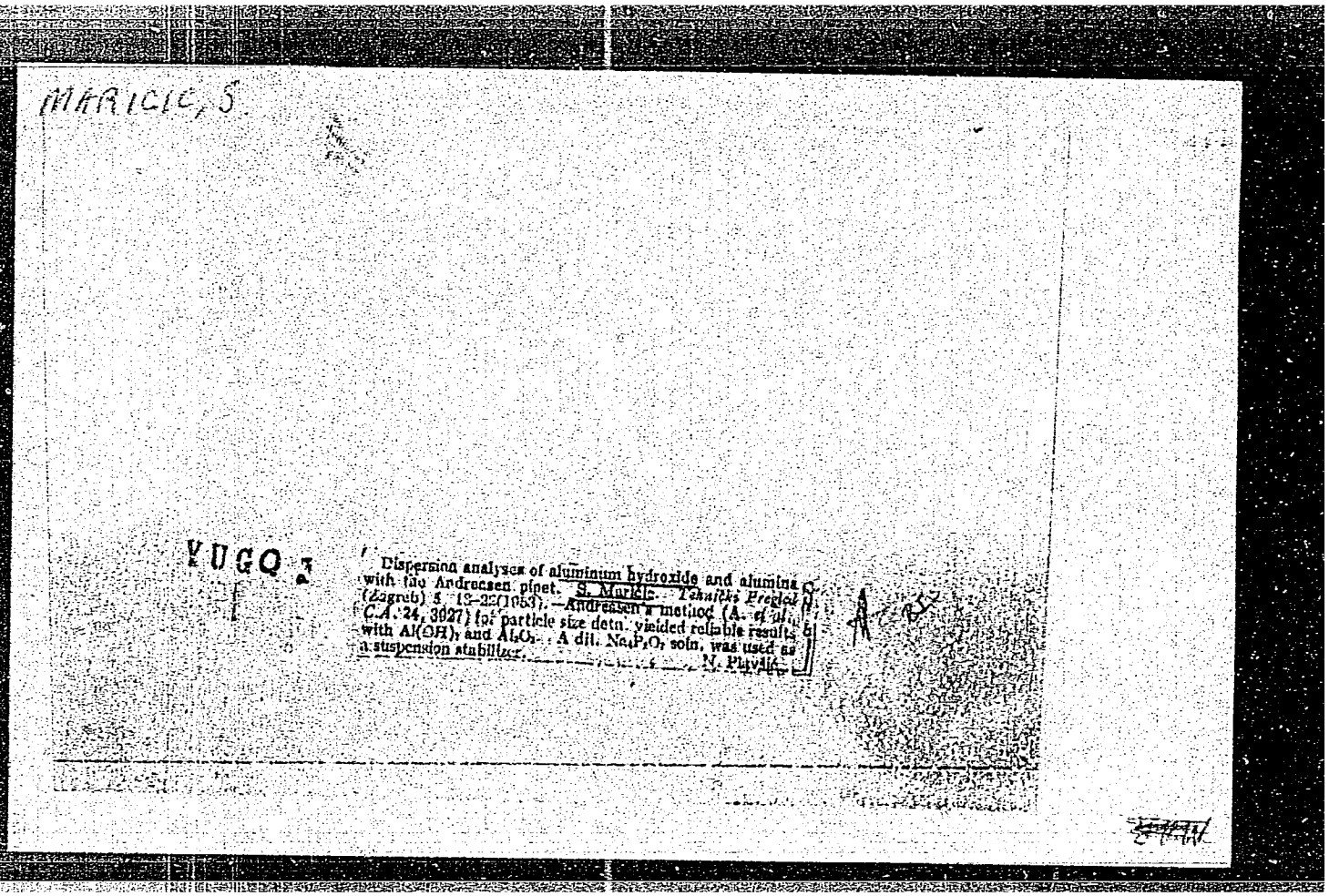
YUGO.

Extractibility of bauxite by the Bayer process and the solubility of the aluminum component. S. Marčić and M. Mihalić (Inst. Light Metals, Zagreb, Yugoslavia). *Arhiv kem.* 25, 241-9(1953)(English summary).—Two samples of bauxite (I), [the first one: 19.49% heat volatile matter (II), 1.50% SiO_2, 20.9% Fe_2O_3, 3.15% TiO_2, 54.0% Al_2O_3; 21.0% of this Al_2O_3 in the I was present as hydrargillite (III); the second one: 25.10% II, 4.30% SiO_2, 20.4% Fe_2O_3, 2.40% TiO_2, 47.1% Al_2O_3; 39.7% of the Al_2O_3 of the I was present as III] were treated in an autoclave with solns. of NaOH, equiv. to 180–350 g. Na_2O/l. At 6 atm. and 170°, up to 82.5% extn. of the Al_2O_3 was obtained. Several samples gave varying results, presumably due to the fact that III could be present either as gibbsite (IV) or boehmite (V), which showed differences in the energy of the lattice. Unfortunately all conclusions drawn here are of a rather speculative nature, as their are no solv. curves for IV and V to be found in the literature for temps. over 100°. The formula in an earlier publication (Tehnički pregled, from the Inst. of Light Metals, October 1952, page 16) for comparing the economics of the process with two sets of values of the process variables has been improved here. W. J.

Maričić, S.

YUGO

Determination of the gibbsite/boehmite ratio on the basis of the chemical analyses of bauxites. Siniša Maričić. *Tehnički pregled* (Zagreb) 5, 61–3(1953).—In view of the absence of diaspore from the Drniš bauxites their gibbsite and boehmite contents can be calcd. with an accuracy of ±2% from the chem. analyses. A graphical method for the rapid detn. is also given. N. Plavšić



MARICIC, S.

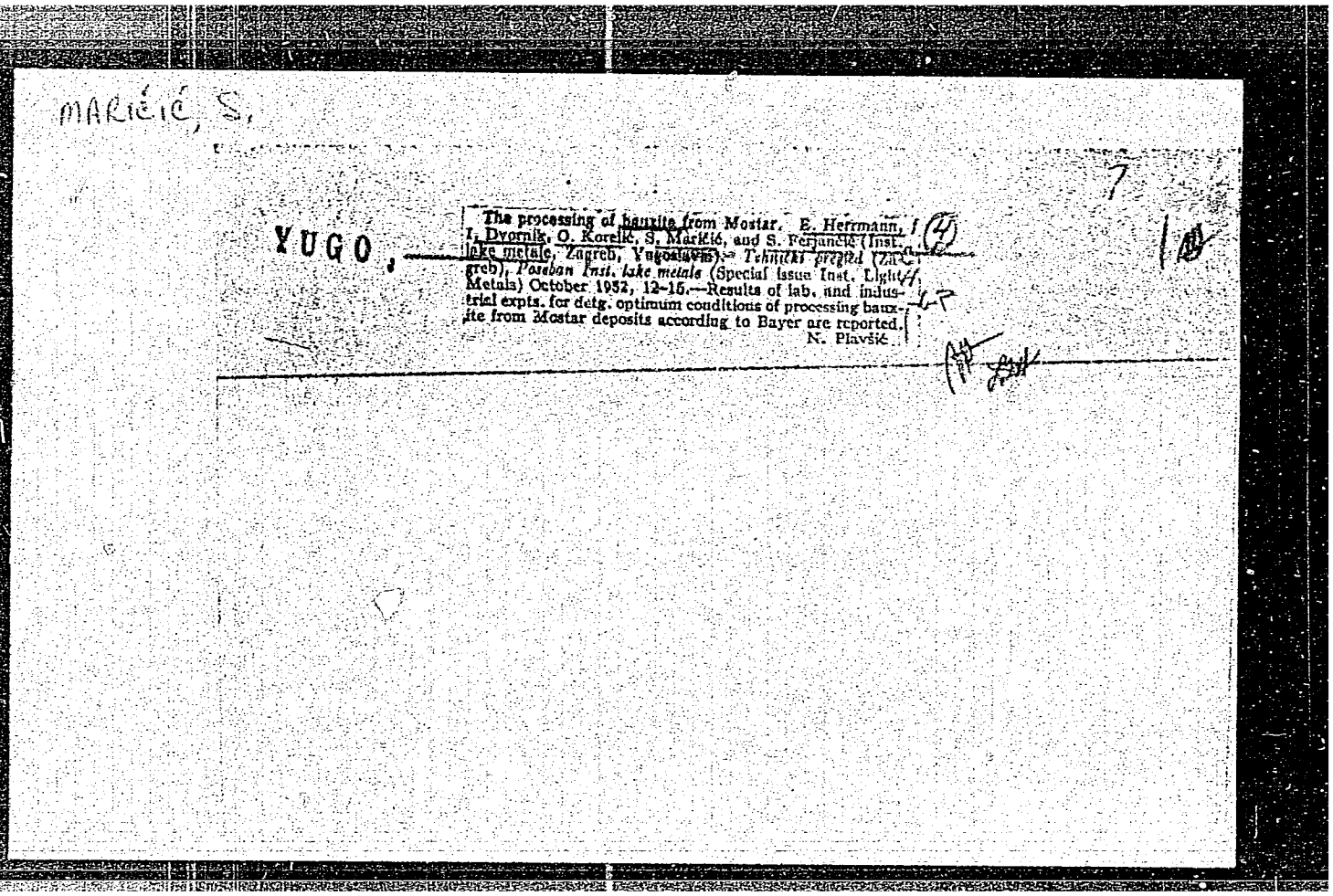
YUGO

Dispersion analyses of aluminium hydroxide and alumina with the Andreasen pipet. S. Maricic. *Tehnički Pregled* (Zagreb) 3, 12-22(1953).—Andreasen's method (*A. et al.*, *C.A.* 24, 3827) for particle size detn. yielded reliable results with $Al(OH)_3$ and Al_2O_3. A dil. $Na_4P_2O_7$ soln. was used as a suspension stabilizer. N. Pavlić

MARIĆIĆ, S.

YUG 2.

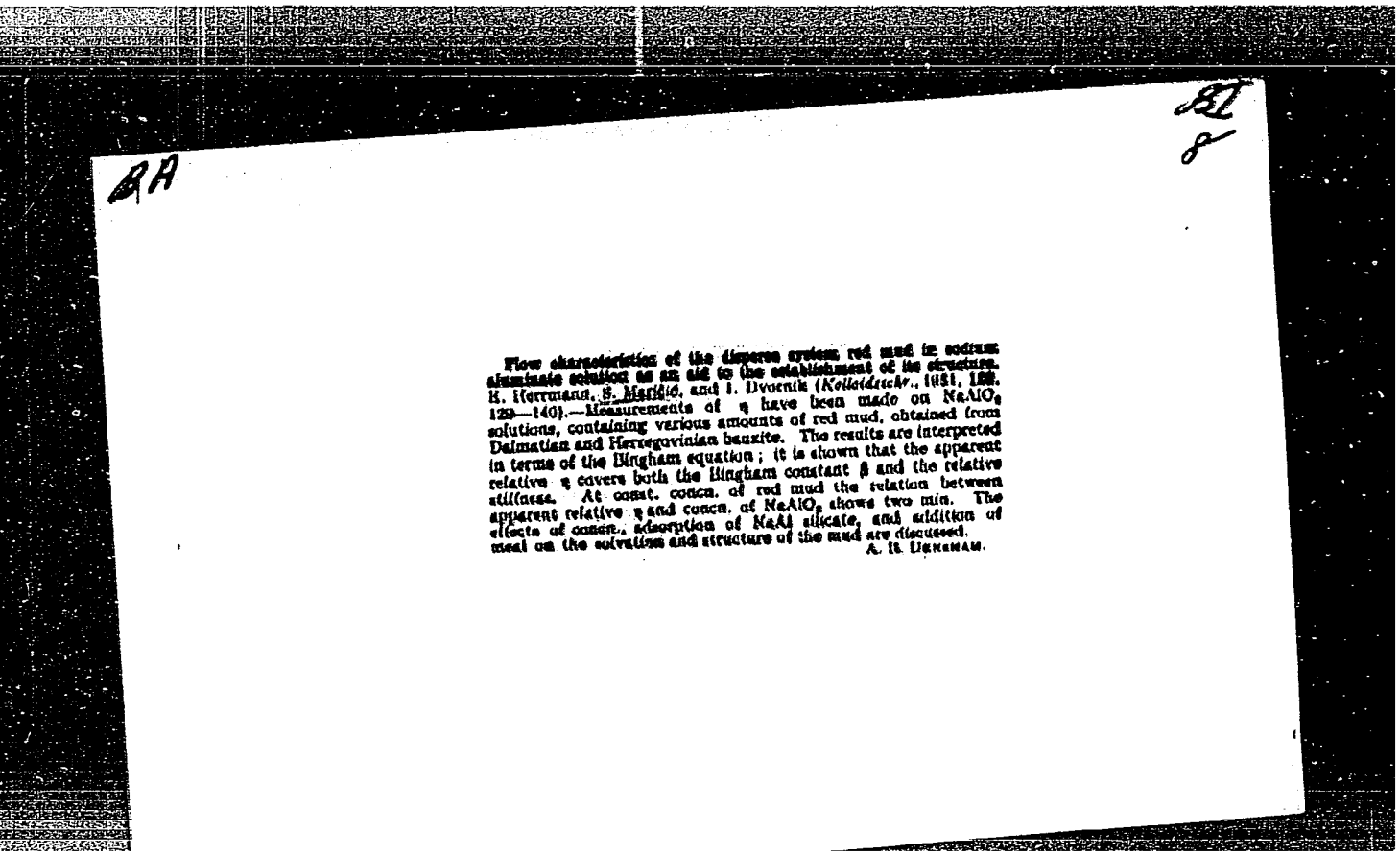
The decomposition of bauxite according to Bayer and the economy of the process. S. Marićić and I. Dvornik (Inst. lake metale, Zagreb. Yugoslavia). *Tehnički pregled* (Zagreb), *Posebno Izd. leke metale* (Special issue Inst. Light Metals) Oct. 1952, 16-10.—A brief analyses of the Bayer process in relation with the concn. of NaOH and the amt. of bauxite to be processed is given. N. Plavšić



MARIĆIĆ, S.

YUGO,

The processing of bauxite from Mostar. E. Herrmann, I. Dvornik, O. Korelić, S. Marićić, and S. Perjančić (Inst. lake metale, Zagreb, Yugoslavia). *Tehnički pregled* (Zagreb), *Posebno Inst. lake metala* (Special Issue Inst. Light Metals) October 1952, 12-15.—Results of lab. and industrial expts. for detg. optimum conditions of processing bauxite from Mostar deposits according to Bayer are reported.
N. Plavšić



Flow characteristics of the disperse system red mud in sodium aluminate solution as an aid to the establishment of its structure. K. Herrmann, S. Haridi, and I. Dvoenik (*Kolloidzschr.*, 1931, 126, 129—140).—Measurements of η have been made on $NaAlO_2$ solutions, containing various amounts of red mud, obtained from Dalmatian and Herzegovinian bauxite. The results are interpreted in terms of the Bingham equation; it is shown that the apparent relative η covers both the Bingham constant β and the relative stiffness. At const. concn. of red mud the relation between apparent relative η and concn. of $NaAlO_2$ shows two min. The effects of concn., adsorption of Na-Al silicate, and addition of mud on the solvation and structure of the mud are discussed.

A. R. Denham.

MARICIC, S.

Viscosity measurements on red clay (Rotschlamm) as aid for physicochemical characterization. E. Herrmann, S. Marčić, and V. Matković (Inst. Light Metals, Zagreb, Yugo.). *Arkiv Kem.* 23, 216–31(1951)(in German).—Decantation difficulties after calcination of local bauxite (*C.A.* 46, 10061f) are due to interference by kaolinite. The difficulties are traced to an unfavorable balance between (1) coagulation of the Na Al silicate (I) formed, and (2) adsorption of I on the red clay (II) gel. Apparent viscosity coeffs. η' (Ostwald Auerbach viscometer) were detd. of the disperse system I + II in the reaction mixt. to find the extent of (2). Pure Na aluminate soln. behaved as a Newtonian liquid. Mixts. showed laminar flow, and η' was linear with concn. only over a small range, which is ascribed to strong interaction between I and II, indicating a large extent of (2) in concd. soln. Aggregation of II particles increases with dilu., the latter being, however, impractical process wise. The decantation problem might be solved by changing the conditions of calcination. W. Barasch

(2)

MARICIC, M.

Measurement of siol moisture in Yugoslavia. p. 99.
(GLASNIK, Vol. 6 (i.e. 5) No. 3/4, 1956 (Published 1957)

SO: Monthly List of East European Accessions (EEAL) LC Vol. 6, No. 12, Dec. 1957
Uncl.

Maricic M.

YUGO

6.3.326 551.586:581.9

Maričić, M. (*Belgrade*), Meteorološki činioci i biljni svet. [Meteorological factors and vegetation.] *Vegetacija. Hidrometeorološka Služba, Vesnik*, 3(1/2):13–26. Jan./June 1954. 5 figs., table, 4 refs. DWB—Seven climatic vegetation types are described and their geographic distribution over the world discussed. *Subject Headings:* 1. Plant ecology 2. Phytogeography. —*G.T.*

ARSIC, Bogoljub, sanitetski pukovnik docent dr.; BERDEN, Josip, sanitetski potpukovnik dr.; CIRIC, Aleksandar, sanitetski kapetan dr.; MARICIC, Franja, sanitetski potpukovnik dr.; PACON, Stojan, sanitetski pukovnik dr.; POPOVIC, Radoslava, sanitetski potpukovnik dr.; SOKOLOVSKI, Borivoje, sanitetski kapetan I klase dr.

Shigella in the Yugoslav National Army during 1950-1962. Vojnosanit. pregl. 22 no.6:398-405 Je '65.

1. Vojnomedicinska akademija u Beogradu, Epidemioloski institut HZ, Higijensko-epidemioloski odredi.

TEODOR GRUNER; FRANJO MARICIC; SLAVKO MASTA

Incidence of β-hemolytic streptococcus in sick children. Voj. sanit. pregl., Beogr. 14 no.5:273-276 May 57.

1. Djecji kabinet i Bakteriolosko odjeljenje Vojne bolnice u Zagrebu.
(RESPIRATORY TRACT, dis.
beta-hemolytic Streptococcus infect. of upper resp. tract in child. (Ser))
(STREPTOCOCCAL INFECTIONS, in inf. & child
beta-hemolytic Streptococcu causing upper resp. tract infect. in child. (Ser))

MARICIC, Dusica, inz. (Kraljevo, Jug Bogdana 45/I)

Forsterite bricks manufactured from the periodotite rocks of the Goles Mine. Tehnika Jug 17 no.10: Suppl.: Hemindustrija 16 no.10:1961-1965 O '62.

1. Inzenjer za istrazne radove Instituta za vatrostalne materijale Kraljevo.

MARICIC, Aleksandar, inz. (Kraljevo, Jug Bogdanova 45); MARICIC, Dusica, inz.

Manufacture of forsterite bricks from the Korlace asbestos powder. Tehnika Jug 17 no.11:Suppl.: Elektrotehnika 11 no.11:2153-2158 N '62.

1. Direktor Instituta za vatrostalne materijale, Kraljevo (for Aleksandar Maricic). 2. Inzenjer za istrazne radove Instituta za vatrostalne materijale, Kraljevo (for Dusica Maricic).

MARICIC, Aleksandar, inz. (Kraljevo, Jug Bogdanova 45); MARICIC, Dusica, inz.

Manufacture of forsterite bricks from the Korlace asbestos powder. Tehnika Jug 17 no.11:Suppl.: Elektrotehnika 11 no.11:2153-2158 N '62.

1. Direktor Instituta za vatrostalne materijale, Kraljevo (for Aleksandar Maricic). 2. Inzenjer za istrazne radove Instituta za vatrostalne materijale, Kraljevo (for Dusica Maricic).

MARICHEVSKIY, I. I.; SPEKTOR, B. V.

"The thermal properties of perlite-containing materials."

report submitted for 2nd All-Union Conf on Heat & Mass Transfer, Minsk, 4-12 May 1964.

Sci Res Inst of Structural Materials & Products.

MARICHEVA, L.I. (Leningrad)

Role of the somatogenic factor in the pathogenesis and course of neurosis and neurosis-like states. Trudy Gos. nauch. issl. psikhonevr. inst. 29:267-277 '63. (MIRA 17:8)

DMITRIYEVA, S.A.; BUDOVSKAYA, L.N.; SILINA, L.I.; MARICHEVA, L.I.; OSIPOVA, T.A.; SHRAYBER, Ya.L.; PETRUN'KINA, A.M.

Excretion of nicotinic acid derivatives in the urine of patients with neuroses and cyclothym. Zhur.nevr.i psikh. 61 no.10:1520-1524 '61. (MIRA 15:11)

1. Gruppa po izucheniy biokhimii pitaniya Instituta fiziologii AN SSSR imeni I.P.Pavlova i Psikhonevrologicheskaya bol'nitsa Sverdlovskogo rayona, Leningrad.
(NICOTINIC ACID) (MANIC-DEPRESSIVE PSYCHOSES) (NEUROSES)

MARICHEVA, L.I.

Application of neurolytic drugs in the treatment of neuroses. Zhur. nevr. i psikh. 59 no.10:1198-1200 '59. (MIRA 13:3)

1. Psikhonevrologicheskaya bol'nitsa imeni I.P. Pavlova (glavnyy vrach L.I. Maricheva, nauchnyy rukovoditel' - prof. I.F. Sluchevskiy), Leningrad.
(NEUROSES ther.)
(HIBERNATION, ARTIFICIAL ther.)

MARICHEVA, L.I.

Use of neuroleptic drugs in the treatment of neuroses. Sbor. trud. Len. nauchn. ob-va nevr. i psikh. no.6:194-200 '59. (MIRA 13:12)

1. Iz Psikhonevrologicheskoy bol'nitsy imeni akademika I.P.Pavlova (glavnyy vrach L.I. Maricheva, nauchnyy rukovoditel' - prof. I.F. Sluchevskiy).
(AUTONOMIC DRUGS) (NEUROSES)

MARICHEV, V.P.

Manufacture of excavators. Sbor.Novo-Kram.mashinostroi.zav. no.1: 52-100 '59. (MIRA 16:12)

POPOV, Yu.I., inzhener; SHENDEROV, A.I., inzhener; MARICHEV, V.P., inzhener; SLIZKIY, P.I., inzhener.

Excavators built by the Novo-Kramatorsk machinery building plant. Gor.zhur. no.1:47-54 Ja '56. (MLRA 9:5)
(Excavating machinery)

KLIMOV, V.T.; MARICHEV, V.I.; RUBINCHIK, A.M.; EYLER, S.A., nauchn. red.; ZVORYKINA, L.N., red.; BOROVNEV, N.K., tekhn. red.

[Construction of cofferdams and caissons] Stroitel'stvo opusknykh kolodtsev i kessonov. Moskva, Gosstroiizdat, 1963. 247 p. (MIRA 17:1)
(Cofferdams) (Caissons)

L 23718-66

ACC NR: AP6013374

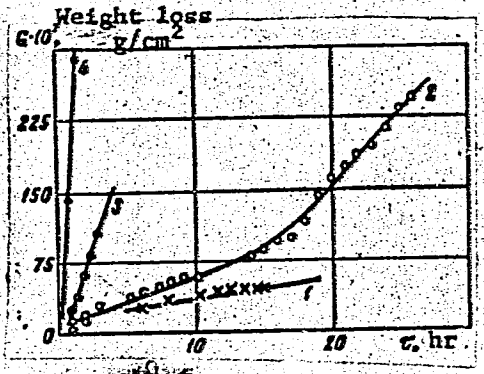


Fig. 1. Sublimation curves of VM65 alloy in vacuum

1 - 200C; 2 - 250C; 3 - 200C; 4 - 250C (3 and 4 after annealing at 300C for 4 hr).

case of VM65 alloy) at the very beginning of the test. The experimental values of the sublimation rate agree well with values obtained from kinetic equations for the sublimation process of tested alloys. Orig. art. has: 7 figures and 26 formulas. [AZ]

SUB CODE: 11, 13/ SUBM DATE: 18Feb65/ ORIG REF: 004/ OTH REF: 004/ ATD PRESS: 4247

Card 2/2

L 23718-66 EWT(m)/EWA(d)/EWP(t) LJP(c) JD/WB

ACC NR: AP6013374 SOURCE CODE: UR/0370/66/000/002/0177/0187

AUTHOR: Bokshteyn, S. Z. (Moscow); Bronfin, M. B. (Moscow); Zhukhovitskiy, A. A. (Moscow); Kishkin, S. T. (Moscow); Marichev, V. A. (Moscow)

ORG: none

TITLE: Characteristics of metal sublimation in the presence of an oxidized surface layer

SOURCE: AN SSSR. Izvestiya. Metally, no. 2, 1966, 177-187

TOPIC TAGS: sublimation, vacuum sublimation, magnesium alloy, aluminum alloy, alloy sublimation/VM65-1 alloy, V95 alloy

ABSTRACT: Theoretical and experimental studies have been made of the sublimation and mechanism of the breakdown in the presence of an oxidized surface layer of VM65-1 magnesium-base alloy (5—6% Zn, 0.3—0.9% Zr) and V95 aluminum-base alloy (2.5% Mg and 6% Zn) in a vacuum of 10^{-8} torr at a temperature of 200—380C. It was found that magnesium alloy with a surface oxide film sublimated slowly at 200 or 250C for the first 12—15 hr; then the sublimation rate increased sharply. Specimens which were vacuum annealed at 300C for 4 hr prior to testing sublimated at a high rate from the very beginning of the test (see Fig. 1). The weight of surface-oxidized V95 alloy specimens does not change at 300C for 4 hr. However, at 350C rapid sublimation begins after 10—15 min. Annealing at 340C removes the oxide film, eliminates the inoculation period, and induces rapid sublimation (as in the

Card 1/2 UDC: 669.049.6

BRONFIN, M.B.; MARICHEV, V.A.

High-vacuum unit for testing sublimation by the continuous weighing method. Zav. lab. 31 no. 12:1522-1524 '65
(MIRA 19:1)

GRIGORYAN, V.A. (Moskva); MARICHEV, V.A. (Moskva)

Mechanism of cast iron desulfuration. Izv. AN SSSR.Met. i gor. delo no.5:30-37 S-O '63. (MIRA 16:11)

GRIGORYAN, V.A.; MARICHEV, V.A.

Kinetics of sulfur transition from cast iron into slag. Lit. proizv. no.11:30-32 N '62. (MIRA 15:12)
(Cast iron--Metallurgy) (Slag)

BOKSHTEYN, S.Z.; BRONFIN, M.B.; KISHKIN, S.T.; MARICHEV, V.A.

Internal friction of deformed molybdenum and its alloys with zirconium and rhenium. Fiz. tver. tela 5 no.11:3075-3080 N '63. (MIRA 16:12)

L 56052-65

ACCESSION NR: AP5010555

aluminum were calculated for 275, 300, 350, 375, 400, and 425C by assuming that the diffusion coefficient is independent of the Mg concentration, which is zero at the surface of the sample in the course of the isothermal process. The activation energy of the diffusion of Mg in Al was obtained graphically, and found to be 28.50 kcal/g·at. Orig. art. has: 2 figures, 1 table, and 2 formulas.

ASSOCIATION: None

SUBMITTED: 00 ENCL: 00 SUB CODE: MM, SS

NO REF SOV: 001 OTHER: 003

Card 2/2

L 56052-65 EWT(m)/EWA(d)/ PR/T/EWP(t)/EWP(z)/EWP(b)/EWA(c) Ps-4 IJP(c)

ACCESSION NR: AP5010555 MJW/JD/JW UR/0129/65/000/004/0036/0038
532.72:669.71'72

31
30
B

AUTHOR: Bokshteyn, S. Z.; Bronfin, M. B.; Kishkin, S. T.; Marichev, V. A.

TITLE: Study of the diffusion of magnesium in aluminum by means of evaporation in a vacuum

SOURCE: Metallovedeniye i termicheskaya obrabotka metallov, no. 4, 1965, 36-38

TOPIC TAGS: magnesium diffusion, aluminum alloy, vacuum evaporation, magnesium containing alloy

ABSTRACT: The diffusion of magnesium in aluminum was studied at 275-425C by evaporation from an open surface. Samples of the Al-Mg alloy AMg6 containing 6.35% Mg were used. As time elapses, the surface layers of the sample become depleted of Mg; a concentration gradient is thus created which causes the migration of magnesium by diffusion from the middle layers to the surface. Subsequently, Mg evaporates at the rate at which it is supplied by this diffusion. The evaporation was determined from the weight loss of the sample, and kinetic curves of the specific weight loss under isothermal conditions were plotted for several temperatures. From these curves, the coefficients of diffusion of magnesium in

Card 1/2

ACCESSION NR: AT4040408

higher than that corresponding to the maximal internal friction can be explained not only by an increase in the diffusional mobility of the atoms, but also by a decrease in the number of relatively free dislocations caused by polygonization processes. The absence of an internal friction peak after plastic deformation of the Mo+50%Re alloy leads the authors to the conclusion that, in this alloy, plastic deformation is not accompanied by creation of a sufficient number of relatively free dislocations. Orig. art. has: 3 figures and 3 formulas.

ASSOCIATION: None

SUBMITTED: 09Dec63 DATE ACQ: 28May64 ENCL: 01

SUB CODE: MM NO REF SOV: 005 OTHER: 003

Card 3/4

ACCESSION NR: AT4040408

rhenium (50%) was investigated for internal friction after plastic deformation, and an attempt was made to correlate the temperature dependence of the maximal internal friction with the grain size. The wire was subjected to torsional oscillations (0.35-0.4 cycles/sec.) in a vacuum at 20-1000C, and the total deformation in the elastic range was considered to be the sum of the deformations arising from displacement of atoms and the bending of dislocation loops in a three-dimensional lattice. The results are shown in the Enclosure. It can be shown theoretically that a material containing dislocations has a lower shear modulus than a material without dislocations, and that plastic deformation increases the density of dislocations inside the metal grains. In freshly deformed metals, there are considerable distortions inside the subgrains. Annealing below the recrystallization temperature reduces the inner distortions because of polygonization, and decreases the deficiency of the shear modulus. The present results indicate that the intensive fixation of dislocations by polygonization, interactions with point defects and other processes occurs in a temperature range of 250-600C. The maximal internal friction shifts toward lower temperatures with increasing plastic deformation, and toward higher temperatures with coarser grain structure. The irreversible decrease in internal friction at temperatures

Card 2/4

ACCESSION NR: AT4040408 S/0000/64/000/000/0052/0058

AUTHOR: Bronfin, M. B.; Marichev, V. A.

TITLE: Internal friction in stressed molybdenum alloys

SOURCE: Protsessy* diffuzii, struktura i svoystva metallov (Diffusion processes, structure and properties of metals); sbornik statey. Moscow, Izd-vo Mashinostroyeniye, 1964, 52-58

TOPIC TAGS: internal friction, molybdenum, molybdenum alloy, stressed molybdenum alloy, plastic deformation, sintered molybdenum, molybdenum zirconium alloy, molybdenum rhenium alloy, rhenium, zirconium

ABSTRACT: Curves characterizing the temperature dependence of internal friction in cold-worked metals sometimes show a peak which is reduced after low-temperature annealing and which disappears after recrystallization. Previous studies with iron have shown that a significant increase in internal friction can be produced only by relatively free dislocations existing within the sub-grains, and only in the presence of dissolved nitrogen and oxygen. In the present study, wire made of sintered molybdenum and binary alloys of molybdenum with zirconium (0.13%) and

Card 1/4

ACCESSION NR: AT4040407

pure molybdenum. A mechanism of boundary relaxation is therefore suggested which is connected with a migration of interstitial solutes such as oxygen, carbon and nitrogen. This migration requires less energy than the displacement of the diffusionally more inert atoms normally occupying the nodal points in the lattice. This could explain the relatively low activation energy of internal friction found at the grain boundaries. Qualitatively, the influence of diffusional replacement components can be explained by the mutual interaction between these components and the migrating atoms of penetrating components, as well as the ability of the replacement components to alter the structural imperfections in intergranular zones. "The authors express thanks to Ye. M. Savitskiy and M. A. Tyrkina for supplying the Mo-Re alloy." Orig. art. has: 5 figures and 4 formulas.

ASSOCIATION: None

SUBMITTED: 09Dec63 ENCL: 02

SUB CODE: MM NO REF SOV: 003 OTHER: 005

Card 3/5

ACCESSION NR: AT4040407

0.008% C, 0.006% O_2, and 0.0007% H_2; and Mo + 50% Re. The specimens were subjected to torsional oscillations (0.3-0.4 cycles/sec.) at various temperatures in a range of about 20 - 1000C, after annealing at temperatures up to 2000C. The test installation was originally developed by V. B. Osvenskiy and is shown schematically in modified form, in Fig. 1 of the Enclosure. The activation energy H of internal friction was determined from the expression

$$\log Q^{-1} = \log \frac{\Delta M}{\omega \tau_0} - 0.4346 \frac{H}{RT}$$

under the assumption that $\log \frac{\Delta M}{\omega \tau_0} = \text{const}$. Fig. 2 of the Enclosure shows the temperature dependence of Q^{-1} for the 3 materials compared. The results showed that the boundary relaxation begins to grow at different temperatures in different alloys. Thus, this temperature is 700C for the Mo-Re alloy and about 600C for pure molybdenum or Mo + 0.13% Zr. Beginning at 700C, the highest level of internal friction is shown by unalloyed molybdenum; the lowest - by its alloy with 50% rhenium. If the internal friction along the grain boundaries depended only on the activation energy, it should be maximal in the Mo-Zr alloy, and not in

Card 2/5

ACCESSION NR: AT4040407 S/0000/64/000/000/0040/0051

AUTHOR: Bokshteyn, S. Z.; Bronfin, M. B.; Kishkin, S. T.; Marichev, V. A.

TITLE: Investigation of conditions at the grain boundaries in molybdenum and its alloys with zirconium and rhenium by the method of internal friction

SOURCE: Protsessy* diffuzii, struktura i svoystva metallov (Diffusion processes, structure and properties of metals); sbornik statey. Moscow, Izd-vo Mashinostroyeniye, 1964, 40-51

TOPIC TAGS: molybdenum, molybdenum alloy, molybdenum grain boundary, molybdenum rhenium alloy, molybdenum zirconium alloy, rhenium, zirconium, internal friction, stress relaxation, alloy diffusion

ABSTRACT: The mechanism of stress relaxation at the grain boundaries in pure metals is known to be affected by the presence of alloying elements, but precisely how is still unclear. The study of internal friction, based on measurement of the forced oscillation dampening of a polycrystalline specimen is a sensitive method for investigation of the structural conditions of a metal generally, and particularly at the grain boundaries. The present authors experimented with specimens of 99.98% pure sintered molybdenum; a Mo - Zr alloy containing 0.13% Zr,

Card 1/5

L 13985-65
ACCESSION NR: AT4048127

4

by the lowering of relatively free dislocations due to polygonization. The lack of a maximum connected with plastic deformation for the molybdenum-rhenium alloy indicates that there is a great difference between the deformation of this alloy and that of the molybdenum-zirconium alloy or pure molybdenum. For the rhenium alloy, plastic deformation is not accompanied by the quantity of relatively free dislocations, which lead to the appearance of the deformation maximum of internal friction in the alloy with Zr. Orig. art. has: 4 figures and 2 formulas.

ASSOCIATION: Vsesoyuzny*y institut aviatsionny*kh materialov (All-Union Institute of Aviation Materials)

SUBMITTED: 10Nov63 ENCL: 00 SUB CODE: MM

NO REF SOV: 001 OTHER: 001

Card 3/3

L 13985-65
ACCESSION NR: AT4048127

of 10^{-5} mm Hg. The heating rate was 2 deg/min. in the 20-1000C range. Maximum deformation was below 10^{-5}. The torque oscillation frequency for measuring internal friction was 0.35-0.40 cycles/sec. Hydrochloric acid in an alcoholic solution was used for electrolysis of the sample to increase the internal friction. All alloys passed through recrystallization at three different temperatures. The maximum of internal friction after preliminary plastic deformation was on the high temperature side, but the internal friction constantly decreased as the annealing temperature increased, especially between 200 and 600C. In the discussion, it is pointed out that modern theory considers the crystal structure to be a three-dimensional lattice, segments of which may bend under low stress. The equation derived in the paper shows that the modulus of elasticity of materials with dislocations is lower than for materials without dislocations. Plastic deformation thus increases the dislocation density in the metal grains, lowering the effective modulus of elasticity and increasing internal friction. The maximum of internal friction connected with plastic deformation is reached only for a certain relationship of degrees of freedom of oscillating dislocations and introduced atoms of admixtures. The irreversible lowering of internal friction at temperatures exceeding the maximum temperature is caused in the opinion of the authors, not only by an increase in the diffusion mobility of the introduced atoms, but also

Card 2/3

L 13985-65 EWT(l)/EWT(m)/EWP(e)/EWP(b)/EPF(n)-2/EWA(d)/T/EWP(k)/EWP(w)/EWP(t)
SSD/AFWL/ASD(f)-2/ASD(m)-3 JD/JG/MLK

ACCESSION NR: AT4048127 S/0000/63/000/000/0123/0127

AUTHOR: Bokshteyn, S. Z., Bronfin, M. B., Marichev, V. A. 8

TITLE: Effect of preliminary plastic deformation on the internal friction of molybdenum and molybdenum alloys 14 21

SOURCE: Vsesoyuznaya konferentsiya po relaksatsionny*m yavleniyam v metallakh i splavakh. 3d, Voronezh, 1962. Relaksatsionny*ye yavleniya v metallakh i splavakh (Relaxation phenomena in metals and alloys); trudy* konferentsii. Moscow, Metallurgizdat, 1963, 123-127

TOPIC TAGS: molybdenum, molybdenum alloy, internal friction, molybdenum plastic deformation.

ABSTRACT: The authors investigated the relationship between the temperature of maximum internal friction connected with plastic deformation and the grain size, in an attempt to explain the shift of the deformation maximum toward high temperatures when the grain size increases. Molybdenum powder and cast binary alloys of molybdenum with zirconium (0.13% Zr) and rhenium (50% by weight of Re) were tested; the 110-120 mm wire samples were tested on a torque pendulum in a vacuum

Card 1/3

L 00737-66

ACCESSION NR: AP5022693

ENCLOSURE: 01

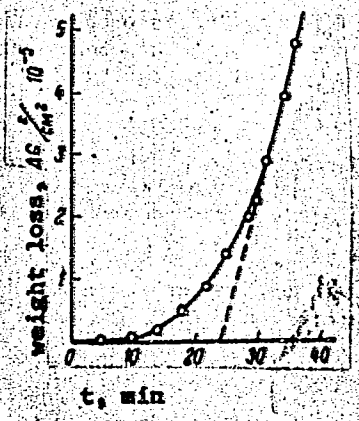


Fig. 1. Specific loss of weight for magnesium as a function of isothermal holding time at 350°C.

Card 3/3

L 00737-66

ACCESSION NR: AP5022693

aluminum-magnesium alloys are examples of such systems. The authors study the first stage of the sublimation process. Thermal dissolution of magnesium and aluminum oxides is practically impossible at experimental temperatures because of their thermal stability. Therefore there should be another mechanism responsible for the destruction of these films. Nearly all surface films on metals except for aluminum have various types of microscopic discontinuities. During isothermal annealing in a vacuum, atoms of the volatile component pass through these defects and leave the surface of the metal, thus increasing the concentration of vacancies in the defect zone. Vacancy coagulation takes place due to the interface between the oxide film and the metal. With the formation of microscopic pores close to this interface, the bond between substrate and oxide film is broken and the film is destroyed, increasing the defect area. Thus the minority atoms are more rapidly evaporated, microscopic pores are formed and the autocatalytic process of film removal is accelerated. A kinetic equation is proposed for the process of sublimation when there is an oxide film on the surface of the metal. Theoretical calculations show excellent agreement with experimental results. Orig. art. has: 3 figures, 14 formulas.

ASSOCIATION: none

SUBMITTED: 06Feb65 ENCL: 01 SUB CODE: IC, GC

NO REF SOV: 000 OTHER: 001

Card 2/3

L 00737-66 EWP(e)/EPA(s)-2/EWT(m)/EPF(c)/EWP(i)/EPA(w)-2/EWP(t)/EWP(b)/ETC(m)
IJP(c) JD/WW/WH

ACCESSION NR: AP5022693 UR/0181/65/007/009/2603/2606

AUTHOR: Bronfin, M. B.; Zhukhovitskiy, A. A.; Marichev, V. A.

TITLE: Effect of oxide films on sublimation kinetics

SOURCE: Fizika tverdogo tela, v. 7, no. 9, 2603-2606

TOPIC TAGS: sublimation, aluminum oxide, magnesium oxide

ABSTRACT: One of the methods for studying rate of vaporization is continuous weighing of specimens during isothermal holding in a vacuum. When the specimens are metals which have a strong affinity for oxygen, two characteristic periods may be distinguished on kinetic curves for weight loss. In the first period, the loss in weight increases with time, then after reaching a maximum value the loss remains constant in the second period (see fig. 1 of the Enclosure). This increase in the rate of sublimation at the beginning of isothermal annealing is due to gradual destruction of the oxide film on the surface of the specimen. Kinetic curves for weight loss in some alloys show a similar shape. If the alloy base has a considerably lower vapor pressure than the dissolved material, there is a third period on the curve where the rate of sublimation decreases due to a reduction in the concentration of the volatile component on the surface of the sample. Aluminum-zinc and

Card 1/3

GALIMZYANOVA, Rashida, emalirovshchitsa; MARICHEV, Sergey Nikanorovich, mekhanik; CHERNOV, Ye., red.; PAVLOVA, S., tekhn. red.

[We are using nonferrous metals sparingly] Ekonomim tsvetnye metally. Moskva, Mosk. rabochii, 1961. 57 p. (MIRA 15:3)

1. Podol'skiy zavod "Mikroprovod" (for Galimzyanova, Marichev). (Nonferrous metals) (Metals, Substitutes for)

MARICHEV, R.D., inzh.

Calculating the electric resistance of the glass batch. Stek. i ker. 22 no.11:4-7 N '65. (MIRA 18:11)

1. Gosudarstvennyy proyektnyy institut GPI-3, Leningrad.

MARICHEV, R.D., inzh.; SHEGALOV, I.L., inzh.

Nomograms for determining power losses in electric power transformers. Elek. sta. 32 no.7:49-54 Jl '61. (MIRA 14:10)
(Electric transformers) (Electric power distribution)

MARICHEV, R.D., inzh.; SHEGALOV, I.L., inzh.

New data sheets for longitudinal side view of overhead electric power transmission lines. Elek. sta. 31 no.9:35-37 S '60. (MIRA 14:10)

(Electric power distribution)
(Electric lines--Overhead)

MARICHEV, R.D., inzh., SHEGALOV, I.L., inzh.

Nomographs for mechanical calculation of wires and electric transmission cables. Elek. sta. 31 no.3:49-55 Mr '60.
(MIRA 13:8)

(Electric lines--Overhead)

MARICHEV, I.D.

MARICHEV, I.D., kand. tekhn. nauk.

Designing gear transmissions for contact strength. Sbor. st. CHPI no.10:83-94 '57. (MIRA 11:1)

(Gearing)

L 5421-66

ACCESSION NR: AP5019762 ENCLOSURE: 01

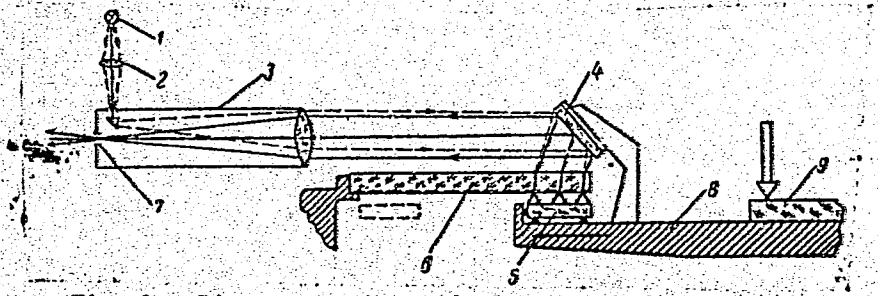


Fig. 1. Diagram of the optical part of the apparatus

1 - Incandescent lamp, 2 - condenser, 3 - collimator, 4 - swinging mirror, 5,6 - gratings, 7 - exit slit, 8 - ruling carriage, 9 - ruled grating

Card 3/3

L 5421-66
ACCESSION NR: AP5019762

those of gratings prepared with mechanical ruling engines. Rowland ghosts were almost completely eliminated. Orig. art. has: 6 figures and 2 formulas.

ASSOCIATION: none

SUBMITTED: 21May64 ENCL: 01 SUB CODE: OP

NR REF SOV: 002 OTHER: 005

Card 2/3

L 5421-66 EWT(1) IJP(c)

ACCESSION NR: AP5019762

UR/0051/65/019/002/0270/0278
535.421:535.417

38
B

AUTHOR: Gerasimov, F. M.; Sergeyev, V. P.; Tel'tevskiy, I. A.; Sergeyev, V. V.; Marichev, B. V.

TITLE: The use of moire interference fringes to control the ruling of diffraction gratings

SOURCE: Optika i spektroskopiya, v. 19, no. 2, 1965, 270-278

TOPIC TAGS: diffraction grating, light interference, light diffraction

ABSTRACT: A method is described for the control of a ruling engine, based on moire fringges which are formed by a system consisting of a transparent and a reflecting diffraction grating. The control method is claimed to be simpler that that of G. R. Harrison and co-workers (J. Opt. Soc. Am. v. 49, 205, 1959 and earlier papers; G. V. Stroke, ibid. v. 51, 1321, 1961), who used a Michelson interferometer. The equipment is described and the properties and accuracy of the method are examined. The mechanical part of the equipment does not differ markedly from a standard ruling engine and the optical system is illustrated in Fig. 1 of the Enclosure. About 100 gratings with 200, 300, 800, 1200, and 2400 lines/mm were prepared with an experimental ruling engine, and their qualities were on the whole superior to

Card 1/3

0901 0902

MARICHEV, A. V.

A. V. Marichev, director of the Leningrad Krasnaya Zarya Plant, states that during 1954, the plant's products list was changed in many aspects. The plant is supposed to double its production of city automatic telephone systems, and to cut its production of other items. He states that this is a very difficult task.

SO: CIA, FDD, Sum #479, 5 May 55, Unevaluated, For Official Use Only.

SANDLER, R.A.; PEREPICHAY, A.T.; KHOLMOVSKAYA, N.A.; MARICHEV, A.A.

Method of evaluating the quality of titanium tetrachloride on a laboratory scale. Zhur.prikl.khim. 38 no.11:2415-2421 N '65. (MIRA 18:12)

1. Submitted March 31, 1964.

SANDLER, R.A.; STRELETS, Kh.L.; GARMATA, V.A.; RODYAKIN, V.V.; ARUTYUNOV, E.A.; PETRUN'KO, A.N.; SOKOLOV, I.I.; Prinimali uchastiye: USTINOV, V.S.; KISELEV, O.G.; PEREPICHAY, A.G.; MARICHEV, A.A.; YELISEYEVA, I.B.; SMOL'SKIY, I.Ya.; GOLOV, A.G.

Effect of the rate of feeding titanium tetrachloride into the reactor on the indices of the magnesium thermic reduction process. TSvet. met. 37 no.10:58-60 O '64. (MIRA 18:7)

MARICHENKO, Vladimir Alekseyevich; SHEVTSOV, M.A., redaktor; BRITCHUK V.V., redaktor; SHEVTSOV, M.S., redaktor; NEPOMNYASHCHIY, N.V., redaktor; ATTOPOVICH, M.K., tekhnicheskiy redaktor.

[Equipment for three-phase current direct-arc electric furnaces. textbook for school and courses for mechanics] Elektrooborudovanie dugovykh pechei trekhfaznogo toka; uchebnik dlia shkol i kursov masterov. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1955. 468 p. (MLRA 8:11)
(Electric furnaces)

CHERTKOV, Ya.B.; RAGOZIN, N.A.; MARICHENKO, N.I.

Chemical composition of the deposits accumulating on the fuel filters of jet transpot planes. Khim.i tekh.topl.i masel 6 no.4:57-60 Ap '61. (MIRA 14:3)

(Jet planes--Fuel)

MARICH, Yu.V.; VOYTENKO, I.P.

Electrical contacts with the use of "bronze" dye paint. Lab.delo 7 no.11:60 N '61. (MIRA 14:10)

1. Chernigovskaya oblastnaya sanitarno-epidemiologicheskaya stantsiya.

(ELECTRIC CURRENTS—GROUNDING)

VETROV, Yu.A.; MARICH, N.V.; KRASNIKOV, A.S.; CHERNEGOV, Yu.A.; SHENDEROV, A.I.

Selecting the efficient operating conditions for a high-capacity rotary excavator. Ugol' 37 no.9:26-29 S '62. (MIRA 15:9)

(Excavating machinery)

VETROV, Yu.A., kand.tekhn.nauk; MARICH, N.V., inzh.

Energy consumed in cutting ground with rotary bucket excavators. Izv. vys. uch. zav.; gor. zhur. 5 no.6:136-141 '62. (MIRA 15:9)

1. Kiyevskiy inzhenerno-stroitel'nyy institut. Rekomendovana kafedroy stroitel'nykh mashin.
(Excavating machinery)

MAR'ICH, L.N.

Studying the state of the acid-base equilibrium during acute radiation sickness. Radiobiologiia 1 no.2:257-263 '61. (MIRA 14:7)

1. TSentral'nyy nauchno-issledovatel'skiy institut meditsinskoy radiologii, Leningrad.
(X RAYS--PHYSIOLOGICAL EFFECT) (ACIDOSIS)

Changes in the Alkaline Reserve of the Blood of Animals Suffering From Acute Radiation Disease

alkali reserve in the blood is also suited for the early diagnosis of radiation injuries. There are 1 figure and 11 references, 8 of which are Soviet.

ASSOCIATION: Tsentral'nyy nauchno-issledovatel'skiy rentgeno-radiologicheskiy institut, g. Leningrad (Central Scientific Research Institute of X-Ray Radiology of the City of Leningrad)

PRESENTED: March 3, 1958, by N. N. Anichkov, Member, Academy of Sciences, USSR

SUBMITTED: February 26, 1958

1. Radiation--Physiological effects 2. Blood--Effects of radiation 3. Blood--Acid base equilibrium

Changes in the Alkaline Reserve of the Blood of Animals Suffering From Acute Radiation Disease

1000 roentgen three died in the period from the 25th to the 35th day, whereas three survived. All of the animals irradiated with 400 and 700 roentgen survived. The alkali reserve of the blood was determined according to the method by Van-Slayk. In all animals irradiated with 1300 roentgen the alkali reserve dropped from 33,6 - 47 percent by volume of CO_2 to 11,7 - 26,2 percent by volume after 2 hours. Similar phenomena were also observed in the animals irradiated with 1000 roentgen. Further details are given. These experiments show the following: The alkali reserve of the blood in animals irradiated with a total letal and a sub-letal dosis drops in two stages, the first occurring after two hours, and the next just before the death of the animals. If the dosis is 700 or 400 roentgen, the reserve drops as late as 4 hours after irradiation. The reduction of the reserve alkalinity in the early stages of radiation disease is obviously due to the destruction of the nervous endocrine control and to a modification of the fermentative and the oxidation-reduction processes. The determination of the

SOV/20-120-5-20/67

AUTHOR: Mar'ich, L. N.

TITLE: Changes in the Alkaline Reserve of the Blood of Animals Suffering From Acute Radiation Disease (Izmeneniye shchelochnogo rezerva krovi u zhivotnykh pri ostroy luchevoy bolezni)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol. 120, Nr 5, pp. 1003 - 1006 (USSR)

ABSTRACT: This is a study of the subsequent changes of one of the most important characteristics of the acid-base equilibrium, of the alkali reserve of the blood of animals suffering from acute radiation disease. The early stage of the disease is primarily considered. 50 rabbits with a weight ranging from 3 to 3,5 kg were used in this examination. 6 rabbits served as control and were not irradiated. The other animals were irradiated once; 26 with a letal dosis (1300 roentgen) of X-rays, 6 with 1000 roentgen, 6 with 700 roentgen and 6 with 400 roentgen. From the 26 animals irradiated with 1300 roentgen 3 died in the first few hours after irradiation. The others died in the period from the 3rd to the 15th day. From the 6 rabbits irradiated with

Card 1/3

YERU, I.I.; MARICH, L.I.; LANGE, A.A.

Preparation of high purity cyclohexane from a narrow benzne fraction of crude benzene. Khim. prom. no.8:576-579 Ag '63. (MIRA 16:12)

1. Ukrainskiy uglekhimicheskiy institut.

MARICEVIC, A.

First aid in electric shock injuries. Lijecn. vjesn. 84 no.2: 174-175 '62.
(ELECTRICITY) (FIRST AID)

NEGOIU, D.; VASILESCU, C.; MARICA, M.

Spectrophotometric study of the system Cu^{2+}-hydrochloride of monoethanolethylenediamine. Colorimetric determination of copper. Studia Univ B-B S Chem 8 no.1:31-38 '63

1. Bucharest University.

NENITESCU, Costin D., acad.; AVRAM, Margareta; MARICA, Eliza; MAXIM, Maria; DINU, Doina

Tests for obtaining the cyclobutadiene. Studii cerc chim 7 no.4: 481-504 '59. (EEAI 9:7)

1. Comitetul de redactie, Redactor responsabil, Studii si cercetari de chimie (for Nenitescu). 2. Centrul de cercetari chimice al Academiei R.P.R., Sectia de chimie organica, Bucuresti.
(Mercury) (Cyclobutadiene) (Alkyl groups)
(Aryl groups) (Silver nitrate) (Complex compounds)

Avram, [illegible]; [illegible]) and Nenitzescu, C.D.

5/3

was prepd. from 9.5 g. 1,3-bis(dimethylamino)cyclobutane (IV) dissolved in 10 cc. dry MeOH at 0° by satg. it with dry MeBr and allowing the mixt. to stand 12 hrs. To 100 cc. Et_2O soln. of II, obtained from 9.6 g. PhBr, 4.9 g. I was added. The soln. was agitated 80–100 hrs. Me_3N was isolated as its picrate (3 g.). Also obtained were a white cryst. product, m. 157° (EtOH), and 0.45 g. III, b_4 80–8°. III was converted into 2,4-dinitrophenyl phenylcyclobutenyl sulfide, m. 98°. IV (3.6 g.) was added to 15 cc. 30% H_2O_2 and stirred at 0–10° 10 hrs. to give 1,3-bis(dimethylamino)cyclobutane *N,N'*-dioxide, m. 85–90° (hygroscopic); picrate m. 186° (MeOH). T. ~~Sett~~

MARICA, ELISA

Distr: 4E3d/4E3b/4E2c(j)

Cyclobutane series. V. Some bromo derivatives of cyclobutane. Margareta Avram, Elise Marica, and C. D. Nenitzescu (Acad. R.P.R., Bucharest, Romania). *Acad. rep. populare Romîne, Studii cercetări chim.* 7, 155-67(1959) (German summary); cf. *C.A.* 53, 16993*f*; preceding abstr. —Both *cis*- (I) and *trans*-1,2-cyclobutanedicarboxylic acid (II) were converted into a mixt. of *cis*- (III) and *trans*-1,2-dibromocyclobutane (IV) by the Hunsdiecker reaction (which was therefore not stereospecific). I (36 g.), m. 139.5–40.5°, or its anhydride (V) in 150–200 cc. H_2O was added to 85 g. $AgNO_3$ in 1700 cc. H_2O. The Ag salt of I (80–85 g.) pptd. The salt was dissolved in 1100 cc. dry CCl_4, stirred, and cooled to 0°. Br (87.9 g.) was added (the temp. rose to 65°), the soln. filtered, 3% aq. $NaHSO_3$ added till discoloration occurred, the soln. washed (H_2O), dried ($MgSO_4$), the solvent evapd. in a column, and the residue fractionated twice *in vacuo* to give a mixt. (19.2–21.6 g.) of 14% III and 78% IV. II, m. 131–1.5°, was prepd. from the di-Et ester of I, b_{14} 138°, by converting it with NaOEt to the di-Et ester of II, b_{13} 120°, and then boiling with 6*N* HCl 12 hrs. The Ag salt of II was converted into a mixt. of 26% III and 65% IV as above. 1-Bromocyclobutene was dissolved in 130 cc. isopentane and dry HBr was introduced at 0° under ultraviolet illumination 3–4 hrs. Fractionation gave 10 g. III, 97% purity, b_{14} 102°, m. −14.5 to −14.2°, d_{25} 2.0103, n_D^{25} 1.54981. IV, 97% purity, b_{14} 93–4°, m. −3.5 to −4.0°, d_{25} 1.93651, n_D^{25} 1.53486, was prepd. in $CHCl_3$ by bromination of cyclobutane. A mixt. (21.4 g.) of III and IV, 21.4 g. $AlBr_3$, and 0.035 cc. H_2O was stirred in 160 cc. CS_2 at 0–15° 10 hrs. The CS_2 soln. was decanted from the red resin which sepd., washed, evapd., and the residue fractionated *in vacuo*. Thus, 15–16 g. mixt. was obtained contg. 19% III, 47.5% IV, and 33.5% 1,3-dibromocyclobutane (VI) (detd. by gas chromatography). This mixt. (10.7 g.) and 20 g. powd. KOH was heated at 100–10° 1 hr. From the gas evolved, 1.4 cc. HC:CCH:CH_2 (VII) condensed in a trap, and HC:CH was adsorbed in a Cu(I) soln. VII was identified by converting it into tetrabromovinylacetylene. A mixt. (10.7 g.) of III and IV dissolved in 10 cc. CS_2 was mixed with 3 g. $AlBr_3$ dissolved in 80 cc. CS_2 at 0°, satd. with dry HBr, agitated 2 hrs. at 0° and 6 hrs. at 15°. The solvent was decanted, evapd., and the residue distd. *in vacuo*. Tribromobutane (VIII) (10 g.), b_4 104–5°, d_{25} 2.2028, n_D^{25} 1.56368, was obtained. VIII (2 g.) heated at 110° with 5 g. KOH gave VII. 1,2-Dibromocyclobutane-1,2-dicarboxylic acid (IX) (30.3 g.) was dissolved in 200 cc. H_2O, neutralized with NH_3 to pH 7, and dropped into a soln. of $AgNO_3$ (34.5 g. in 800 cc. H_2O). The Ag salt of IX (47–50 g.) pptd. The Hunsdiecker reaction of this (18.8 g.) gave 3 g. 1,1,2,2-tetrabromocyclobutane (X), m. 126° (MeOH). $AlBr_3$ (1.36 g.) dissolved in 100 cc. CS_2 was added to 18.6 g. X at 0° and agitated at 10–20° 10 hrs. A mixt. of isomers ($C_4H_4Br_4$) was obtained, b_2 114–15°. I (7.2 g.) dissolved in 50 cc. C_6H_6 was mixed with 7.9 g. dry pyridine and 22.2 g. $Pb(OAc)_4$, and stirred at 50–60° 1 hr. Cyclobutene (XI) evolved was introduced into a soln. of Br in CH_2Cl_2, from which 1.6 g. 1,2-dibromocyclobutane was obtained, b_{40} 95–100°. A flask contg. 150 cc. dry CCl_4, 17 g. bromosuccinimide, and 0.5 g. benzoyl peroxide was filled with carefully dried XI and agitated at 70–4° 6 hrs. The CCl_4 soln. was decanted from the polymer (oil) sepd. and the solvent evapd. By fractionating the residue, 1,2-dibromocyclobutane (2.8–3.5 g.), b_{23} 80–5°, was obtained. VI. The decomposition of quaternary salts of 1,3-diaminocyclobutane. Margareta Avram and C. D. Nenitzescu. *Ibid.* 169–74.—The attempted Hoffmann degradation of 1,3-bis(dimethylamino)cyclobutane dimethobromide (I) in the presence of PhLi (II) was found to be anomalous, giving phenylcyclobutene (III). I (13 g.), m. above 265°,

AVRAM, Margareta; MARICA, Eliza; NENITZESCU, Costin D.[Nenitescu, C.D.], acad.

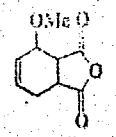
Research in the series of cyclobutane. V. On the bromoderivatives of cyclobutane. VI. Research in the obtainment of quaternary salts derived from cyclobutanediamine. Rev chimie 4 no.2:253-270 '59. (EEAI 9:7)

1. Aus dem Chemischen Forschungslaboratorium der Akademie der RVR, Bukarest. 2. Redecteur en chef, Comite de redaction, Revue de Chimie; Mitglied der Akademie der Rumanischen Volksrepublik (for Nenitescu)

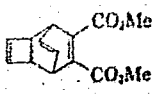
(Ring compounds) (Cyclobutane) (Bromine)
(Quaternary compounds) (Salts) (Cyclobutanediamine)

MARICA, E.

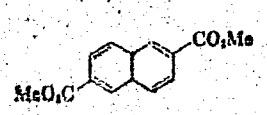
Investigations in the cyclobutane series. II. Cyclobutadiene. Margarete Avram, Costin D. Nenitzescu, and Elise Marica (Acad. R. V. R. Bucarest, Romania). *Chem. Ber.* 90, 1857–68(1957); cf. *C.A.* 53, 10993*f*.—Hofmann degradation of 1,3-bis(dimethylamino)cyclobutane as well as thermal fission of Reppe adducts from cyclooctatetraene and several dieneophiles result only in formation of butadiene (I) instead of the expected cyclobutadiene. A soln. of 1.8 g. 1,3-bis(dimethylamino)cyclobutane-2MeI (II) in 20 ml. MeOH is shaken 1 hr. with Ag_2O (from 5 g. $AgNO_3$ and 10% aq. NaOH). After filtration and washing of the ppt. with MeOH, the filtrate is evapd. at 20–35° *in vacuo*. From a bath temp. of 120° up to 200° decompn. with formation of 20 ml. gas, which is caught over 50% KOH, takes place; the gas has a C-H ratio of 1:1.5. II (4.26 g.) is heated with 5 g. KOH in 5 ml. water for 1.5 hrs.; the resulting gas is led into a soln. of Br in CH_2Cl_2. After evapn. a small quantity 1,2,3,4-tetrabromobutane, m. 117°, is left. II (4.26 g.) after treatment according to the first procedure, on distn. of the filtrate, gives 2 ml. MeOH, which on dilu. with water yields an oil. After extn. with ether, drying, and evapg., the yellow oil (50 mg.) is mixed with 50 mg. maleic anhydride to give III, m. 97° (dioxane-ether) (Flaig, *C.A.* 44, 6803*d*). (MeO_2-



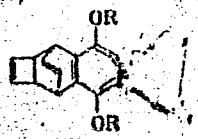
(III)



(IV)



(VI)



(VII)

CCl_4 (28 g.) and 23 g. cyclooctatetraene is heated 8 hrs. at a bath temp. of 150–5°. At slightly higher temp. decompn. takes place to give 25 g. IV, b_4 140–150°. On heating 0.1 mole (24 g.) IV 15 min. to about 300°, 350–420 ml. gas is vigorously evolved and proves to be I (15–17% yield). From the residue there is obtained 4–6 g. di-Me 2,6-naphthalenedicarboxylate (V), m. 137°, 6–6.5 g. (30–32) di-Me phthalate, b_4 140–50°, and 0.5 g. VI, m. 120°. At 300° with 30% Pd-C VI gives V. When VII (R = Me), m. 105° (Reppe, *et al.*, *C.A.* 45, 6184*g*), is heated to the b.p., I is obtained in 25% yield, and from the residue 50–54% 1,4-dimethoxynaphthalene, m. 85°, and 1,4-dimethoxyphenanthrene, m. 124.5–125°, are isolated and identified. VII (R = Ac), m. 136–7° (*loc. cit.*), gives on thermal degradation 1,4-diacetoxynaphthalene, m. 123–6°, and 1,4-diacetoxyphenanthrene, m. 137°. Fission of the adduct of cyclooctatetraene and α-naphthoquinone, m. 190–2°, gives I, anthraquinone, and a mixt. of isomeric benzanthraquinones, m. 150° (MeOH) (the mixed m.p. with authentic 1,2-benzanthraquinone, m. 168°, is 155°).

C. E. Freitag

MARICA D.

(2)

RUMANIA

Dr D. NEGRU, Veterinarian I. [illegible], Veterinary Experimental Station (Statiunca experimentala veterinara) Arad, and Veterinarians H. MUSSAR and L. MUSSAR, [illegible] (Intreprinderia agricola de stat) Fintinele, Banat Region.

"Treatment of Avian Spirochetosis."

Bucharest, Revista de Zootehnie si Medicina Veterinara, Vol 13, No 5, May 63; pp 69-74.

Abstract [English summary modified]: Experimental tests and field studies of therapy of avian spirochetosis with antibiotics, sulfonamides, furazolidone, arsanilic acid derivatives (27% As). Latter were very effective. Acaprine [not identified] was quite effective also but further studies are necessary to clarify conditions under which it is effective. Graph, 3 tables; 2 Soviet, 1 Western, 2 Rumanian references.

1/1

RUMANIA

SCHOBESCH, O., Prof, Dr, MARICA, D., Dr, and HAYDU, I., Dr, of the Faculty of Veterinary Medicine (Facultatea de Medicina Veterinara), Cluj.

"Studies Concerning the Comparative Antiseptic Value of Metosept, Bromocet, and Tincture of Iodine."

Bucharest, Revista de Zootehnie si Medicina Veterinara, Vol 16, No 12, Dec 66, pp 81-85.

Abstract: The authors studied the relative antiseptic effectiveness of Metosept, Bromocet and tincture of iodine on cattle, horse and swine skin. None of the three was found to assure complete sterility of shorn or shaved skin that had been washed; tincture of iodine and Metosept were practically equivalent in terms of cutaneous disinfectant activity and were superior to Bromocet, which latter, however, is economically more advantageous. All three were well-tolerated by the animals.

Includes one table and 7 references, of which 5 Rumanian, one German and one French.

Marica, D.

3

MAY, I.
SURNAME (in caps); Given Names

Country: Rumania

Academic Degrees: Veterinarian

Affiliation: Experimental Veterinary Station of the Institute of Pathology and Animal Hygiene (Statiunea Experimentala a Institutului de Patologie si Igiena Animala), Arad.

Source: Bucharest, Probleme Zootehnice si Veterinare, No 6, 1961, pp63-66.

Data: "Toxicity of Certain Industrial Residues in Birds? Poultry."

Co-authors:

MARICA, D., Veterinarian, Experimental Veterinary Station of the Institute of Pathology and Animal Hygiene (Statiunea Experimentala a Institutului de Patologie si Igiena Animala), Arad.

Country : RUMANIA
CATEGORY :

ABS. JOUR. : RZBiol., No. 3 1959, No. 10195

AUTHOR : Syrmon, E., Marica, D., Deac, I.
INST. : ---
TITLE : The Finding of R-Forms of Streptococci in Strangles of Horses

ORIG. PUB. : Probl. zootehn. Si veterin., 1958, No 4, 30-33

ABSTRACT : No abstract.

CARD: 1/1

MARICA, B.

"A Group of Airplane Modelers with Great Prospects." P. 4. (AVIATIA SPORTIVA, Vol. 5, No. 4, Apr. 1954, Bucuresti, Rumania.)

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 4, No. 1, Jan. 1955 Uncl.

MARIC-GVOZDENOVIC, Julija, Dr., Asistent Decje klinike.

Aplasia of abdominal muscles with aplasia of one kidney and one testicle and with other urogenital abnormalities. Med. arh., Sarajevo 9 no.6:63-69 Nov-Dec 55.

1. Univerzitetska decja klinika, Sef: Prof. Dr. Milivoje Sarvan.
(MUSCLES, abnorm.
aplasia of abdom. musc. in child., with agenesis of right kidney and right testis, case report. (Ser))
(KIDNEYS, abnorm.
agenesis of right kidney in child., with agenesis of right testis & aplasia of abdom. musc., (case report) (Ser))
(ABNORMALITIES,
agenesis of right kidney & testis, with aplasia of abdom. musc. in child, case report (Ser))
(TESTES, abnorm.
agenesis of right testis, with aplasia of abdom. musc. & agenesis of right kidney in child. (Ser))

MARIC-GVOZDENOVIC, Julija, Dr.

Treatment of dystrophies. Med. arh., Sarajevo 9 no.1:45-55 Jan-Feb 55.

1. Asistent Djecije klinike, Sarojevo, (Univerzitet, Djecija klinika-Sef Prof. Dr. M. Sarvan).

(NUTRITION DISORDERS,
dystrophy in inf. & child., ther. (Ser))
(PEDIATRIC DISEASES
dystrophy in inf. & child., ther. (Ser))

MARIC-GVOZDENOVIC, Julija, asistent dr. Djecije klinike; CAUSIC, Jelena, dr. Djecije klinike

Infant septicemia caused by Staphylococcus aureus and Bacillus pyocyaneus. Med. arh., Sarajevo 8 no.4:62-73 July-Aug 54.

1. Univerzitetska Djecija klinika. Upravnik Prof. Dr. Milivoje Sarvan.

(SEPTICEMIA AND BACTEREMIA, bacteriol.
Micrococcus pyogenes aureus & Pseudomonas aeruginosa in inf.)
(PSEUDOMONAS AERUGINOSA, infect.
septicemia in inf.)
(MICROCOCCUS PYOGENES, infect.
aureus septicemia in inf.)

MARIC-GVOZDENOVIC, Julija, asist. dr.

Disorder of pulmonary ventilation in children. Med. arh., Sarajevo 8 no.3:31-41 May-June 54.

1. Univerzitetska Decja klinika Sarajevo - sef prof. dr. M.Sarvan.
(ATELECTASIS, in inf. & child)

MARIC-GOVZDENOVIC, Julija, dr. asistent Decije klinike

Periarteritis nodosa (panarteritis, polyarteritis), Kussmaul-Maier disease; case report. Med. arh., Sarajevo 8 no.2:71-79 Mar-Apr 54.

1. Univerzitetna decija klinika Sarajevo, sef prof. dr. M.Sarvan.
(PERIARTERTIS NODOSA)

MARIC, Zvonko

Application of dispersion formula to photonuclear reactions. Bul Inst Nucl 11:7-9 '61.

1. Institute of Nuclear Sciences "Boris Kidrich," Department of Physics, Vinca.

KARAMATA, J.; MARIC, V.

On a class of solutions of the equation $y' = F(x)\, y^{\lambda}$.
Glas SANU 12 no.2:217 '60 [publ.'62].

MARIC, V.

Asymptotic behavior of integrals of a class of nonlinear differential equations of the second order. p. 27.
ZBORNIK RADOVA, Beograd, No. 43, 1955.

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 5, no. 10, Oct. 1956, Uncl.

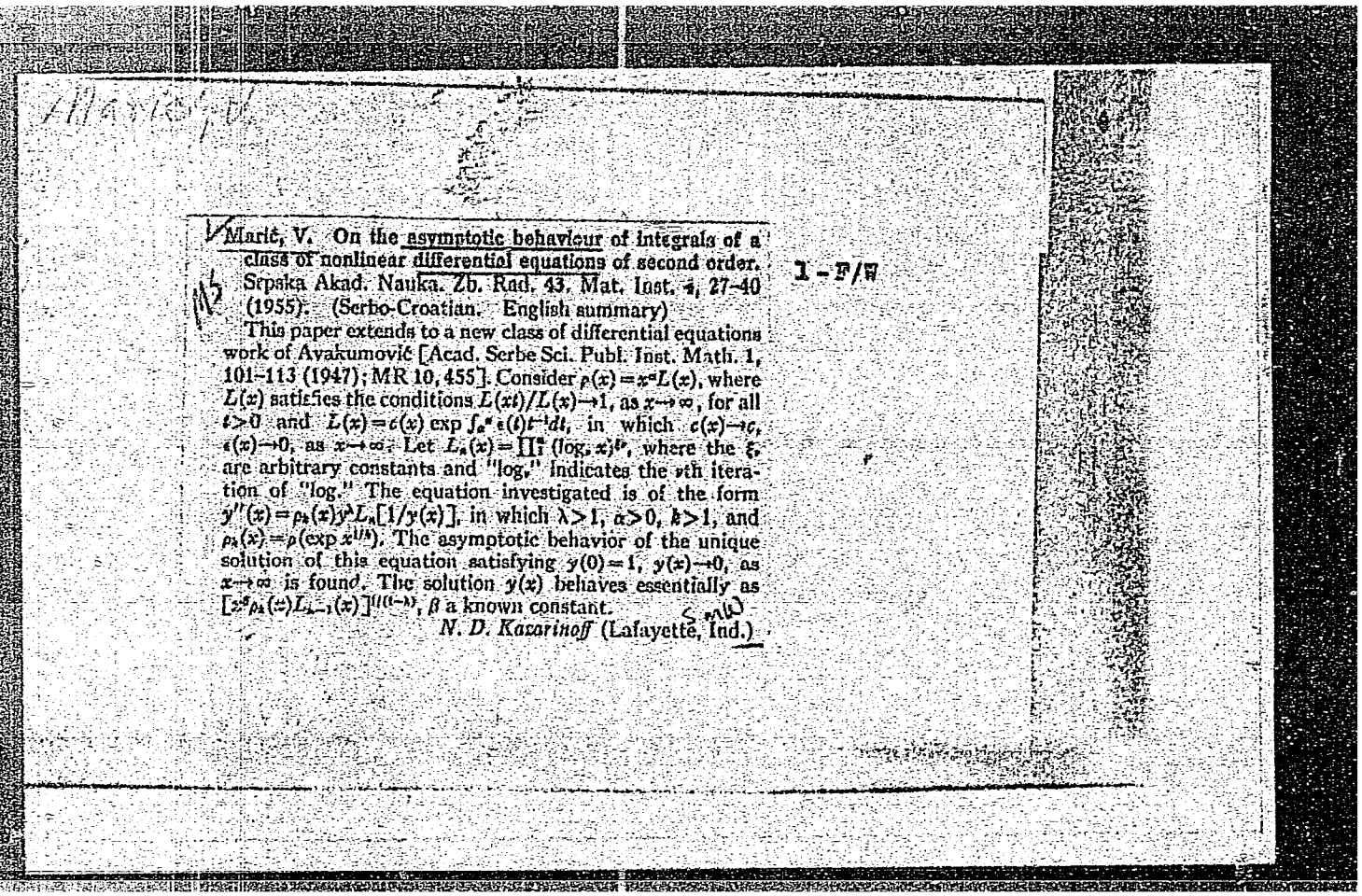
MARIC, V.

Green's function of the biharmonic operator. In English. p. 59.

Srpska akademija nauka. Matematicki institut. PUBLICATIONS. Beograd, Yugoslavia. Vol. 8, 1955

Monthly list of East European Accessions (EEAI) LC, Vol. 8, No. 8 Aug. 1959

Uncl.



Marić, V. On the asymptotic behaviour of integrals of a class of nonlinear differential equations of second order. Srpska Akad. Nauka. Zb. Rad. 43, Mat. Inst. 4, 27–40 (1955). (Serbo-Croatian. English summary)

This paper extends to a new class of differential equations work of Avakumović [Acad. Serbe Sci. Publ. Inst. Math. 1, 101–113 (1947); MR 10, 455]. Consider $\rho(x)=x^{\alpha}L(x)$, where $L(x)$ satisfies the conditions $L(xt)/L(x)\to 1$, as $x\to\infty$, for all $t>0$ and $L(x)=c(x)\exp\int_a^x \epsilon(t)t^{-1}dt$, in which $c(x)\to c$, $\epsilon(x)\to 0$, as $x\to\infty$. Let $L_\nu(x)=\prod_1^\nu(\log_\nu x)^{\xi_\nu}$, where the ξ_ν are arbitrary constants and "$\log_\nu$" indicates the νth iteration of "log." The equation investigated is of the form $y''(x)=\rho_k(x)y^\lambda L_n[1/y(x)]$, in which $\lambda>1$, $\alpha>0$, $k>1$, and $\rho_k(x)=\rho(\exp x^{1/k})$. The asymptotic behavior of the unique solution of this equation satisfying $y(0)=1$, $y(x)\to 0$, as $x\to\infty$ is found. The solution $y(x)$ behaves essentially as $[x^{\beta}\rho_k(x)L_{n-1}(x)]^{1/(1-\lambda)}$, β a known constant.

N. D. Kazarinoff (Lafayette, Ind.)

MARIC, Tamara

Investigation of waters in the navigable canal Bezdan-Becej. Glasn. Hig. inst., Beogr. 6 no.1-2:71-96 Jan-June 57.

1. Higijenski zavod, Novi Sad.
(WATER POLLUTION,
by indust. wastes in Yugosl (Ser))