CZECHOSLOVAKIA

M. TUHACEK, J. VYMAZAL and K. OBRDA, CMS Pathophysiology Laboratory (Laborator pro patofyziologii c.n.s.) [rest of affiliation as above.]

"Acupuncture Treatment of Peripheral Paralyses of the Facial Nerve."

Prague, Ceskoslovenska Neurologie, Vol 26, No 2, 1963; pp 120-125.

Abstract [English summary modified]: Comprehensive report on 17 patients (12 primary and 5 secondary cases), including 10 refractory to all previous treatment. Results good clinically and electromyographically in 8, fair in 7. Speculative discussion about possible mode of action: elimination of ischemia by stimulation of a. stylomastoidea and a. nervis facialis? Three tables, 4 electromyograms; 4 Soviet, 1 US, 1 British, 1 Chinese and 3 Czech (whereof 2 'in press') references.

1/1

СВКОА

STARY, O.; OBORA, K.; PFEIFFER, J.; BERANKOVA.

Polyelectromyographic examination of disorders of propioceptive analysis in the initial stages of vertebrogenic disease in children. Cesk. neurol. 27 no.4:219-223 Jl '64

1. Neurologicka klinika fakulty vseobecneho lekarstvi KU [Karlovy university] v Praze; prednosta: akademik K.Henner.

CBRON

OBDRA, K.; SIROKY, A.; KREJCOVA, H.; BERANKOVA, M.

Polyelectromyographic and electronystagmographic findings in patients with cervical disk lesions. Cesk. neurol. 27 no.4: 238-242 Jl '64

1. Neurologicka klinika fakulty vseobecneho lekarstvi KU [Karlovy university] v Praze; prednosta: akademik K.Henner.

OBRDA, K.; BERANKOVA, M.

Polyelectromyographic studies in body statics in lumbar disk lesions. Cesk. neurol. 27 no.4:243-245 Jl'64

1. Neurologicka klinika fakulty vseobecneho lekarstvi KU (Karlovy university) v Praze; prednosta:akademik K.Henner.

JANDA, V.; MIRATSKY, Z.; OBRDA, K.; VELE, F.

The concept of rehabilitation in neurology. Cesk. neurol. 27 no.5:341-345 S '64.

1. Neurologicka klinika lekarske fakulty hygienicke Karlovy University v Praze (prednosta prof. dr Z. Macek), Neurologicka klinika fakulty vseobecneho lekarstvi Karlovy University, (prednosta akademik K. Henner) a Neurologicka katedra UDL v Praze (vedouci prof. dr. Z. Macek).

L 12838-66

ACC NR: AP6005707 SOURCE CODE: CZ/0082/65/000/003/0182/0190

AUTHOR: Obrda, K.; Berankova, M.

14
B

ORG: Laboratory for Pathophysiology of the Nervous System, Neurological Clinic, Faculty of General Medicine, Charles University, Prague (Laborator pro patofyziologii nervove soustavy neurologicke kliniky fakulty vseobecneho lekarstvi KU)

TITLE: Paralysis of the serratus anterior

SOURCE: Ceskoslovenska neurologie, no. 3, 1965, 182-190

TOPIC TAGS: electromyography, muscle physiology, clinical medicine, nervous system disease, neurology

ABSTRACT: 8 cases were studied; in 3 polyelectromyographic examination with surface electrodes was made. Only in 1 case was isolated paralysis of the m. serratus anterior found. In most cases other muscles innervated from the C5-C6 roots were also affected. Shoulder-blade movement in the test for the disease is discussed. Remedial exercises, and importance of the posture of the patient are described. Slight lesions caused by childhood infectious diseases are discussed. The polyelectromyographic method is important for diagnosis, and to assess the degree of recovery. Orig. art. has: 8 figures. [JPRS]

SUB CODE: 06 / SUBM DATE: none / ORIG REF: 002 / OTH REF: 005

Card 1/1 HW

OBRDOVA-DVORACKOVA, M.

Vaginal discharge at the age of puberty. Pedia listy 5:3, May-June 50, p. 147-8

1. Of the Department for Women's Diseases and Children's Gynecology of the Polyclinic of Charles University in Prague.

CLML 19, 5, Nov., 1950

OBRDOVA-DVORACKOVA, M.; TVAROH, F.; REBABEK, J.

Investigation on hormonal excretion in puberty. Cas. lek. cesk. 90 no.23:713-715 8 June 1951. (CIML 20:9)

1. Of the Institute of School Health (Health Center for Working Youth). 2. Of the Institute of Biology of the Medical Faculty of Charles University. 3. Consultation Center for Adolescents.

OBRDRZALEK, O.

Flying shears for a continuous billetrolling train. p. 3.

HUTNICKE LISTY. (Ministerstvo hutniho prumyslu a rundnych dolu a Ceskoslovenska vedecka spolecnost pro hutnictvi a slevarenstvi) Brno, Czechoslovakia, Vol. 14, No. 1, Jan. 1959.

Monthly List of East European Accession, (EEAI), LC, Vol. 8, No. 12, Dec. 1959. Uncl.

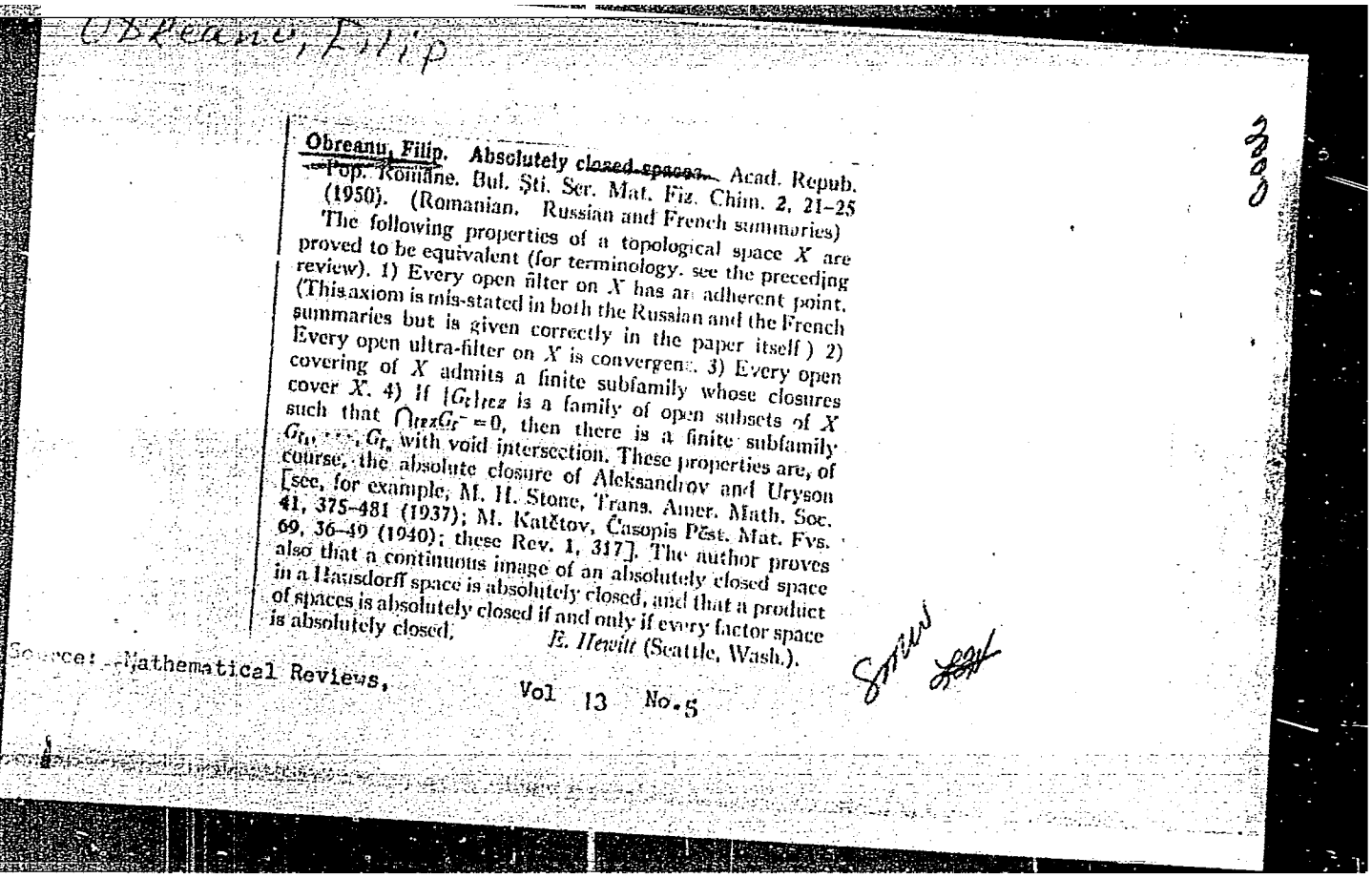
Obreanu, Filip

Obreanu, Filip. **Open filters.** Acad. Repub. Pop. Române. Bul. Şti. Sec. Mat. Fiz. Chim. 2, 1–5 (1950). (Romanian. Russian and French summaries)

An open filter is a family of open subsets of a topological space closed under the formation of finite intersections, containing with an open set every open superset, and not containing the void set. An open ultra-filter is defined in the usual way. Five well-known and obvious facts concerning these objects are recounted.

E. Hewitt.

Source: Mathematical Reviews, Vol 13 No. 5



Obreanu, Filip

Obreanu, Filip. Absolutely closed spaces. Acad. Repub. Pop. Române. Bul. Şti. Ser. Mat. Fiz. Chim. 2, 21–25 (1950). (Romanian. Russian and French summaries)

The following properties of a topological space X are proved to be equivalent (for terminology, see the preceding review). 1) Every open filter on X has an adherent point. (This axiom is mis-stated in both the Russian and the French summaries but is given correctly in the paper itself.) 2) Every open ultra-filter on X is convergent. 3) Every open covering of X admits a finite subfamily whose closures cover X. 4) If $(G_t)_{t\in T}$ is a family of open subsets of X such that $\bigcap_{t\in T} G_t^- = 0$, then there is a finite subfamily $G_{t_1}, \cdots, G_{t_n}$ with void intersection. These properties are, of course, the absolute closure of Aleksandrov and Uryson [see, for example, M. H. Stone, Trans. Amer. Math. Soc. 41, 375–481 (1937); M. Katětov, Časopis Pěst. Mat. Fys. 69, 36–49 (1940); these Rev. 1, 317]. The author proves also that a continuous image of an absolutely closed space in a Hausdorff space is absolutely closed, and that a product of spaces is absolutely closed if and only if every factor space is absolutely closed.

E. Hewitt (Seattle, Wash.).

Source: Mathematical Reviews, Vol 13 No.5

OBREANU, FILIP

8

Obreanu, Filip. On a problem of Aleksandrov and Uryson. Acad. Repub. Pop. Române. Bul. Şti. Ser. Mat. Fiz. Chim. 2, 101–108 (1950). (Romanian. Russian and French summaries)

The author presents a new proof of a conjecture of Aleksandroy and Uryson, first established by M. H. Stone [Trans. Amer. Math. Soc. 41, 375–481 (1937), p. 435]. In essence, the proof is the same as Stone's. *E. Hewitt.*

Mathematical Reviews, Vol 13 No. 6

Obreanu, Filip

Obreanu, Filip. **Espaces séparés minimaux.** An. Acad. Repub. Pop. Române, Sect. Şti. Mat. Fiz. Chim. Ser. A. 3, 325–349 (1950). (Romanian. Russian and French summaries)

A Hausdorff space X is said to be minimal if every one-to-one continuous image Y of X which is also a Hausdorff space is homeomorphic to X. After reviewing a number of well-known facts about topological spaces, the author shows by examples that closed subspaces, continuous Hausdorff images, and retracts of minimal Hausdorff spaces need not be minimal. A product of Hausdorff spaces is minimal if and only if each factor-space is minimal. A minimal Hausdorff space is absolutely closed but not conversely, as an example shows. The author finally states that if a Hausdorff space X is the union of a countable number of absolutely closed subspaces F_n and is also the union of a countable number of nowhere dense sets M_n, then X has no one-to-one continuous image which is a compact Hausdorff space. The proof is incorrect, but becomes correct if one assumes that each F_n is nowhere dense. The theorem as stated must be regarded as undecided. *E. Hewitt* (Seattle, Wash.).

Source: Mathematical Reviews, Vol 13 No. 5

Obreanu, Filip

Obreanu, Filip. Espaces localement absolument fermés. Acad. Repub. Pop. Române. Secţ. Şti. Mat. Fiz. Chim. Ser. A. 3, 375–394 (1950). (Romanian. Russian and French summaries)

A Hausdorff space X is said to be locally absolutely closed (LAC) if every point of X has an open neighborhood whose closure is absolutely closed (AC). The theory of such spaces is very like the theory of locally compact Hausdorff spaces, every standard structure theorem for the latter class of spaces being provable for the former with only verbal modifications. For example, a Cartesian product of Hausdorff spaces is LAC if and only if all factors are LAC and all but a finite number are AC. Also, a LAC space which is not AC can be imbedded (although not uniquely) in an AC space by the addition of a single point. Neighborhoods of the adjoined point can be taken as complements of absolutely closed sets in the original space. The real line R can be imbedded in a space $R \cup \{\omega\}$, where $U_n(\omega) = \{\omega\} \cup \{\text{all } x \in R$ such that $|x| > n$ and x is not an integer$\}$. As $R \cup \{\omega\}$ is absolutely closed but not compact, this example shows that the imbedding described above is not unique.

E. Hewitt (Seattle, Wash.).

Source: Mathematical Reviews, Vol 13 No.5

OBREANU, Filip

2
0
0
0

(2)

Obreanu, Filip. Sur un théorème de Baire. Acad. Repub. Pop. Romîne. Bul. Şti. Secţ. Şti. Mat. Fiz. 4, 285–290 (1952). (Romanian. Russian and French summaries)

There is obtained the following extension of a well-known theorem of Baire: Suppose E is a topological space, m is a cardinal number, and $(A, >)$ is a directed set of cardinality $\leq m$. Suppose E' is a completely regular space having a compatible uniformity base of cardinality $\leq m$. Suppose $\{f_\alpha : \alpha \in A\}$ is a family of continuous functions on E to E', pointwise convergent (in terms of the ordering $>$) to the function f. Then the set of points at which f is discontinuous can be covered by m nowhere dense subsets of E.

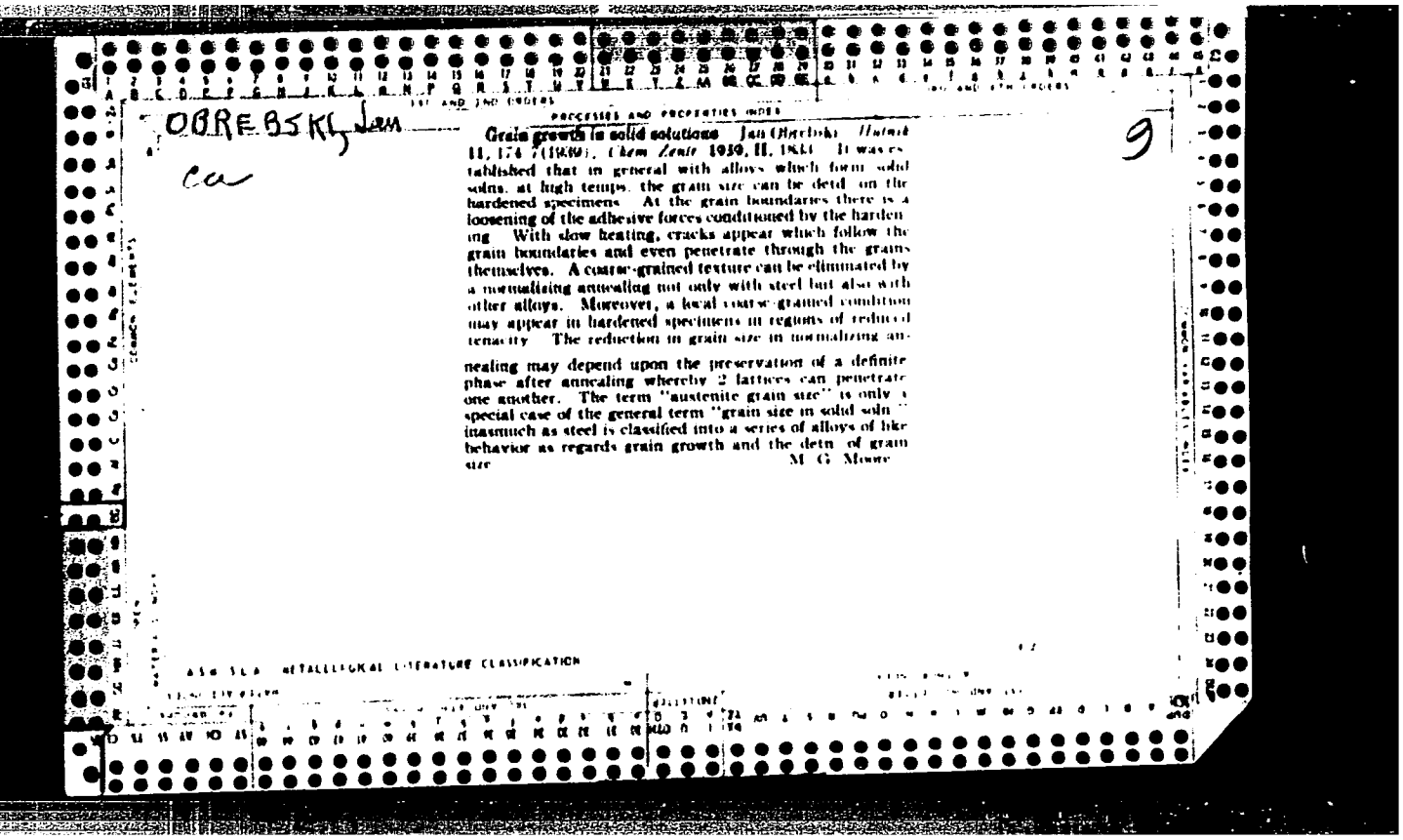
V. L. Klee (Seattle, Wash.).

10-28-54 LL

OBREBOWSKI, Andrzej

Subdiaphragmatic segments of the vagus nerve in dogs. Folia morph. (Warsz.) 24 no.3:323-329 '65.

1. Z Zakladu Anatomii Opisowej i Topograficznej AM w Poznaniu (Kierownik: prof. dr. J. Kolaczkowski).



OBREBSKI, Jan

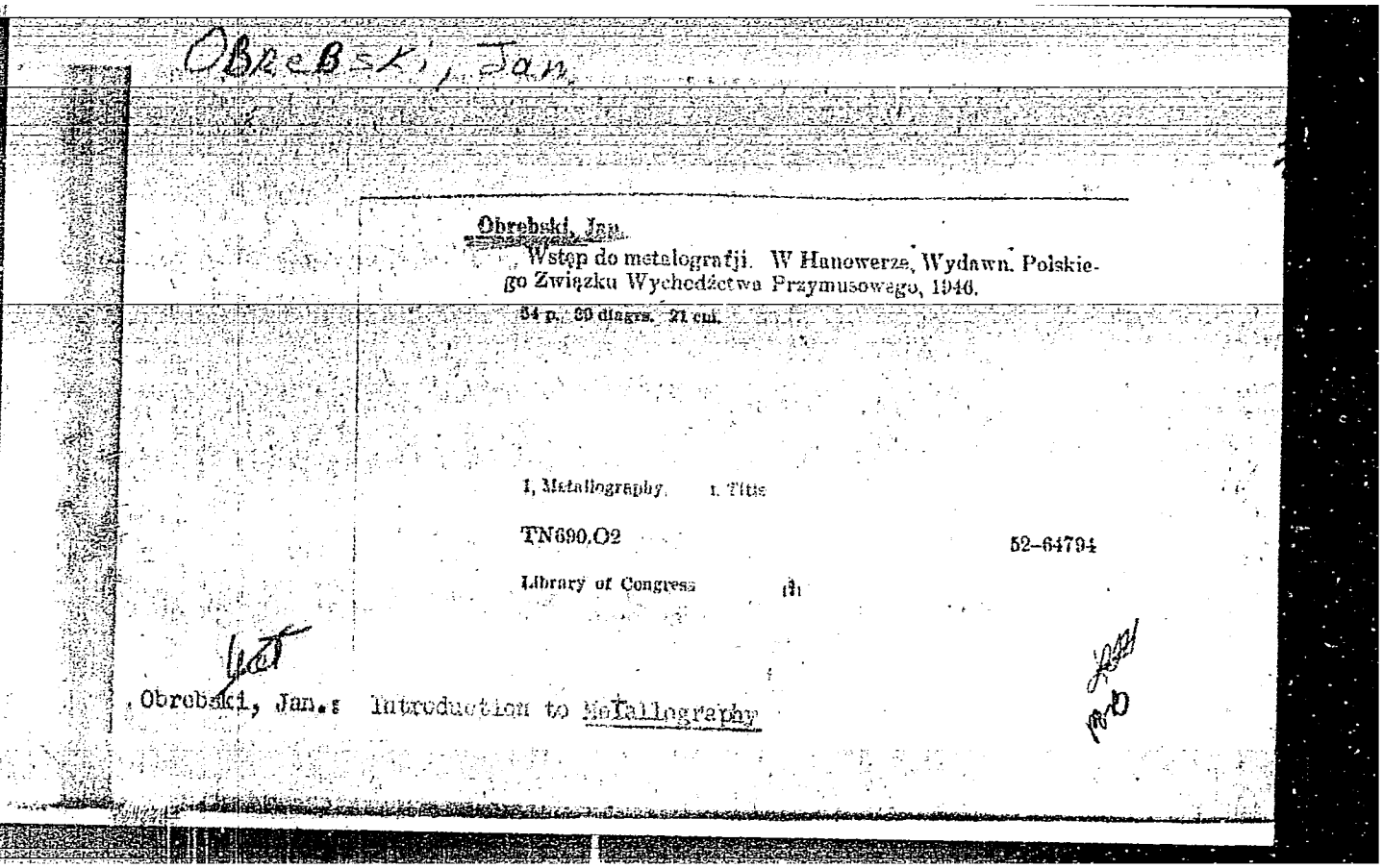
Ca

9

PROCESSES AND PROPERTIES INDEX

Grain growth in solid solutions. Jan Obrebski. *Hutnik* 11, 174–7 (1944). *Chem. Zentr.* 1950, II, 1841. It was established that in general with alloys which form solid solns. at high temps. the grain size can be detd. on the hardened specimens. At the grain boundaries there is a loosening of the adhesive forces conditioned by the hardening. With slow heating, cracks appear which follow the grain boundaries and even penetrate through the grains themselves. A coarse-grained texture can be eliminated by a normalising annealing not only with steel but also with other alloys. Moreover, a local coarse-grained condition may appear in hardened specimens in regions of reduced tenacity. The reduction in grain size in normalizing annealing may depend upon the preservation of a definite phase after annealing whereby 2 lattices can penetrate one another. The term "austenite grain size" is only a special case of the general term "grain size in solid soln." inasmuch as steel is classified into a series of alloys of like behavior as regards grain growth and the detn. of grain size. M. G. Moore

ASM SLA METALLURGICAL LITERATURE CLASSIFICATION



OBRĘBSKI, Jan.

Obrębski, Jan.
Wstęp do metalografji. W Hanowerze, Wydawn. Polskiego Związku Wychodźctwa Przymusowego, 1946.
84 p. 69 diagrs. 21 cm.

1. Metallography. 1. Title

TN690.O2 52-64794

Library of Congress

Obrębski, Jan. Introduction to Metallography

P/039/61/000/002/001/003
A221/A126

26067

AUTHORS: Stankiewicz, Mieczysław, Master of Engineering, and Obrębski, Jerzy, Engineer

TITLE: Vacuum casting of steel in Polish metallurgy

PERIODICAL: Hutnik, no. 2, 1961, 37 - 44

TEXT: This article is an abbreviation of a paper read during the Steelmakers' conference, organized by the SITPH (Association of Engineers and Technicians of the Metallurgical Industry) on May 18, 1960, at the Huta Batory (Metallurgical Plant). It describes the first vacuum steel casting plant in Poland, installed at the Huta Batory. This plant was designed by the "Biprohut" (Metallurgical Plants Project Office) and members of Huta Batory own design office. The construction of this plant is done in three stages: building of the first stage commenced in June 1959 and was completed in February 1960, when it was put into operation. The plant consists of 4 vacuum pumps, designed by Master of Engineering Szeliga from the Zjednoczenie Górniczo Hutnicze Metali Nie-Żelaznych (Mining and Non-Ferrous Metals Metallurgical Plants Association) and 2 vacuum chambers. In each chamber single ingots weighing 2.5 - 6 tons can be cast. During the second

Card 1/4

Vacuum casting of steel in Polish metallurgy

stage of construction the 5th vacuum pump will be added and a large chamber built, allowing either to cast steel ingots of up to 15 tons or to degas 10 tons of molten steel in a ladle. During the third stage of construction, the pumps will be replaced by steam ejectors and a new vacuum chamber will be large enough to cast ingots of up to 27 tons in weight or to degas 55 tons of steel in a ladle. The beginning of the second stage of construction was scheduled for the end of 1960 and of the third one for the second half of 1961. The two chambers built during the first stage are round tanks of 1,800 mm in diameter, 3,700 mm high and of 7 m^3 capacity, welded from sheet steel 20 mm thick. The tubes connecting the chamber with the vacuum pumps are 250 mm in diameter and are fitted with remote-controlled pneumatically operated valves and filter chambers. The blower with 100 m^3/ min (N.P.T.) capacity and 120 mm H_2O pressure, supplies the air for cooling vacuum chambers and ingot molds after the steel casting operation is completed. In order to avoid an explosion of hydrogen and carbon monoxide expelled from the steel and the air, immediately after the casting is completed, nitrogen is blown from steel cylinders into the chambers. The vacuum pumps are similar in design to the English Kinney pumps. Their specification is as follows: output - 900 m^3/h at 760 mm Hg pressure, motor power - 26 kw, cooling water consumption 3 m^3/h, oil consumption

0.25 l/h. The oil should be of the compressor oil type, free of moisture, viscosity 6 - 7°E at 50°C with acidity-number max. 0.05 and 200 - 240°C flash point. Steel level in sink-heads is indicated by contact rods. As soon as the molten steel touches them, the 24 v circuit is closed and a signal lamp on the panel flashes and an alarm siren sounds. The vacuum chamber which will be built during the third stage of construction will be 3,000 mm in diameter, 5,000 mm nigh and will have 34 m^3 capacity. The casting is done by 3 men, one on the operator stand, one in the vacuum-pump compartment and one near the vacuum chambers. The most important part of this installation are the vacuum pumps. With all 4 pumps in commission both chambers can be evacuated to the pressure of 1 - 2 mm Hg within 8 - 9 minutes. During the casting process, the pressure rises to 2 - 6 mm Hg. However, these pumps are very susceptible to moisture and solid impurities. Inspite of filters, after only 12 castings the oil picked up as much as 37% of moisture and a quantity of dust composed of SiO_2, Fe, aluminum-, manganese-, calcium- and magnesium oxides causing efficiency reduction. Consequently, in order to maintain steady pump efficiency, the oil, about 100 kg for each pump, has to be changed frequently, raising considerably the operating costs. This is the reason why steam ejectors will be more suitable for this job. From February 1960 till May 1960, 34 batches of steel were cast at this plant. Twelve more will be cast especially for investi-

Card 3/4

Vacuum casting of steel in Polish metallurgy 26087

P/039/61/000/002/001/003
A221/A126

gation purposes in order to gain more information and experience. There are 6 photos, 6 figures and 1 table.

ASSOCIATION: Huta Batory (Metallurgical Plant).

Card 4/4

ROSZKOWSKI, Ireneusz; OPALINSKI, Pawel; OBREBSKI, Tadeusz; MYSZKOWSKI, Leopold.

Calcium, phosphorus and magnesium content in the blood of pregnant women during the 1st trimester. Pol. tyg. lek. 19 no.52:1996-1998 28 D'64.

1. Z II Kliniki Poloznictwa i Chorob Kobiecych Akademii Medycznej w Warszawie (kierownik Kliniki: prof. dr. I. Roszkowski).

OBRĘBSKI, Z.

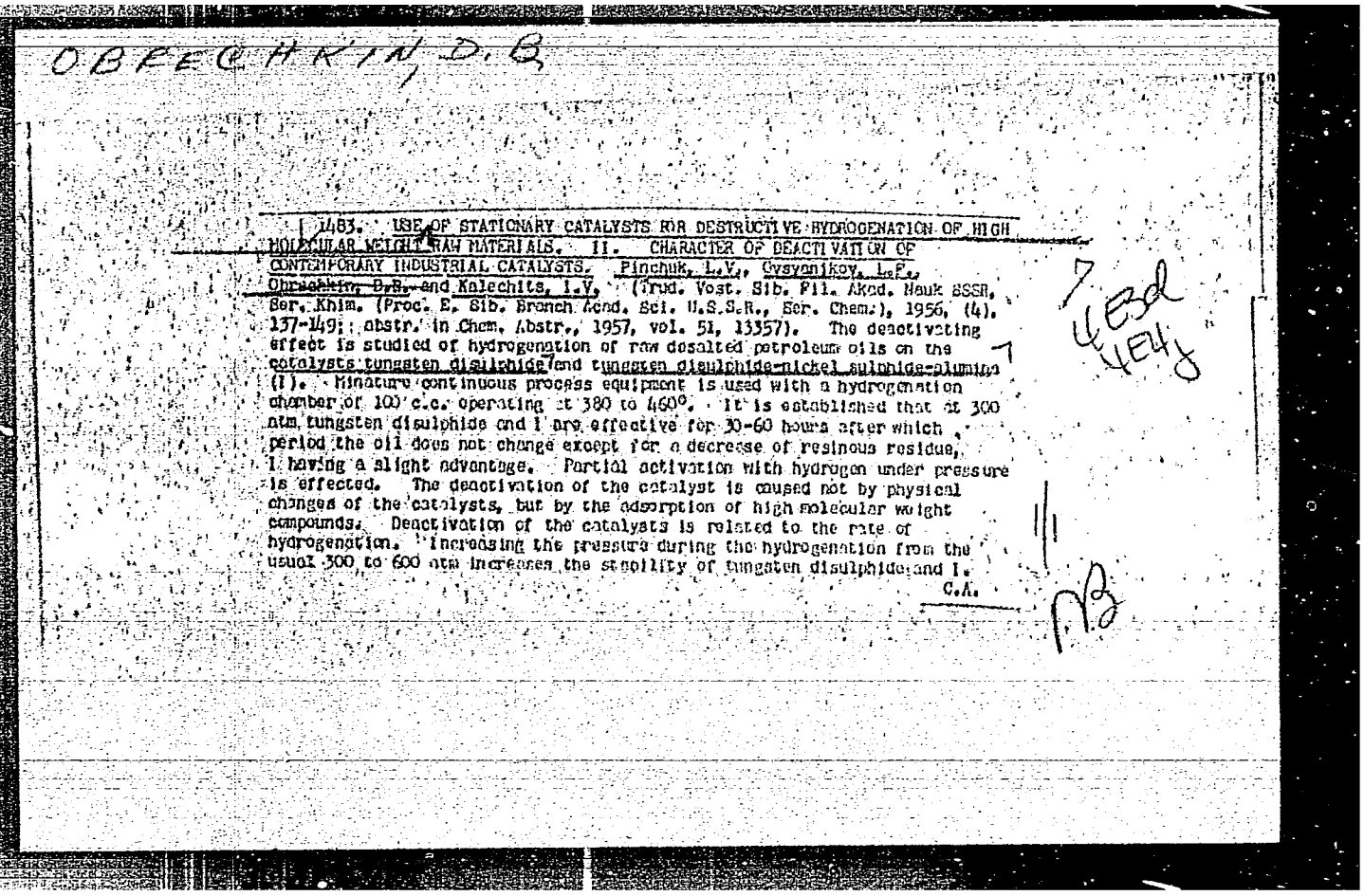
Treatment of genu valgum with redression apparatus of own design.
Chir. narz. ruchu ortop. polska 17 no. 4:347-349 1952. (CLML 24:2)

1. Warsaw.

OBREBSKI, Zygmunt

Extensive growth of the tuber calcanei as a pathological entity (hypertrophy of the tuber calcanei). Chir. narz. ruchu ortop. polska 27 no.2:149-151 '62.

1. Z Oddzialu Chirurgicznego Szpitala Miejskiego Nr 4 w Warszawie Ordynator: dr Z. Obrebski.
(CALCANEUS dis)



OBRECHKIN, D.B.

1483. USE OF STATIONARY CATALYSTS FOR DESTRUCTIVE HYDROGENATION OF HIGH MOLECULAR WEIGHT RAW MATERIALS. II. CHARACTER OF DEACTIVATION OF CONTEMPORARY INDUSTRIAL CATALYSTS. Pinchuk, L.V., Gvyazdikov, L.F., Obrechkin, D.B., and Kalechits, I.V. (Trud. Vost. Sib. Fil. Akad. Nauk SSSR, Ser. Khim. (Proc. E. Sib. Branch Acad. Sci. U.S.S.R., Ser. Chem.), 1956, (4), 137-149; abstr. in Chem. Abstr., 1957, vol. 51, 13357). The deactivating effect is studied of hydrogenation of raw desalted petroleum oils on the catalysts tungsten disulphide and tungsten disulphide-nickel sulphide-alumina (I). Miniature continuous process equipment is used with a hydrogenation chamber of 100 c.c. operating at 380 to 460°. It is established that at 300 atm tungsten disulphide and I are effective for 30-60 hours after which period the oil does not change except for a decrease of resinous residue, I having a slight advantage. Partial activation with hydrogen under pressure is effected. The deactivation of the catalyst is caused not by physical changes of the catalysts, but by the adsorption of high molecular weight compounds. Deactivation of the catalysts is related to the rate of hydrogenation. Increasing the pressure during the hydrogenation from the usual 300 to 600 atm increases the stability of tungsten disulphide and I.

C.A.

VESELOV, V.V.; KATAYEVA, I.S.; OBRECHKIN, D.B.; POPOVA, N.V.

Production of surface-active and washing substances by sulfonation of the oxidation products from thoroughly hydrogenized petroleum fractions. Masl.-zhir. prom. 24 no.10:19-22 '58. (MIRA 11:10)

1. Moskovskiy zavod "Slozhnyye efiry."
(Washing powders) (Paraffins) (Sulfonation)

OBRECHT M/H-X

YUGOSLAVIA / Chemical Technology. Chemical Products and Their Application. Corrosion. Protection from Corrosion H-4

Abs Jour : Ref. Zhur. - Khimiya, No 2, 1958, No 4997

Author : Obrecht Max

Inst : Not Given

Title : Lacquer Coating Protection From Corrosion of Metal Vessels in the Food Industry

Orig Pub : Ambalaza, 1957, 4, No 3-4, 62-70

Abstract : Description of the mechanism of protective action of various organic-base lacquers and the techniques of their use.

Card : 1/1

OBREIKOV, L

CHERNOGORSKA , Z.; BLIZNAKOVA, P.; OBREIKOV, L.

Residual manifestations and sequelae of Botkin's disease.
Suvrem.med., Sofia 6 no.7:30-39 1955.

1. Iz Vutreshnata klinika pri Visshiia meditsinski institut I.P.Pavlov, Plovdiv (zav. katedrata: prof. M.Rashev).
(HEPATITIS, INFECTIOUS, seq.)

BAMBOV, L. Khr.; STEFANOVA, G.; OBREIKOV, L.; AVRAMOVA, V.; KEKHAIOVA, St.; LOLOVA, V.

Exudative tuberculous pleurisy as an early manifestation of pulmonary tuberculosis. Suvrem med., Sofia no.3:79-85 '61.

1. Okruzhen tuberkulozen dispenser, Burgas (Glaven lekar M. Karapalev).

(TUBERCULOSIS PULMONARY diag)

PAVLOV, G.; GANZUREV, G.; DZHEROVA, N.; ZHELEVA, A.; NIKOLOVA, D.; KHITSOV, Kh.; VLASEV, K.; BOIADZHIEV, Zh.; OBREIKOV, L.; NEDEV, B.; PACHNIKOV, I.

Statistical data on results of various therapeutic methods in joint tuberculosis of the extremities. Khirurgiia 15 no.2/3: 167-169 '62.

(TUBERCULOSIS OSTEOARTICULAR surg)

L-16677-65 EWT(m)/EWP(e) ESD(c)/ESD(t)/AEDC(a) WH

ACCESSION NR: AP4045627 S/0020/64/158/002/0317/0320

B

AUTHOR: Bel'skiy, N. K.; Mukhamedova, D. A.; Obreimov, I. V. 15

TITLE: Profile of the absorption and dispersion curves of the R-lines in ruby

SOURCE: AN SSSR. Doklady*, v. 158, no. 2, 1964, 317-320

TOPIC TAGS: absorption, ruby crystal, dispersion, Lorentz line profile, Gauss line profile, oscillator strength, polarization interference method

ABSTRACT: This experimental investigation was undertaken in order to determ- in whether the absorption and dispersion curves of the ruby R-lines have the Lorentz or the Gauss profile. The absorption spectra were obtained at room temperature. The ordinary and extraordinary rays were photographed separately with the DFS-3 spectrograph. The dispersion was measured with the same spe- cimen by the polarization interference method described previously (N. K. Bel'skiy, DAN 143, #6, 1313 (1962)). The results indicate that the Lorentz curve fits well the experimental data. The oscillator strengths for R_1 and R_2

Card 1/2

L 16677-65
ACCESSION NR: AP4045627

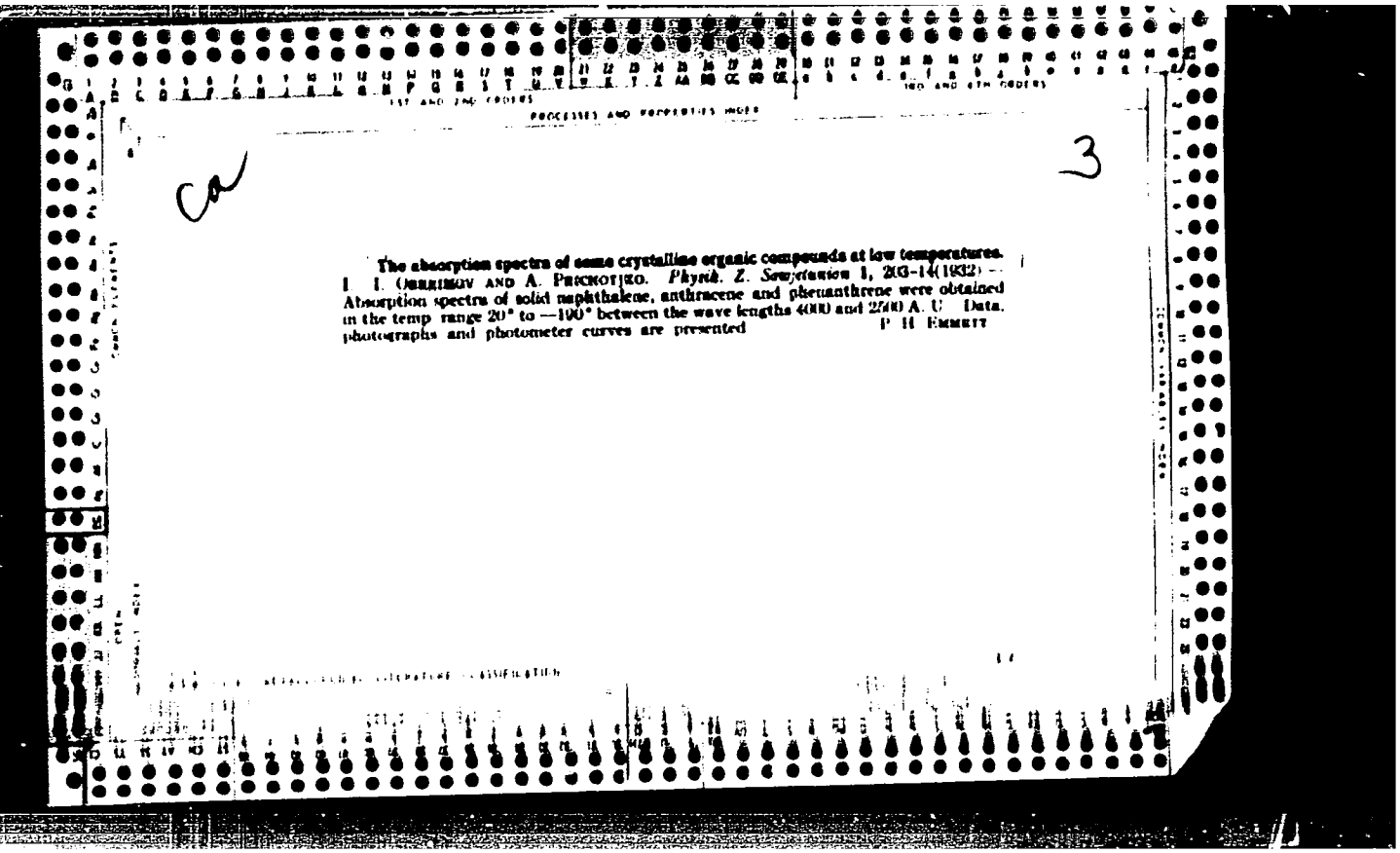
lines were found to be 1.5×10^{-6} and 0.8×10^{-6}, resp. The author is grateful to academician I. V. Obreimov for his interest, and to M. A. Mazing and A. M. Leontovitch for lending the equipment and the ruby specimen. Orig. art. has: 4 figures

ASSOCIATION: Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR (Institute of Elemental-Organic Compounds, Academy of Sciences, SSSR)

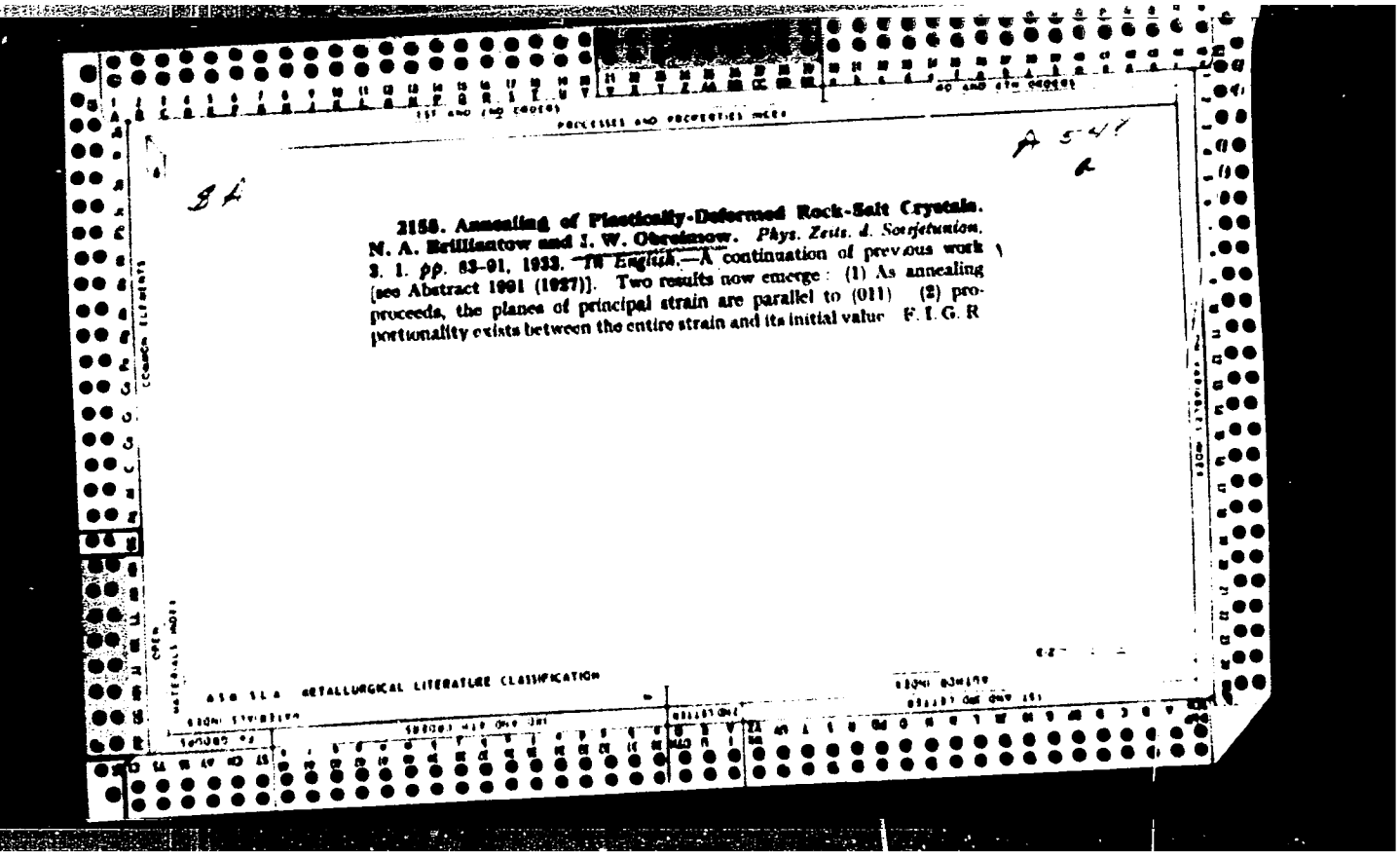
SUBMITTED: 17Jun64 ENCL: 00

SUB CODE: SS NO REF SOV: 002 OTHER: 002

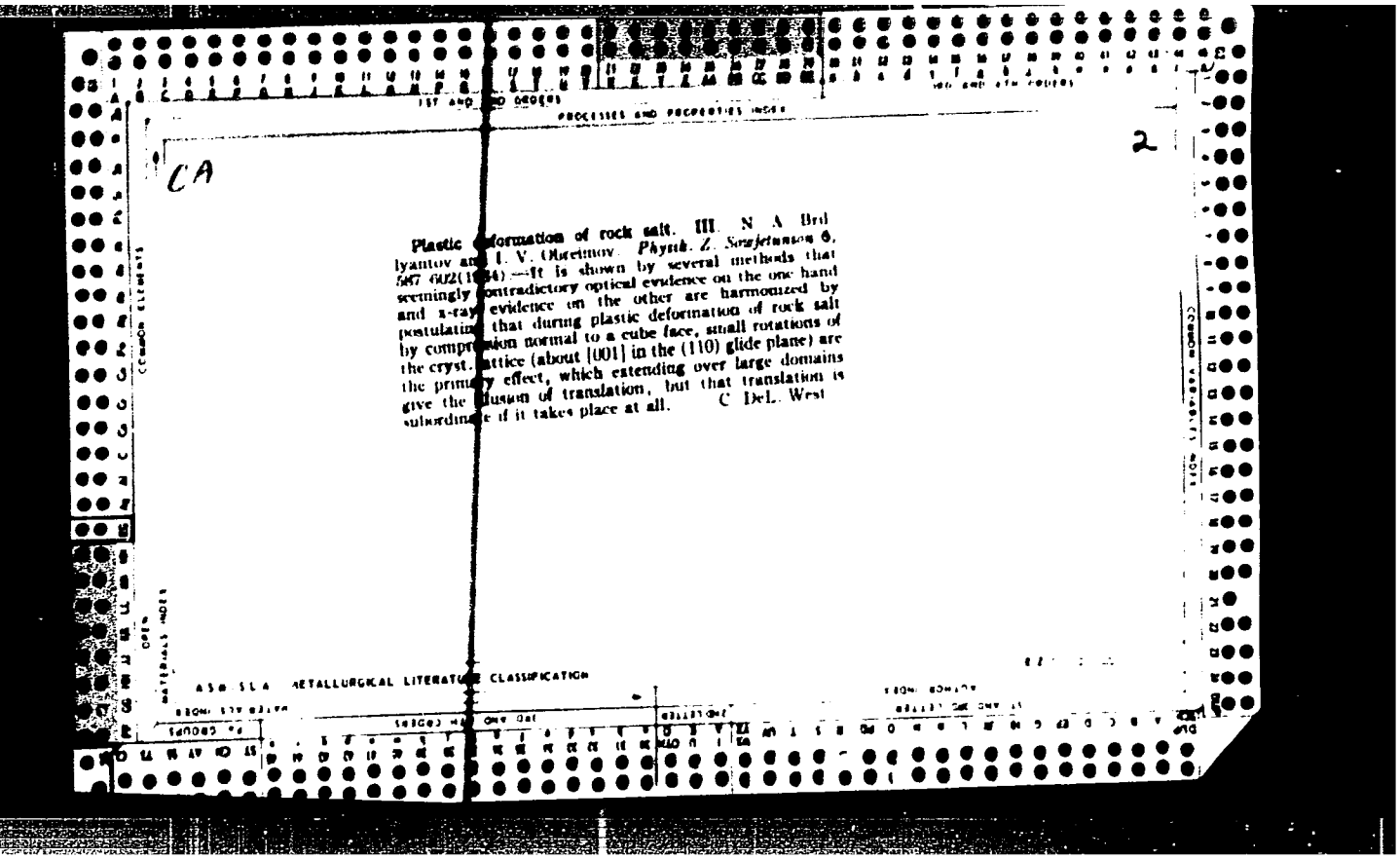
Card 2/2



The absorption spectra of some crystalline organic compounds at low temperatures. I. I. Obreimov and A. Prichotjko. *Physik. Z. Sowjetunion* 1, 203-14(1932).—Absorption spectra of solid naphthalene, anthracene and phenanthrene were obtained in the temp range 20° to −190° between the wave lengths 4000 and 2700 A. U. Data, photographs and photometer curves are presented. P. H. Emmett



2158. **Annealing of Plasticity-Deformed Rock-Salt Crystals.** N. A. Brilliantow and J. W. Obreimow. *Phys. Zeits. d. Sowjetunion.* 3. 1. pp. 83–91, 1933. *In English.*—A continuation of previous work [see Abstract 1991 (1927)]. Two results now emerge: (1) As annealing proceeds, the planes of principal strain are parallel to (011) (2) proportionality exists between the entire strain and its initial value F. I. G. R



CA

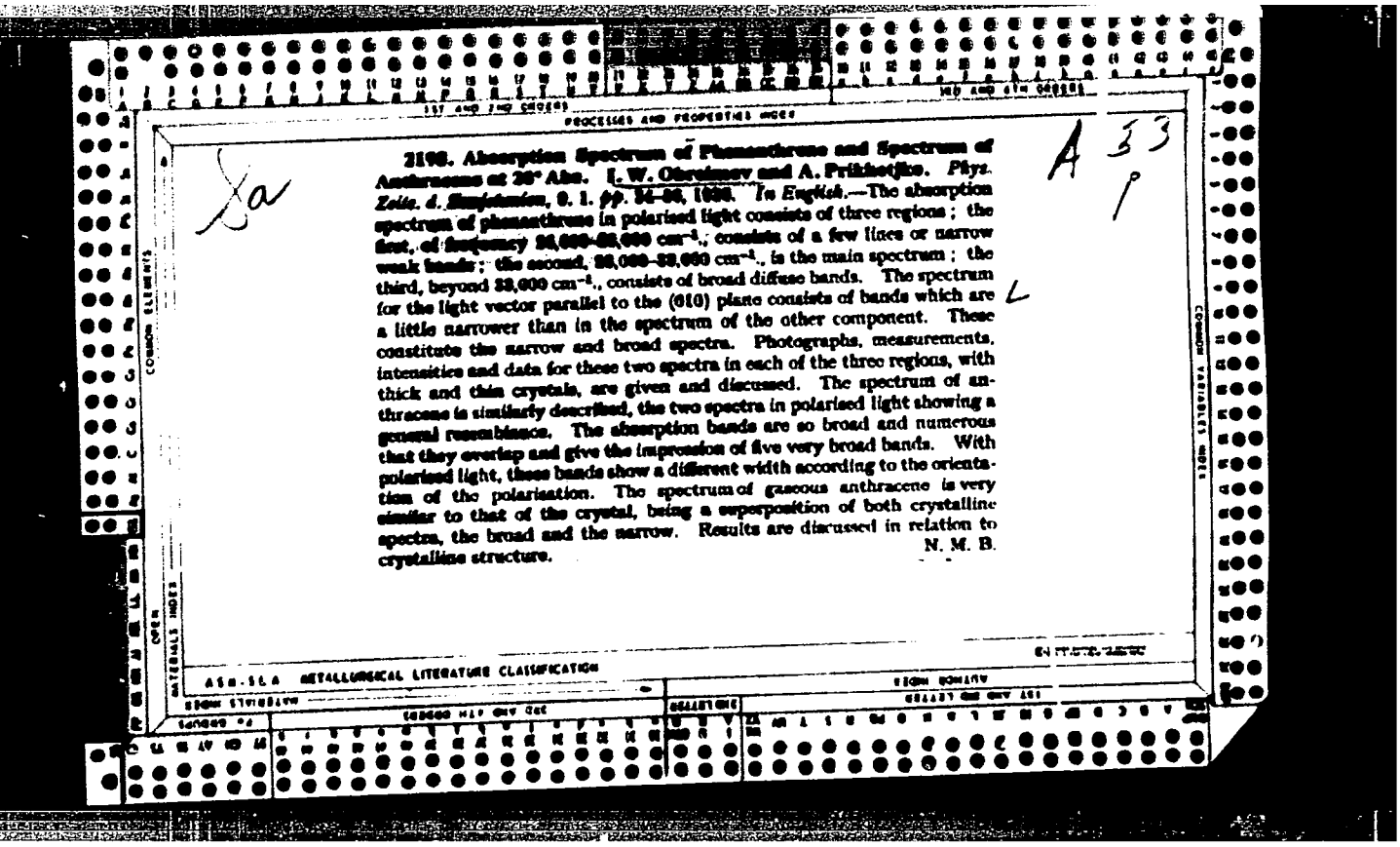
2

Plastic deformation of rock salt. III. N. A. Brilyantov and I. V. Obreimov. *Physik. Z. Sowjetunion* 6, 587-602(1934).—It is shown by several methods that seemingly contradictory optical evidence on the one hand and x-ray evidence on the other are harmonized by postulating that during plastic deformation of rock salt by compression normal to a cube face, small rotations of the cryst. lattice (about [001] in the (110) glide plane) are the primary effect, which extending over large domains give the illusion of translation, but that translation is subordinate if it takes place at all. C. DeL. West

ASM SLA METALLURGICAL LITERATURE CLASSIFICATION

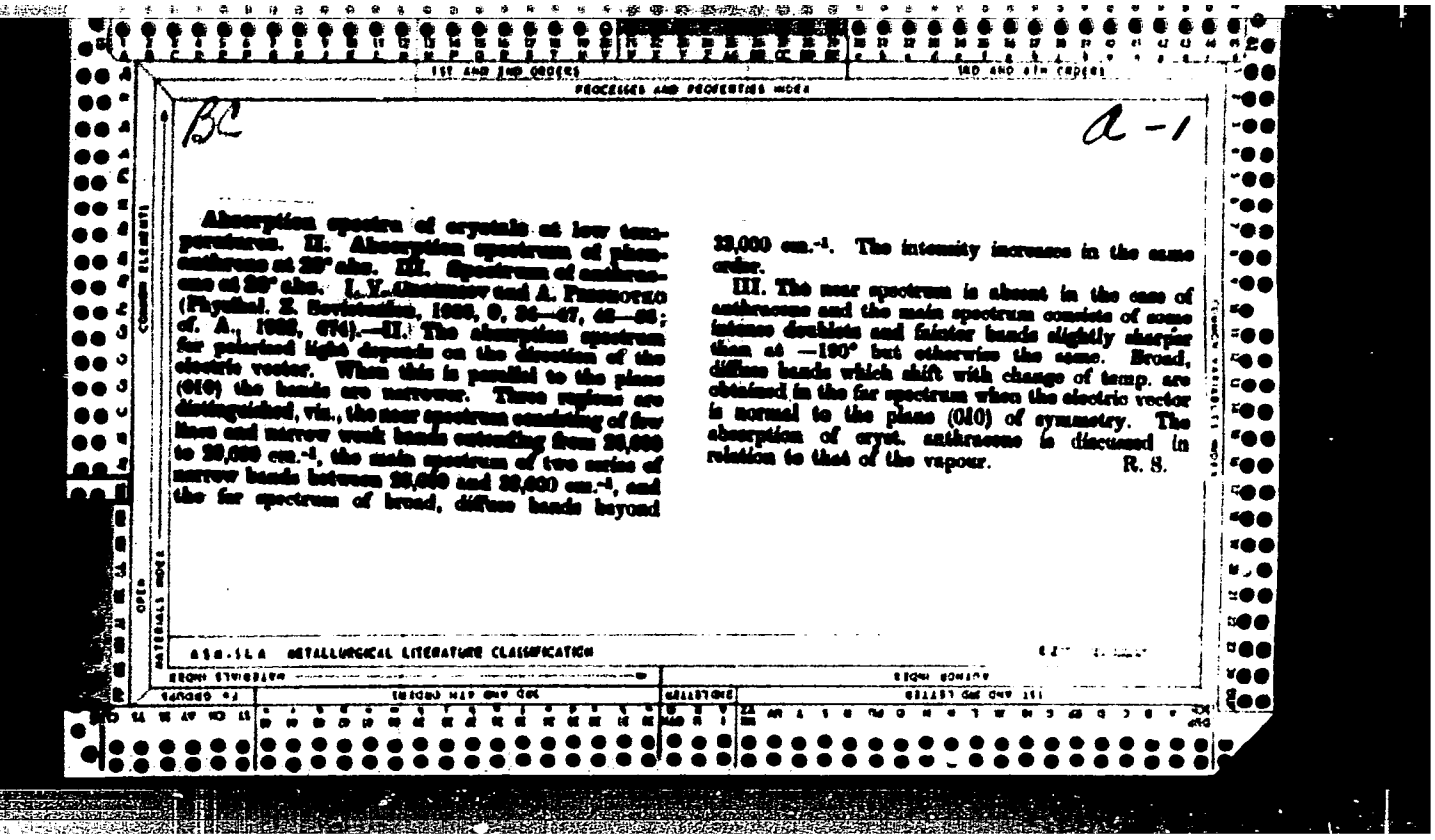
OBUKHOV, I.V.

RT-727 [The fluorescence spectrum of anthracene and phenanthrene crystals] Spektr fluorestsentnii kristallov antratsena i fenantrena.
Zhurnal Eksperimental'noi i Teoreticheskoi Fiziki, 6(10): 1062-1074, 1936.



2198. **Absorption Spectrum of Phenanthrene and Spectrum of Anthracene at 20° Abs.** I. W. Obreimov and A. Prilhotjko. *Phys. Zeits. d. Sowjetunion*, 9. 1. pp. 34–64, 1936. *In English.*—The absorption spectrum of phenanthrene in polarised light consists of three regions; the first, of frequency 26,000–28,000 cm^{-1}., consists of a few lines or narrow weak bands; the second, 28,000–32,000 cm^{-1}., is the main spectrum; the third, beyond 32,000 cm^{-1}., consists of broad diffuse bands. The spectrum for the light vector parallel to the (010) plane consists of bands which are a little narrower than in the spectrum of the other component. These constitute the narrow and broad spectra. Photographs, measurements, intensities and data for these two spectra in each of the three regions, with thick and thin crystals, are given and discussed. The spectrum of anthracene is similarly described, the two spectra in polarised light showing a general resemblance. The absorption bands are so broad and numerous that they overlap and give the impression of five very broad bands. With polarised light, these bands show a different width according to the orientation of the polarisation. The spectrum of gaseous anthracene is very similar to that of the crystal, being a superposition of both crystalline spectra, the broad and the narrow. Results are discussed in relation to crystalline structure.

N. M. B.



BC

a-1

Absorption spectra of crystals at low temperatures. II. Absorption spectrum of phenanthrene at 20° abs. III. Spectrum of anthracene at 20° abs. I. V. Obreimov and A. Prenosovo (Physikal. Z. Sowjetunion, 1933, 3, 36—47, 48—58; cf. A., 1933, 674).—II. The absorption spectrum for polarised light depends on the direction of the electric vector. When this is parallel to the plane (010) the bands are narrower. Three regions are distinguished, viz., the near spectrum consisting of few lines and narrow weak bands extending from 28,000 to 29,600 cm.$^{-1}$, the main spectrum of two series of narrow bands between 29,600 and 30,600 cm.$^{-1}$, and the far spectrum of broad, diffuse bands beyond 33,000 cm.$^{-1}$. The intensity increases in the same order.

III. The near spectrum is absent in the case of anthracene and the main spectrum consists of some intense doublets and fainter bands slightly sharper than at −190° but otherwise the same. Broad, diffuse bands which shift with change of temp. are obtained in the far spectrum when the electric vector is normal to the plane (010) of symmetry. The absorption of cryst. anthracene is discussed in relation to that of the vapour. R. S.

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

Plastic deformation. IV N. A. Brilyantov and I. V. Obreimov. *J. Exptl. Theoret. Phys.* (U.S.S.R.) 7, 978-87(1937); cf. C.A. 32, 422[?]. Large twins of NaCl crystals are produced by exerting pressures of 1 to 4 kg./sq. mm. on large flat pieces of NaCl at angles of a few degrees. Optical-goniometric and x-ray data on the angles between the faces gave good agreement. "Twin crystals" are attributed to plane-by-plane slip rather than to vol. deformation (cf. *Ibid.* 5, 330(1935); cf. C.A. 30, 2840). P. H. Rathmann

A.S.M.-S.L.A. METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

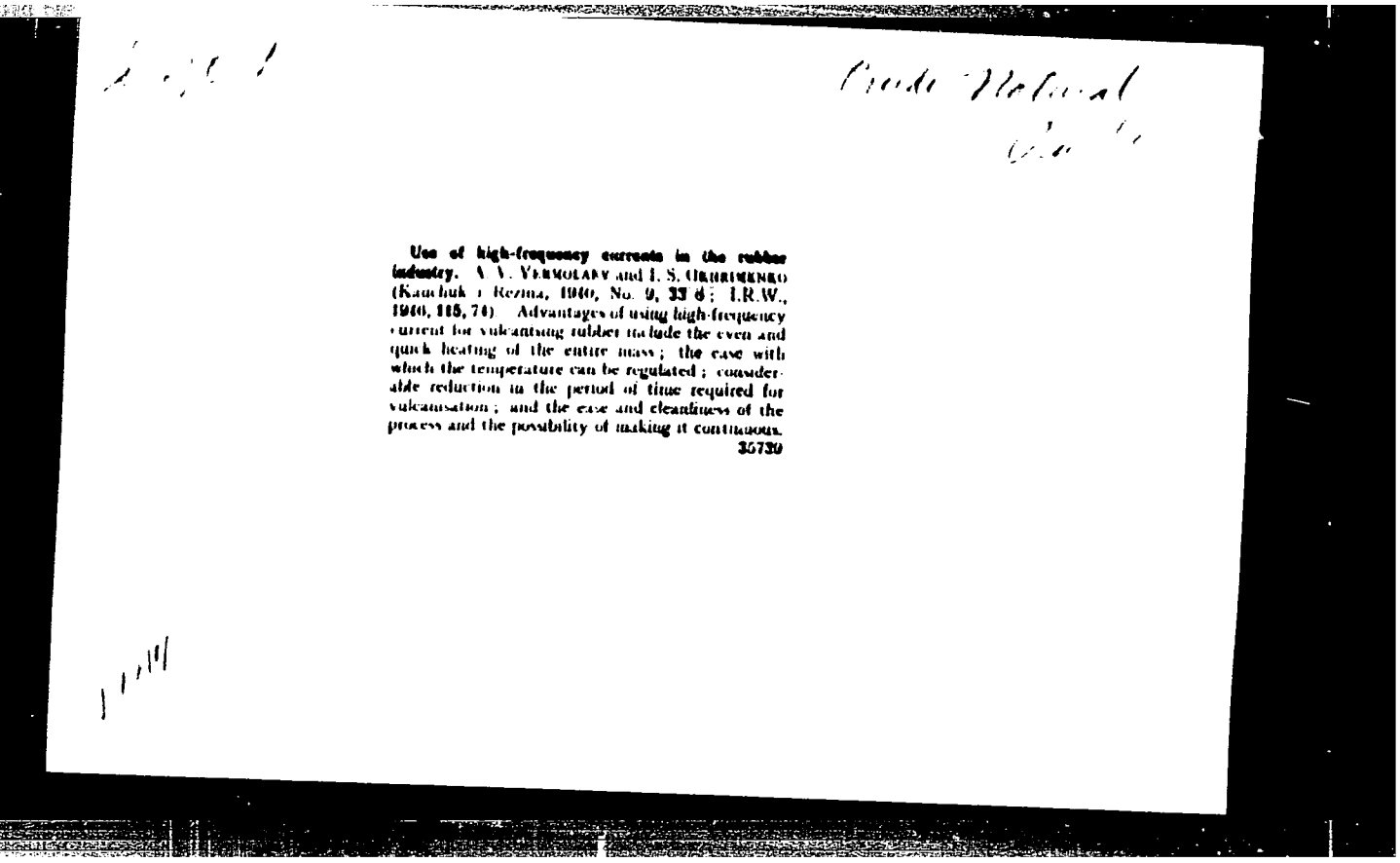
3RD AND 4TH ORDERS

BC

A 1

Plastic deformation of rock-salt. IV. N. A. BRILLIANTOV and I. V. OBREIMOV (Physikal. Z. Sowiet-union, 1937, 12, 7—10; cf. A., 1935, 1311).—A method of obtaining large twins of NaCl by plastic deformation is described. Optical measurements of the angle between the facets are compared with X-ray measurements of the angles between the twinned crystals and show that pure translation does not occur. When NaCl is deformed a birefringent stripe appears as boundary between the twins, and this stripe is coloured more intensely by X-rays than the rest of the crystal. J. A. D.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



Use of high-frequency currents in the rubber industry. V. V. VERMOLAEV and I. S. CHERNENKO (Kauchuk i Rezina, 1960, No. 9, 33–6; I.R.W., 1960, 115, 74). Advantages of using high-frequency current for vulcanising rubber include the even and quick heating of the entire mass; the ease with which the temperature can be regulated; considerable reduction in the period of time required for vulcanisation; and the ease and cleanliness of the process and the possibility of making it continuous.
35739

PROCESSES AND PROPERTIES INDEX

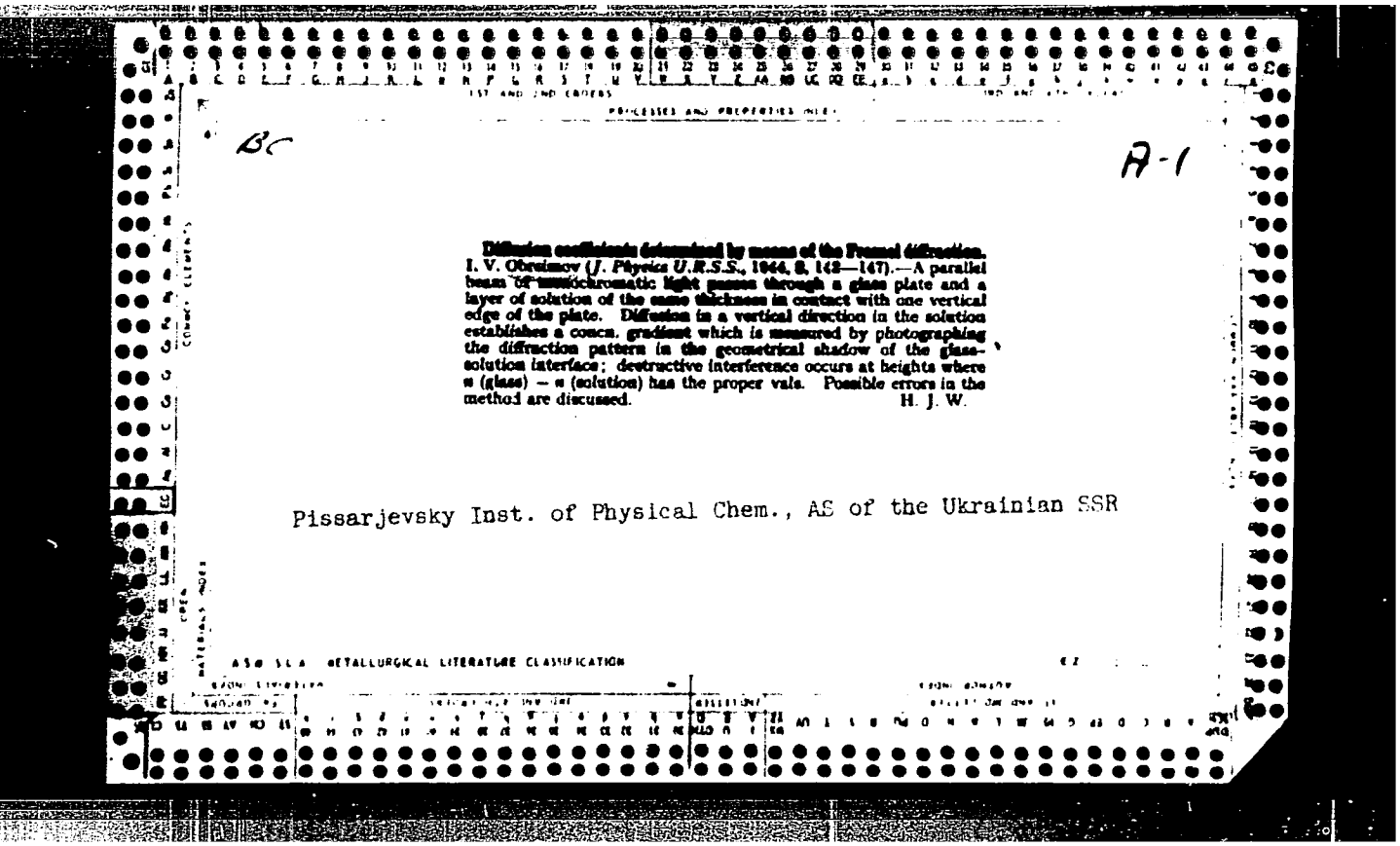
CA

3

Fluorescence of naphthalene crystals. I. V. Obreimov and C. G. Shabaldas. *J. Physics* (U. S. S. R.) 7, 168-78 (1943)(in English).—The fluorescence spectrum of naphthalene crystals at a temp. of 20°K. is described. The values of intensities and frequencies are listed. Four electron transitions were found responsible for the absorption spectrum, all from the same fundamental level to the levels 29,941, 31,058, 31,630 and 31,065 cm.$^{-1}$. The whole fluorescence spectrum is the result of the combination of the electron transitions 29,941, 31,058 and 31,065 cm.$^{-1}$ with the vibrational frequencies of the unexcited mol. and crystal lattice. This spectrum resembles the resonance spectrum of gases. F. H. R.

Physico-Tech. Inst., Acad. of Sci. of the Ukrainian SSR

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



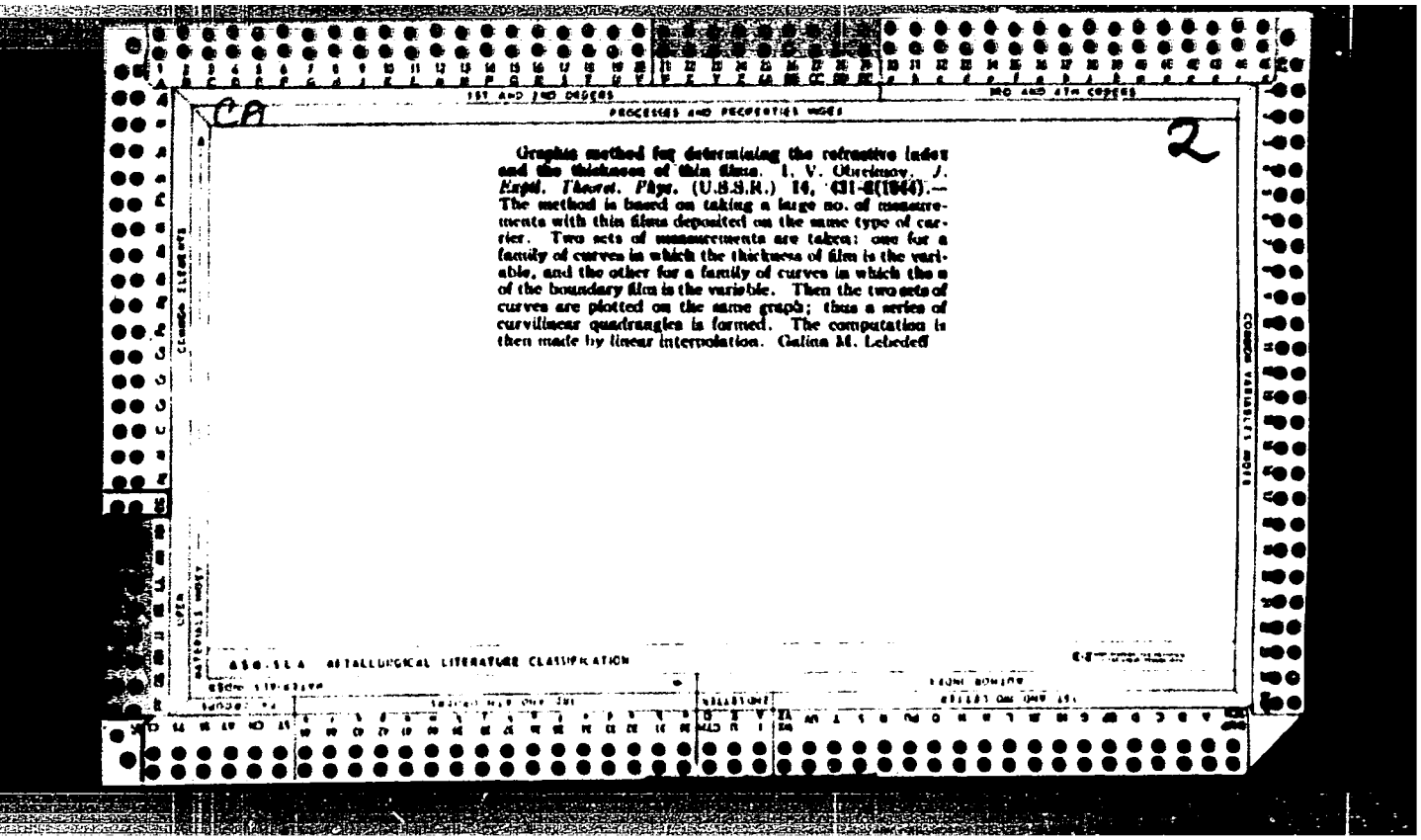
Bc

A-1

Diffusion coefficients determined by means of the Fresnel diffraction. I. V. Obreimov (*J. Physics U.R.S.S.*, 1944, 8, 142—147).—A parallel beam of monochromatic light passes through a glass plate and a layer of solution of the same thickness in contact with one vertical edge of the plate. Diffusion in a vertical direction in the solution establishes a concn. gradient which is measured by photographing the diffraction pattern in the geometrical shadow of the glass-solution interface; destructive interference occurs at heights where n (glass) $-$ n (solution) has the proper valu. Possible errors in the method are discussed. H. J. W.

Pissarjevsky Inst. of Physical Chem., AS of the Ukrainian SSR

ASM SLA METALLURGICAL LITERATURE CLASSIFICATION

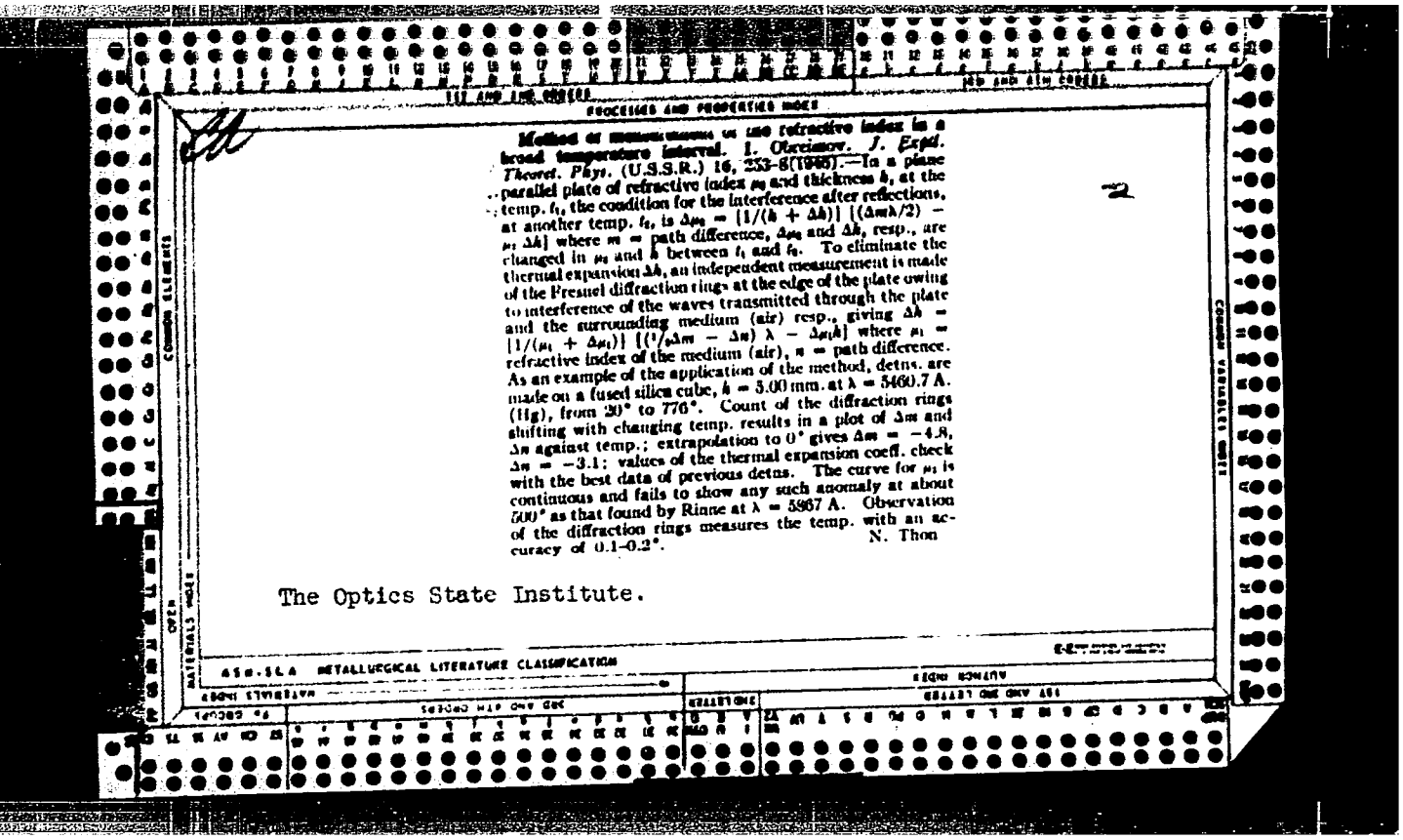


CA

2

Graphic method for determining the refractive index and the thickness of thin films. I. V. Obreimov. *J. Exptl. Theoret. Phys.* (U.S.S.R.) 14, 431-8(1944).—The method is based on taking a large no. of measurements with thin films deposited on the same type of carrier. Two sets of measurements are taken: one for a family of curves in which the thickness of film is the variable, and the other for a family of curves in which the n of the boundary film is the variable. Then the two sets of curves are plotted on the same graph; thus a series of curvilinear quadrangles is formed. The computation is then made by linear interpolation. Galina M. Lebedeff

ASS-SLA METALLURGICAL LITERATURE CLASSIFICATION



PROCESSES AND PROPERTIES INDEX

Method of measurements on the refractive index in a broad temperature interval. I. Obreimov. *J. Expt. Theoret. Phys.* (U.S.S.R.) 16, 253-8(1946).—In a plane parallel plate of refractive index μ_0 and thickness h, at the temp. t_1, the condition for the interference after reflections, at another temp. t_2, is $\Delta m_0 = [1/(h + \Delta h)] [(\Delta m\lambda/2) - \mu_1 \Delta h]$ where m = path difference, Δm_0 and Δh, resp., are changed in μ_0 and h between t_1 and t_2. To eliminate the thermal expansion Δh, an independent measurement is made of the Fresnel diffraction rings at the edge of the plate owing to interference of the waves transmitted through the plate and the surrounding medium (air) resp., giving $\Delta h = [1/(\mu_1 + \Delta\mu_1)] [(1/2\Delta m - \Delta n) \lambda - \Delta\mu_1 h]$ where μ_1 = refractive index of the medium (air), n = path difference. As an example of the application of the method, detns. are made on a fused silica cube, h = 5.00 mm. at λ = 5460.7 A. (Hg), from 20° to 776°. Count of the diffraction rings shifting with changing temp. results in a plot of Δm and Δn against temp.; extrapolation to 0° gives $\Delta m = -4.8$, $\Delta n = -3.1$; values of the thermal expansion coeff. check with the best data of previous detns. The curve for μ_1 is continuous and fails to show any such anomaly at about 500° as that found by Rinne at λ = 5967 A. Observation of the diffraction rings measures the temp. with an accuracy of 0.1–0.2°.

N. Thon

The Optics State Institute.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

OBREIMOV, I.

USSR/Calcite
Crystals

Feb 1947

"Some Considerations on the Twinning of Calcite Crystals," I. Lifshits, I. Obreimov, 10 pp

"Jour Physics USSR" Vol X, No 2

Attempt at microscopical description of the twinning of a crystal under the action of a concentrated force acting on its boundary, by introducing strong nonlinearity into the equations of Born's lattice theory.

PA 13T79

[illegible] CV, I. V.

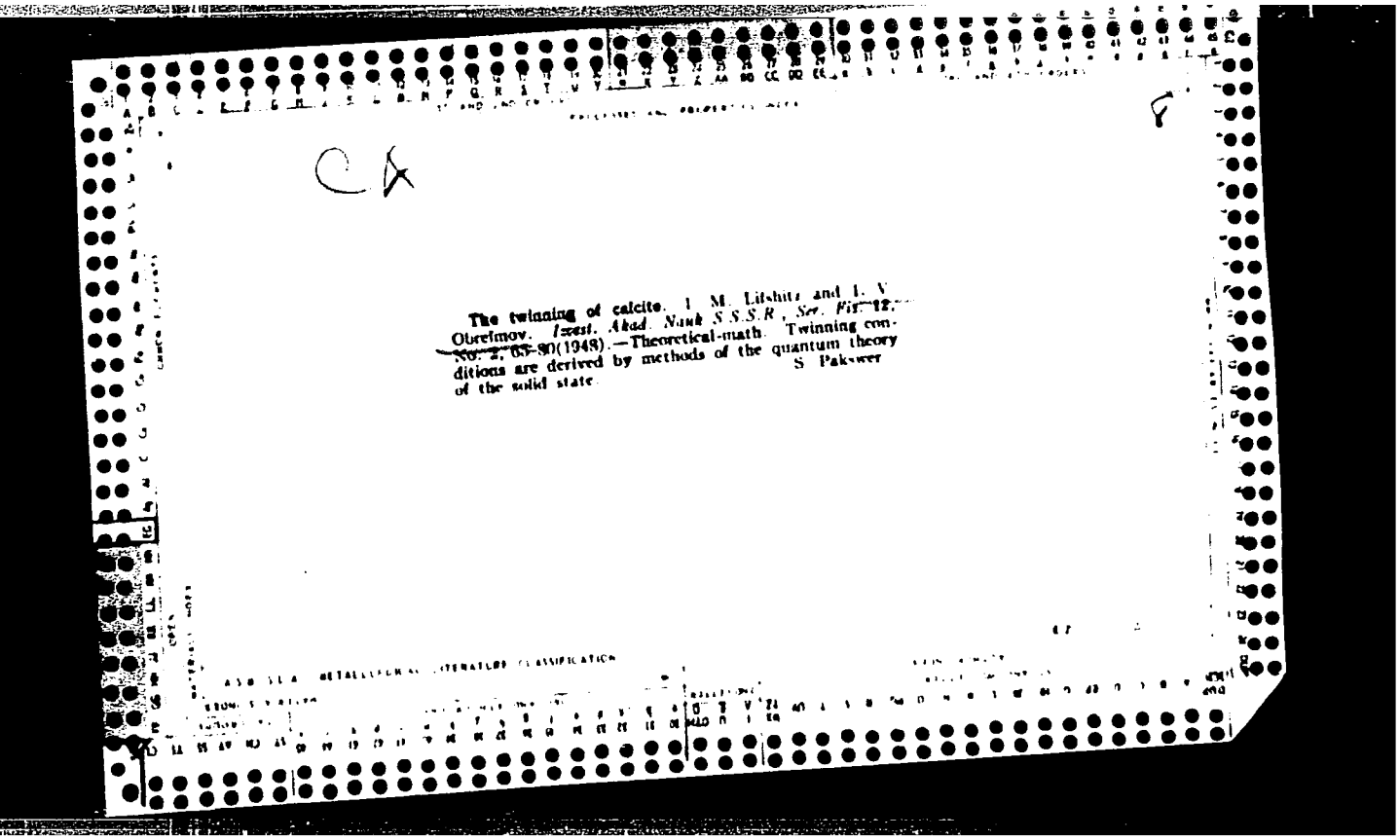
USSR/Acad Sci Nov/Dec 1947

"Regular Session of Department of Physicomathematical Sciences of the Academy of Sciences, USSR" 2 pp

"Izv Akad Nauk SSSR, Ser Fiz" Vol XI, No 6

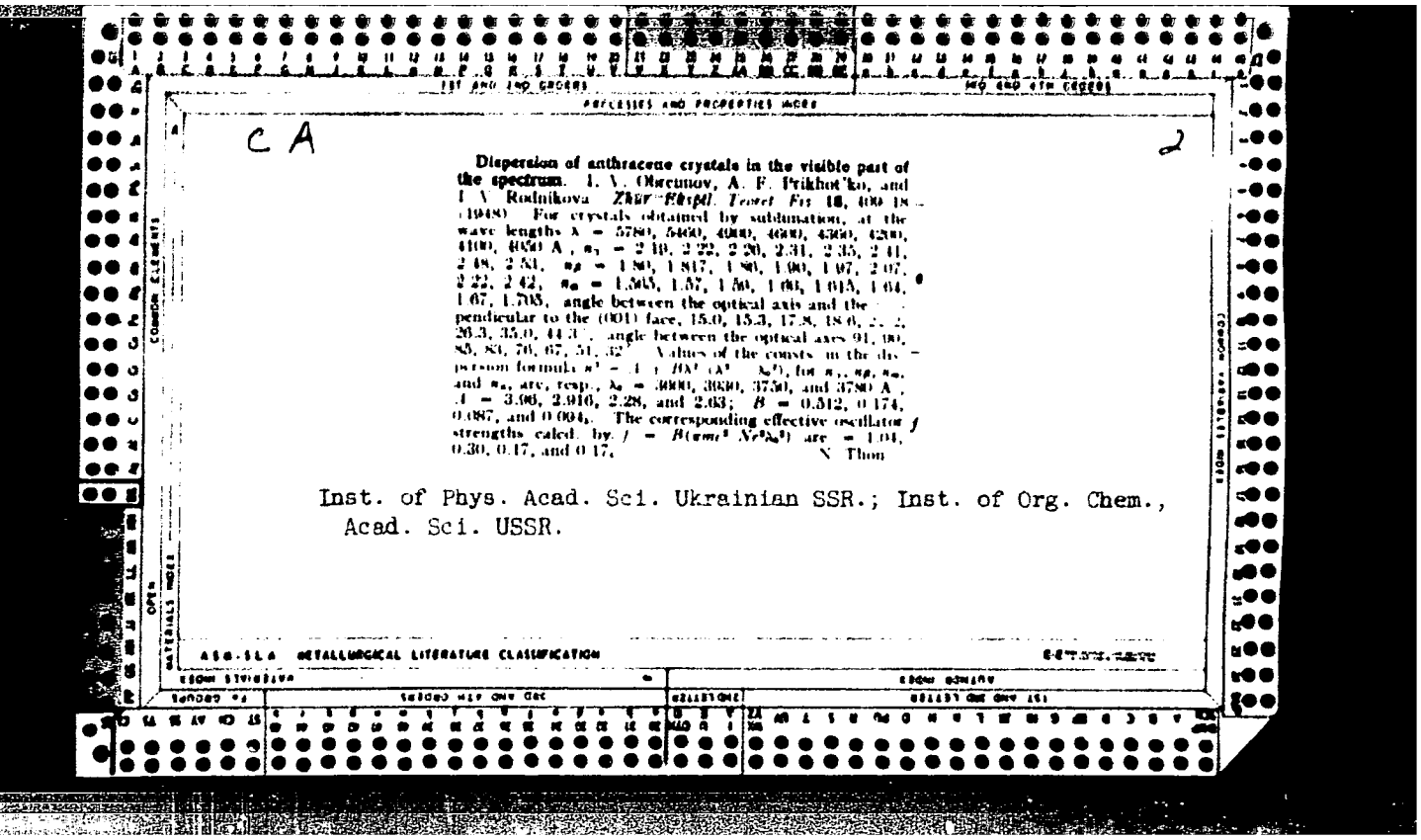
Papers submitted at the May session by: M. F. Subbotin, G. A. Shayn, I. V. Obreimov, A. R. Prikhod'ko, I. V. Rodinikova, A. S. Zavel'skiy, S. Kh. Matushevskiy, N. N. Reyfman, Yu. M. Sukharevskiy, and V. S. Nesterov; Papers submitted at the Jun session by: A. N. Kolmogorov, V. K. Arkad'yev, and A. V. Shubnikov.

PA 57T15



CA

The twinning of calcite. I. M. Lifshitz and L. V. Obreimov. *Izvest. Akad. Nauk S.S.S.R., Ser. Fiz.* 12, No. 2, 65-80(1948).—Theoretical-math. Twinning conditions are derived by methods of the quantum theory of the solid state. S. Pakswer



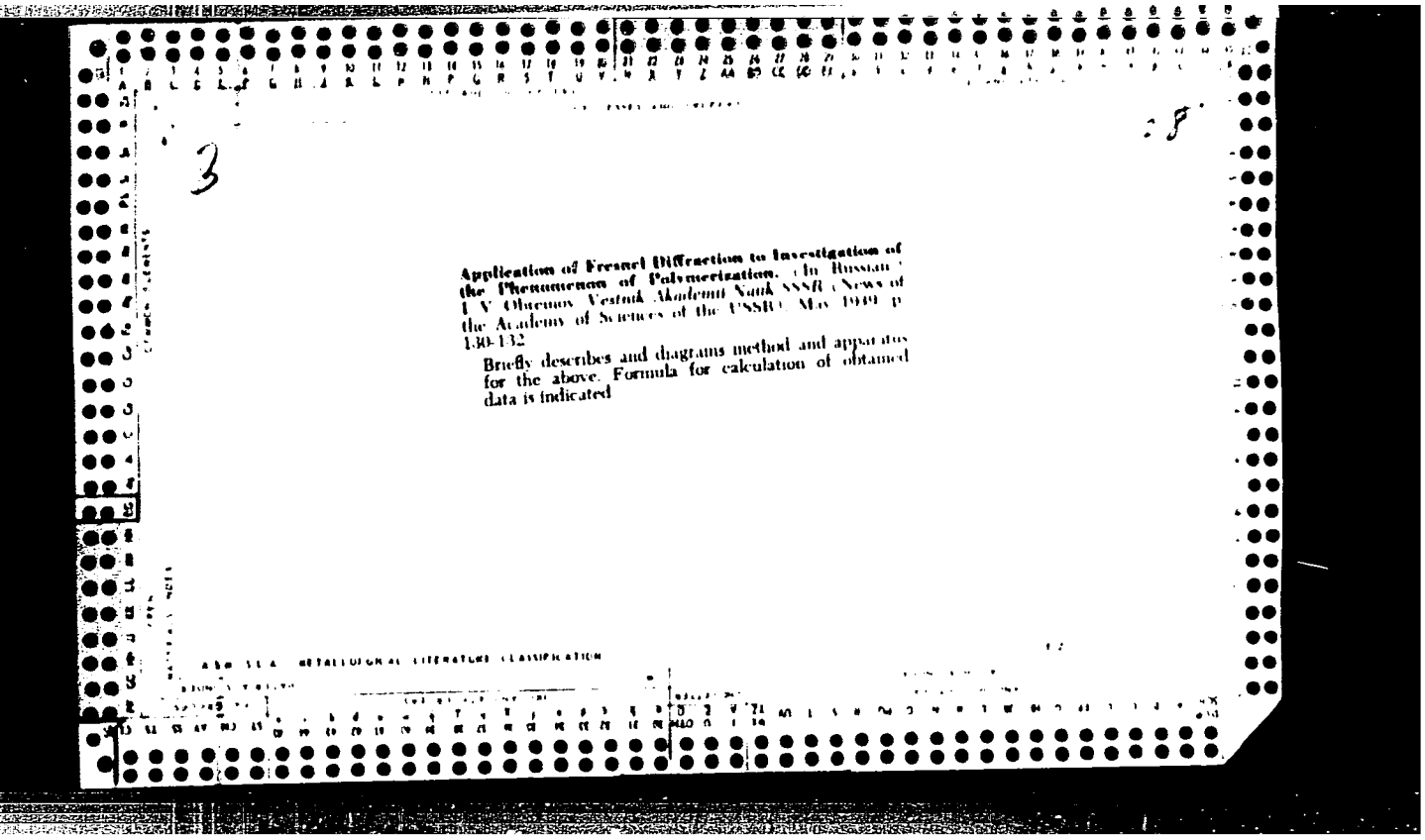
C A

2

Dispersion of anthracene crystals in the visible part of the spectrum. I. V. Obreimov, A. F. Prikhot'ko, and I. V. Radnikova. *Zhur. Eksptl. Teoret. Fiz.* 18, 699-18 (1948). For crystals obtained by sublimation, at the wave lengths λ = 5780, 5460, 4980, 4800, 4360, 4280, 4100, 4050 A., n_x = 2.10, 2.22, 2.20, 2.31, 2.35, 2.41, 2.48, 2.81, n_y = 1.80, 1.817, 1.80, 1.90, 1.97, 2.07, 2.22, 2.42, n_z = 1.565, 1.57, 1.50, 1.61, 1.615, 1.64, 1.67, 1.705, angle between the optical axis and the perpendicular to the (001) face, 15.0, 15.3, 17.8, 18.6, 25.2, 26.3, 35.0, 44.3°, angle between the optical axes 91, 90, 85, 84, 70, 67, 51, 42°. Values of the consts. in the dispersion formula $n^2 = A + B\lambda^2/(\lambda^2 - \lambda_0^2)$, for n_x, n_y, n_z, and n_{av} are, resp., λ_0 = 3000, 3030, 3750, and 3780 A., A = 3.96, 2.910, 2.28, and 2.63; B = 0.512, 0.174, 0.087, and 0.004. The corresponding effective oscillator strengths calcd. by $f = B(\pi mc^2 Ne^2\lambda_0^2)$ are = 1.04, 0.30, 0.17, and 0.17.

N. Thon

Inst. of Phys. Acad. Sci. Ukrainian SSR.; Inst. of Org. Chem., Acad. Sci. USSR.



3

Application of Fresnel Diffraction to Investigation of the Phenomenon of Polymerization. (In Russian) I V Obreimov Vestnik Akademii Nauk SSSR (News of the Academy of Sciences of the USSR) May 1949 p 130-132

Briefly describes and diagrams method and apparatus for the above. Formula for calculation of obtained data is indicated

CA

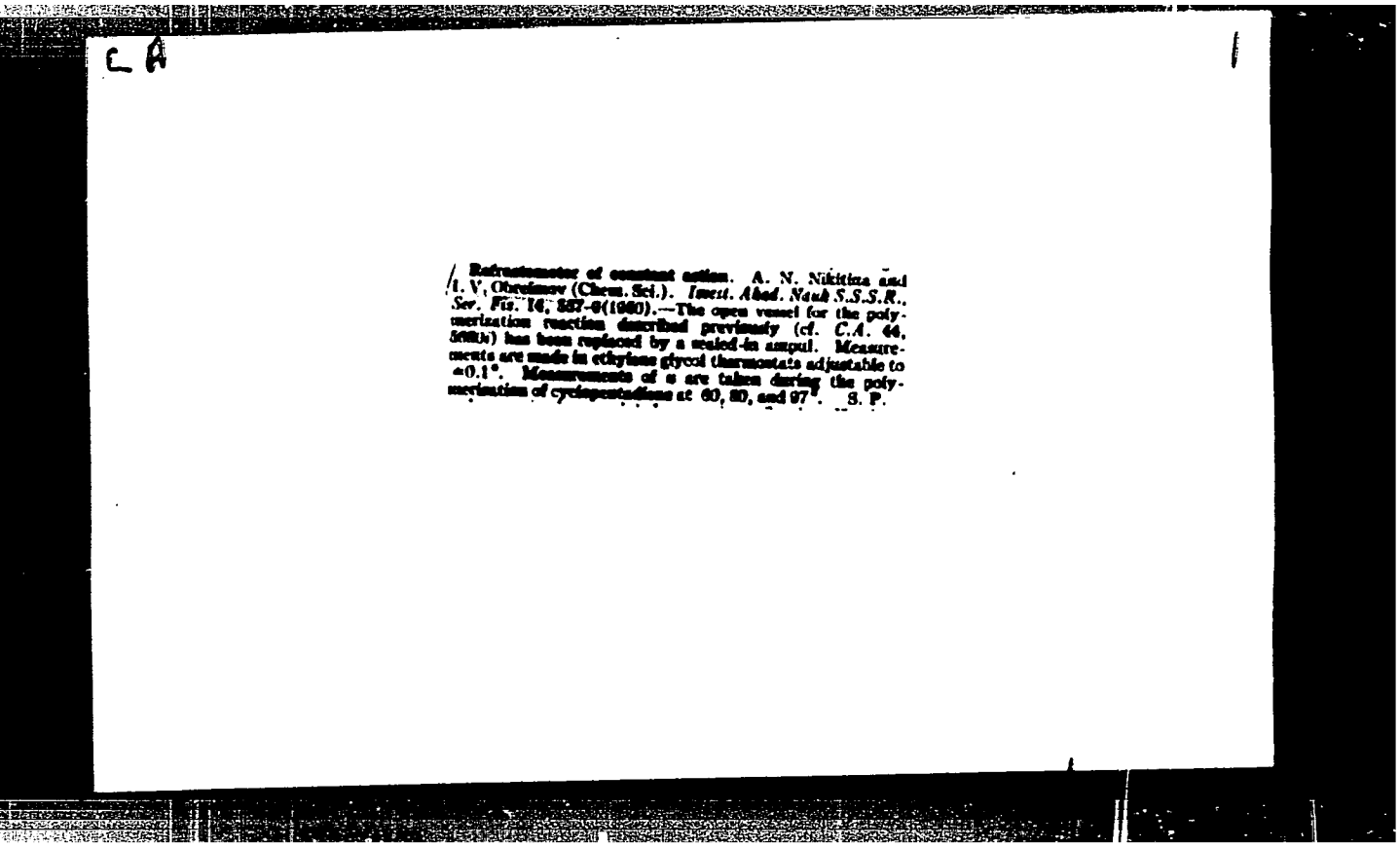
1

Interferometer for low-temperature work. I. V. Obreimov and A. F. Prikhot'ko. *Izvest Akad. Nauk S.S.S.R., Ser. Fiz.* 14, 660-8(1950).—A microinterferometer of the Jamin type was constructed and the n of anthracene was measured both in the direction of the b and the a axis at liquid-N temp. The complete n curve shows 4 absorption regions between 3000 and 5000 A. From the curves the oscillator force is calcd. for the electronic transitions at λ 3800 A. and λ 3200 A. The second transition is 10 times stronger than the first and both are polarized along the central axis of the mol. It is presumed that one or more other electronic transitions should exist. S. Pakswer

CA 1

Liquid-flow refractometer. I. V. Obreimov and E. A. Shibalov. *Izvest. Akad. Nauk S.S.S.R., Ser. Fiz.* 14, 553-6(1950).—Description of an interferometer in which the liquid flows through a rectangular cross section ~ 1 sq. mm. and approx. 7 mm. high. The monochromatic light is given by Hg line 5461 A.

S. Pakswer



C A

1

Refractometer of constant action. A. N. Nikitina and I. V. Obreimov (Chem. Sci.). *Izvest. Akad. Nauk S.S.S.R., Ser. Fiz.* 14, 537-9(1950).—The open vessel for the polymerization reaction described previously (cf. *C.A.* 44, 5983h) has been replaced by a sealed-in ampul. Measurements are made in ethylene glycol thermostats adjustable to ±0.1°. Measurements of n are taken during the polymerization of cyclopentadiene at 60, 80, and 97°. S. P.

OBREIMOV, I. V.

PA 46/49T101

USSR/Physics
Molecular Stability
Bonds

May 49

"Thermal Stability of Complex Molecules," I. V. Obreimov, Inst Org Chem, Acad Sci USSR, 11 pp

"Zhur Fiziches Khimii" Vol XIX, No 5

Derives theory of thermal dissociation of complex molecules, organic molecules, in particular based on simple assumption that nature of stability of molecule dissociates along a certain bond if the length of this bond exceeds a definite critical value. Obtains formula for average and most probable values of the inverse lifetime of the molecule. Develops general theory useful for calculating stability of linear polyatomic molecules.

Submitted 27 Nov 48.

46/49T101

OBREYMOV, I.V.

OBREYMOV, I.V.

7300 TT-541

LUMINESCENCE AND ADSORPTION OF CRYSTALS OF POLYCYCLIC HYDROCARBONS. (Syechenie i Tavet Kristallov Politsiklicheskikh Uglevodorodov). I. V. Obreimov and A. F. Prikhot'ko. Translated by G. Bolkov from Akad. Nauk S.S.S.R., Pamyati S. I. Vavilova, 197-209(1952). 23p.

The spectra in luminescence and absorption and the refractive indices were investigated for a series of linear condensed hydrocarbons (benzene, naphthalene, anthracene, and naphthacene) at low temperatures. The results of this investigation are discussed in detail. From a comparison of the spectra of vapors and crystals, the spectral bands of a crystal can be classified. All the crystals observed were brightly luminescent. (B.J.H.)

CH

6

BB
MT

(1)

OBREYMOV, I.V.; SHKURINA, T.N.

Dispersion curves of certain hydrocarbons. Izv.AN SSSR Ser.fiz. 17 no.6:757-760 N-D '53. (MLRA 7:3)

1. Institut organicheskoy khimii Akademii nauk SSSR.
(Hydrocarbons) (Dispersion)

OBREIMOV, I. V.

The Committee on Stalin Prizes (of the Council of Ministers USSR) in the fields of science and inventions announces that the following scientific works, popular scientific books, and textbooks have been submitted for competition for Stalin Prizes for the years 1952 and 1953. (Sovetskaya Kultura, Moscow, No. 22-40, 20 Feb - 3 Apr 1954)

Name	Title of Work	Nominated by
Davydov, A. S. Prikhot'ko, A. F. Obreimov, I. V.	Research in the field of the spectroscopy of molecular crystals	Academy of Sciences, Ukrainian SSR

SO: W-30604, 7 July 1954

OBREYMOV, I.V.

Identification of hydrocarbons from dispersion curves. I. V. Obreimov and T. N. Shkurina. *Bull. Acad. Sci. U.S.S.R., Div. Chem. Sci.* 1955, 805–13(Engl. translation).—See *C.A.* 50, 3828*b*. B. M. B.

OBREYMOV, I. V.

5

Identification of hydrocarbons from dispersion curves. I. V. Obreimov and L. N. Shurupov (N. D. Zelinskii Inst. Org. Chem., Moscow). *Izvest. Akad. Nauk S.S.S.R., Otdel. Khim. Nauk* 1955, 890-8; cf. *C.A.* 48, 7300e.—Dispersion curves for hexane, heptane, octane, 2,2,4-trimethylpentane, cyclopentane, methylcyclopentane, diallyl, isoprene, and allocinnamene were obtained from 2500 A. to 6500 A. The single-term formula suggested by Zellneyer (*cf. loc. cit.*) was used to calc. the consts. The following d_0 values are suggested: for alkanes 1.10–1.24; olefins 1.42–1.49; isolated dienes 1.57; conjugated dienes 2.11; triply conjugated trienes 2.69. The Fresnel diffraction method with photographic recording was used for detn. of dispersion, permitting calcn. of dispersion from the diffraction spots. The app. is described. G. M. Kosolapoff

OHREIMOV, I.V.

An atlas of spectral lines. Vest. AN Kazakh SSR 11 no.1:84 Ja '55.
(MLRA 8:4)

1. Chlen-korrespondent Akademii nauk SSSR.
(Spectrum analysis)

OBREYMOV I.V.

Phys

3

The production of ultramicroscopic nonuniformities during the plastic deformation of rock salt. R. I. Garber, I. V. Obreimov, and L. M. Polyakov (Phys. Tech. Inst., Acad. Sci. Ukr. S.S.R., Kharkov). *Doklady Akad. Nauk S.S.S.R.* 108, 425–6(1956); cf. Obreimov and Shubnikov, *C.A.* 21, 2205; Garber, *C.A.* 33, 6254⁹). Natural rock salt crystals were split along the natural cleavage planes into small prisms of various sizes, which were tested for an absence of flaws, then heated for 30 hrs. at 650° and cooled in the furnace. When cooled in the air, characteristic thermal stresses were produced and the slip bands were connected with the stresses. Light dispersion, similar to the dispersion caused by elongation and compression, is observed in this case. The calcined samples were tested in an app. permitting simultaneous measurements of stress deformation and of light dispersion. Ordinarily, the slip bands are first observed at low stresses. Increasing the stresses produces a weak dispersion, and a gradual formation of a luminous cone, and finally a bright uniform glow of the whole light cone inside the crystal. The observations made justified the statement that the deformations produced ultramicroscopic nonuniformities, as well as slip bands as a result of local shears or ruptures, and the plastic flow can in the latter case be described as a series of local ruptures.

W. M. Sternberg

OBREYMOV, I V

AUTHOR: OBREIMOV,I.V., TREKHOV,E.S. PA - 2659

TITLE: Optical Contact of Polished Glass Surfaces.(Opticheskiy kontakt polirovannykh steklyannykh poverkhnostey, Russian)

PERIODICAL: Zhurnal Eksperim. i Teoret. Fiziki, 1957, Vol 32, Nr 2, pp 185 - 193 (U.S.S.R.)
Received: 5 / 1957 Reviewed: 6 / 1957

ABSTRACT: As "opitcal contact" the following phenomenon is defined: Two carefully ground and polished plane glass surfaces adhere so firmly together when brought into contact with each other that they can be separated only with difficulty. If both glass surfaces have the same refractive index, such an optical contact reflects almost no light.

The investigated objects are then described. Special samples were made of a glass having a composition similar to that of the K-8 type. Each specimen consisted of a thick and a thin sample. The process of investigation and measurement: In separating the two surfaces an air wedge is formed. When investigating the place of separation in monochromatic light interference stripes of same thickness are clearely visible. By extrapolation the position of the zero-th stripe, i.e. the place of contact of the two plates, can be determined. The curvature of the top plate permits computation of the effort necessary for tearing apart the contact.

Card 1/2

Optical Contact of Plished Glass Surfaces. PA - 2659

Measuring results: are shown in tables. In spite of the very great differences between individual values it is possible to speak of average values of the tearing effort of an optical contact.

The reproduceability of a contact: The possibility for an independent secondary reproduction of an optical contact is determined by its freshness. The fresher the contact the easier it is to reduce it. But this is not a rigorous law.

Elastic tensions within the domain of the contact are to a certain degree analogous to the tensions near a fissure in the surface of a glass. In the case of an optical contact local tensions appear in the immediate vicinity of the contact surface. In conclusion the "burning together", i.e. the joining of the two glasses to one inseparable unit by careful heating is discussed.
(5 illustrations, 6 tables, and 3 Russian citations).

ASSOCIATION: Moscow State University.
PRESENTED BY:
SUBMITTED:
AVAILABLE: Library of Congress.

Card 2/2

51-4-5-15/29

AUTHOR: Obreimov, I.V.

TITLE: The Method of the Luminous Point. II (Metod svetyashchegosya tochki. II)

PERIODICAL: Optika i Spektroskopiya, 1958, Vol IV, Nr 5, pp 658-662 (USSR)

ABSTRACT: The method of shadow projection, using light sources of very small dimensions, is very sensitive to small non-uniformities in the refractive index. In Part I (Ref 1) it was shown that the shadow cast by a non-uniformity of the refractive index is a Fresnel diffraction image. Sensitivity of this method is determined in terms of "visibility" of the diffraction image, which is given by $V = (J_{max} - J_{min})/(J_{max} + J_{min})$, where J_{max} = the maximum and J_{min} = the minimum light intensity. The present paper deals with the case when two regions with different refractive indices are connected with each other by a transition region in which the refractive index is a linear function of distance. This problem reduces to calculation of diffraction from a Fresnel biprism. Such a calculation is carried out in the present paper. The author applies

Card 1/2

his theory to a particular example of a plane-parallel plate 1 mm thick in which the transition region is 1 cm wide. It is found that for green light (5×10^{-5}cm) the smallest difference between the refractive indices of the regions which are separated by the transitions region observable by the method described is of the order of 4×10^{-5}. There are 4 tables, 4 figures and 3 references, of which 1 is Soviet, 1 German and 1 translation of a Western work into Russian.

ASSOCIATION: Moskovskiy inzhenerno-fizicheskiy institut (Moscow Physical and Engineering Institute)

SUBMITTED: June 28, 1957

1. Light - Refraction - Theory

24(2)

AUTHORS: Obreimov, I. V., Startsev, V. I. SOV/56-35-5-1/56

TITLE: The Formation Work of an Elastic Twin in Calcite (Rabota obrazovaniya uprugogo dvoyni a v kal'tsite)

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1958, Vol 35, Nr 5, pp 1065-1073 (USSR)

ABSTRACT: In the introduction the calcite crystal, which belongs to the trigonal syngony, is described in detail, and exact data concerning the form of its crystallization are given (Figs 1-3). The process of twin-formation (Figs 4, 5) investigated by R. I. Garber (Refs 1, 3-5) is discussed. The next chapter deals with the experimental arrangement and with the object of the test. First, the shape of the calcite crystals, which were prepared especially for these experiments, is discussed in detail. Figure 6 shows a prepared calcite rhombohedron, and figure 7 a prism. Figures 7 and 8 show a schematical drawing of the experimental arrangement, and figure 10 is a photograph of the elastic twin crystal 8B-3. Chapter 3 deals with the shape and the dimensions of the elastic twin in calcite formed under the influence of a concentrated load. Figure 11 shows a diagram of the twin crystal 8B-3 and figure 12 shows

Card 1/3

the dependence of the length and breadth of the twin crystal 6R on the load F. The dimensions of 8B-3 are given in table 1 (l_o = 1.95 mm, b_o = 2.44 mm; h_o = 1.95.10^4 cm, F = 2.58 kg). Figures 14-16 show the load dependence of the thickness of the twin crystal 8B as well as the results of investigations of the crystals Nr 6, 7 and 8. Finally, the calculation of the work of formation as well as the destruction of the crystals are discussed. The following values were obtained for the work performed for the purpose of producing 1 cm^2 of the surface of an elastic twin crystal:

Number of twin	work erg/cm^2	number of twin	work erg/cm^2
6K	3720	8A	2670
6S	5160	8B	2400
7U	4450	8L	2890
7N	6400	8β	2400

The Formation Work of an Elastic Twin in Calcite SOV/5[illegible]-35-5-1/56

The linear dimensions of the twin are proportional to the load, and the area of the twin surface is proportional to the work performed by the press piston. There are 17 figures, 2 tables, and 11 references, 10 of which are Soviet.

ASSOCIATION: Khar'kovskiy institut mekhanizatsii sel'skogo khozyaystva
(Khar'kov Institute for the Mechanization of Agriculture)
Moskovskiy inzhenerno-fizicheskiy institut
(Moscow Engineering-Physical Institute)

SUBMITTED: June 7, 1958

Card 3/3

OBREIMOV, I.V.

21(0),24(0) PHASE I BOOK EXPLOITATIO' SOV/3? ?

Akademiya nauk SSSR. Fizicheskiy institut

Issledovaniya po eksperimental'noy i teoreticheskoy fizike; [sbornik] (Studies on Experimental and Theoretical Physics; Collection of Articles) Moscow, Izd-vo AN SSSR, 1959. 304 p. Errata slip inserted. 2,300 copies printed.

Ed.: I. L. Fabelinskiy, Doctor of Physical and Mathematical Sciences; Eds. of Publishing House: A. L. Chernyak and V. G. Berkgaut; Tech. Ed.: Yu. V. Rylina; Commission for Publishing the Collection in Memory of Grigoriya Samuilovich Landsberg: I. Ye. Tamm (Chairman), Academician; M. A. Leontovich, Academician; P. A. Bazhulin, Doctor of Physical and Mathematical Sciences; S. L. Mandel'shtam, Doctor of Physical and Mathematical Sciences; I. L. Fabelinskiy, Doctor of Physical and Mathematical Sciences; F. S. Landsberg-Baryshanskaya, Candidate of Physical and Mathematical Sciences; and G. P. Motulevich (Secretary), Candidate of Physical and Mathematical Sciences.

PURPOSE: This book is intended for physicists and researchers engaged in the study of electromagnetic radiations and their role in investigating the structure and composition of materials.

COVERAGE: The collection contains 30 articles which review investigations in spectroscopy, sonics, molecular optics, semiconductor physics, nuclear physics, and other branches of physics. The introductory chapter gives a biographical profile of G. S. Landsberg, Professor and Head of the Department of Optics of the Division of Physical Technology at Moscow University, and reviews his work in Rayleigh scattering, combat gases, spectral analysis of metals, etc. No personalities are mentioned. References accompany each article.

24(4)

AUTHORS: Obreimov, I.V. and Yamshchikov, Ye. F. SOV/51-6-4-17/29

TITLE: The Dispersion Curves of Chloroform and Carbon Tetrachloride in a Wide Range of Temperatures (Krivyye dispersii khloroforma i chetyrekhkhloristogo ugleroda v shirokom interyale temperatur)

PERIODICAL: Optika i Spektroskopiya, 1959, Vol 6, Nr 4, pp 517-522 (USSR)

ABSTRACT: The present paper is a continuation of earlier work (Refs 1, 2). It deals with the dispersion curves of CCl_4 and $CHCl_3$ between 2800 and 6200 Å at temperatures from 0 to 77°C for CCl_4 and from -3 to +53°C for $CHCl_3$. The cell used is shown in Fig 1. It was made of quartz glass transparent in ultraviolet. It consisted of a solid piece 1 with two tubes for admission of the liquid (6) and removal of air (7), a spacer 2, a cover 3 and a special plate 4. The complete assembly is shown in the right-hand part of Fig 1. The plate 4 had two parallel sides as shown in Fig 2. The light fell normally to the sides a and a' and grazed along the side ABCD. The side c made an angle of about 45° with side a. Consequently a and c formed a prism which deviated rays towards the base if $\mu_1 < \mu_q$ and towards the vertex when $\mu_1 > \mu_q$ (μ_1 and μ_q are the refractive indices of the liquid in the cell and the quartz plate respectively). A ray which missed the side c

Card 1/4

The Dispersion Curves of Chloroform and Carbon Tetrachloride in a Wide Range of Temperatures

and a ray deviated by c interfered with one another. The interference pattern could be seen by illuminating the quartz plate of Fig 2 with white light and focusing the shadow (Fig 3) of the plate on to a spectroscope slit placed at right angles to the edge CD of the plate. The pattern is shown in Fig 3 where the dark band is the shadow of the face c. The bright band which intersects this dark band at $\lambda = \lambda_o$ corresponds to a ray deviated by the dihedral angle with the edge FG A chain of oval spots, shown as 2 in Fig 3, is the Fresnel diffraction pattern of a ray which grazes the side ABCD. The centre of the gap between two dark spots corresponds to the wavelength at which

$$\mu_1 - \mu_q = m\lambda/d \qquad (1)$$

where d is the thickness of the layer studied and n is an interger.

The Dispersion Curves of Chloroform and Carbon Tetrachloride in a Wide Range of Temperatures

When n = 0, $\lambda = \lambda_0$ and the refractive indices of quarts and the liquid are equal. From this the values of λ and μ_1 at n = 1, 2, 3... can be deduced and the dispersion curve can be constructed. The regions between the experimental values of μ and λ were interpolated by means of Sellmeier's formula with three constants

$$\mu^2 = A + B/(\nu_0^2 - \nu^2) \qquad (2).$$

The values of A, B and ν_0^2 at 20°C are given in Table 1. The dispersion of CCl_4 is shown in Fig 9, in the form of $\Delta\mu' = f(\lambda)$, where $\Delta\mu' = \mu_1 - \mu(t)$, μ_1 is the refractive index at 19.0°C and t is temperature. Similarly the dispersion of $CHCl_3$ is plotted in Fig 10 as a function $\Delta\mu'' = f(\lambda)$, where $\mu'' = \mu_2 - \mu(t)$, μ_2 is the refractive index at 20.2°C and t is temperature. Lines 1-6 in

The Dispersion Curves of Chloroform and Carbon Tetrachloride in a Wide Range of Temperatures

Fig 9 and 1-3 in Fig 10 represent the dispersion curves at various temperatures; they confirm that a change of temperature displaces the dispersion curves parallel to themselves. There are 10 figures, 3 tables and 8 references, 7 of which are Soviet and 1 English.

SUBMITTED: May 29, 1958

KLASSEN-NEKLYUDOVA, Karina Viktorovna. Prinimali uchastiye: INDENBOM, V.L.; URUSOVSKAYA, A.A.; TOMILOVSKIY, G.Ye.; PONYATOVSKIY, Ye.G. OBREIMOV, I.V., akademik, otv.red.; STAROKADOMSKAYA, Ye.L., red.izd-va; SHEVCHENKO, G.N., tekhn.red.; BRUZGUL', V.V., tekhn.red.

[Mechanical twinning of crystals] Mekhanicheskoe dvoinikovanie kristallov. Moskva, Izd-vo Akad.nauk SSSR, 1960. 261 p. (MIRA 14:1)

1. Laboratoriya mekhanicheskikh svoyst kristallov Instituta kristallografii (for Indenbom, Urusovskaya, Tomilovskiy). 2. Laboratoriya vysokikh davleniy Instituta kristallografii (for Ponyatovskiy).

(Crystals)

OBREIMOV, I.V., akademik, Moskva

Curious stereoscopic effect. Priroda 49 no.7:115 Jl '60. (MIRA 13:7)
(Optical illusions)

OBREIMOV, Ivan Vasil'yevich, akad.; GUS'KOV, G.G., red. izd-va; VOLKOVA, V.V., tekhn. red.

[Digital coding of scientific concepts] O tsifrovom kodirovanii nauchnykh poniatii. Moskva, Izd-vo Akad.nauk SSSR, 1961. 26 p. (MIRA 15:1)

(Information theory)

AMBARTSUMYAN, V.A., akademik; ASRATYAN, E.A.; BOGOLYUBOV, N.N., akademik; VINOGRADOV, A.P., akademik; GINETSINSKIY, A.G.; KNUNYANTS, I.L., akademik; KOCHETKOV, N.K.; KURSANOV, A.L., akademik; MEL'NIKOV, O.A.; NESMEYANOV, A.N., akademik; NESMEYANOV, An.N., doktor khim. nauk; OBREIMOV, I.V., akademik; POLIVANOV, M.K., kand.fiz.-mat.nauk; REUTOV,O.A.; RYZHKOV, V.L.; SPITSIN, V.I., akademik; TAMM, I.Ye., akademik; FESENKOV, V.G., akademik; FOK, V.A., akademik; SHCHERBAKOV, D.I., akademik; FRANK, I.M.; FRANK, G.M.; KHOKHLOV, A.S., doktor khim. nauk; SHEMYAKIN, M.M., akademik; ENGEL'GARDT, V.A., akademik; SHAPOSHNIKOV, V.N., akademik; BOYARSKIY,V.A.; LIKHTENSHTEYN, Ye.S.; VYAZEMTSEVA, V.N., red.izd-va; KLYAYS, Ye.N., red.izd-va; TARASENKO, V.M., red.izd-va; POLYAKOVA, T.V., tekhn. red.

[As seen by a scientis: From the Earth to galaxies, To the atomic nucleus, From the atom to the molecule, From the molecule to the organism] Glazami uchenogo: Ot Zemli do galaktik, K iadru atoma domolekuly, Ot molekuly do organizma. Moskva, Izd-vo AN SSSR, 1963. 736 p. (MIRA 16:12)

1. Akademiya nauk SSSR. 2. Chlen-korrespondent AN SSSR (for Asratyan, Ginetsinskiy, Kochetkov, Mel'nikov, Reutov, Ryzhkov, Frank,I.M., Frank, G.M.)
(Astronomy) (Nuclear physics) (Chemistry) (Biology)

ACCESSION NR: AP4042201 S/0020/64/157/002/0317/0320

AUTHORS: Vasil'yev, L.A.; Obreimov, I.V.; Yerslov, I.V.

TITLE: Application of the diffraction-shadow method for the quantitative determination of the intensity of the plane density jump at the model in a supersonic flux

SOURCE: AN SSSR. Doklady*, v. 157, no. 2, 1964, 317-320

TOPIC TAGS: shock wave, supersonic wave, shadow diffraction method, optical phase change

ABSTRACT: The diffraction-shadow method by I.V. Obreimov (Tr. Gos. Optich. Inst. 3, #23, 1924) was used for the quantitative determination of the plane supersonic jump. It is based on the comparison of the light intensity in the center of the diffraction pattern at the plane jump and at the opaque border. The theory of the method is based on the assumption of a point source and an infinite slit, the jump being parallel to the knife of the shadow apparatus. Corrections are developed to account for the deviations of actual conditions from the ideal ones. The theoretical results are compared with the experiments in a shock tube on a model which was a wedge of

Card 1/2

ACCESSION NR: AP4042201

60°. The agreement between the theoretical and experimental results shows that the method can be used in the investigations of gasodynamical fluxes by establishing the connection between the velocity of the shock waves and the optical phase change before and after the discontinuity. Orig. art. has: 4 figures and 1 table

ASSOCIATION: None

SUBMITTED: 02Jan64 ENCL: 00

SUB CODE: OP, ME NR REF SOV: 002 OTHER: 003

Card 2/2

ACCESSION NR: AP4042201 S/0020/64/157/002/0317/0320

AUTHORS: Vasil'yev, L.A.; Obreimov, I.V.; Yerslov, I.V.

TITLE: Application of the diffraction-shadow method for the quantitative determination of the intensity of the plane density jump at the model in a supersonic flux

SOURCE: AN SSSR. Doklady*, v. 157, no. 2, 1964, 317-320

TOPIC TAGS: shock wave, supersonic wave, shadow diffraction method, optical phase change

ABSTRACT: The diffraction-shadow method by I.V. Obreimov (Tr. Gos. Optich. Inst. 3, #23, 1924) was used for the quantitative determination of the plane supersonic jump. It is based on the comparison of the light intensity in the center of the diffraction pattern at the plane jump and at the opaque border. The theory of the method is based on the assumption of a point source and an infinite slit, the jump being parallel to the knife of the shadow apparatus. Corrections are developed to account for the deviations of actual conditions from the ideal ones. The theoretical results are compared with the experiments in a shock tube on a model which was a wedge of

Cord 1/2

ACCESSION NR: AP4042201

60°. The agreement between the theoretical and experimental results shows that the method can be used in the investigations of gasodynamical fluxes by establishing the connection between the velocity of the shock waves and the optical phase change before and after the discontinuity. Orig. art. has: 4 figures and 1 table

ASSOCIATION: None

SUBMITTED: 02Jan64

SUB CODE: OP, ME

NR REF SOV: 002

ENCL: 00

OTHER: 003

Card 2/2

OBREIMOV, Ivan Vasil'yevich, akademik; CHERNIKOVA, V.K., red.

[Molecules and crystals] Molekuly i kristally. Moskva, Izd-vo "Znanie," 1954. 39 p. (Novoe v zhizni, nauke, tekhnike. XI Seriia: Khimiia, nos.10-11) (MLRA 18:1)

ACC NR: AP6000[illegible] SOURCE CODE: UR/0020/66/171/006/1305/1308

AUTHOR: Obrelmov, I. V. (Academician)

ORG: Optical Laboratory of the Institute of General and Inorganic Chemistry im. N. S. Kurnakov, Academy of Sciences SSSR (Opticheskaya laboratoriya Instituta obshchey i neorganicheskoy khimii Akademii nauk SSSR)

TITLE: The gas laser as a source of illumination

SOURCE: AN SSSR. Doklady, v. 171, no. 6, 1966, 1305-1308

TOPIC TAGS: laser, laser beam, ~~laser beam observation, laser beam~~ photography, ~~laser beam~~ nephelometry, ~~laser beam~~ turbidimetry

ABSTRACT: The author investigates certain phenomena accompanying the projection, visual observation, and photographing of a gas(Ne-He) laser beam (see: L. J. Goldfischer, J. Opt. Soc. Am., 55, no. 3, 1965, 247). The appearance of aventurine-like glitter on a standard projection screen (or on unexposed photographic film used as a screen) on which the laser beam is projected, can be eliminated by rotating the screen quickly in its plane. Once the glitter disappears, the Fresnel diffraction patterns stand out clearly. No glitter is evident in direct visual observation of the laser beam (through a polarizer turned to dark), thus indicating that the glitter does not originate in the observer's eye or in any of the optical devices of the system. This is confirmed further

Card 1/2 UDC: none

ACC NR: AP7002932

by the fact that when photographic film like that used in the screen is exposed in a camera, it is free of glitter. It is concluded that the aventurine glitter is the result of interference in the space in front of the screen's surface. Experiments with the transmission of a laser beam through solid and liquid turbid media again showed the presence of aventurine glitter. In soapy water the glitter appeared to be in a state of constant motion, somewhat similar to Brownian movement. This phenomenon cannot be easily explained, although similar effects in white light were observed and analyzed long ago by Laue and de Haas. Aventurine glitter was observed in a prism mirror around the spot of the incidence of the laser beam. This was similar to that observed by Raman in 1925 with the reflection of white light from the surface of mercury. An installation for measuring the turbidity of a liquid by the intensity of the light scattered from a drop spread over the mirror surface of a prism is briefly outlined. The advantage of this arrangement is that the thickness of the layer is relatively independent of wavelength. Orig. art. has: 2 figures.

SUB CODE: 20/ SUBM DATE: 05Sep66/ ORIG REF: 004/ OTH REF: 006/
ATD PRESS: 5113

Card 2/2

OBREIMOVA, L.I.

6

USSR.

Sulfonation of enol acetates. A. P. Terent'ev, A. N. Kost, A. M. Yerkevich, E. B. Khaskina, and L. I. Obreimova. *Vestnik Moskov. Univ.* 8, No. 6, *Ser. Fiz.-Mat. i Estestven. Nauk No.* 4, 131–4(1953); cf. *C.A.* 44, 1095g.—To 2.3 g. of vinyl acetate (I) was added 5 g. of pyridine-SO_3 complex in 10 cc. $(CH_2Cl)_2$. After heating 8 hrs. at 120° the mixt. dissolved in hot H_2O, treated with 0.5 cc. of 0.2*N* H_2SO_4, refluxed 4 hrs., AcOH distd. off and the soln. treated with $BaCO_3$ gave 85% $(OHCCH_2SO_3)_2Ba$ (II) (from MeOH). Since intermediate product AcOCH:$CHSO_3Ba$/2 (presence indicated by decolorizing Br-H_2O) hydrolyzed readily in acid to give AcOH it was desirable to carry out the hydrolysis rapidly. The same type of sulfonation was carried out with isocrotyl acetate. After 10 hrs. at 150° in a sealed tube it gave 35% $[Me_2C(CHO)SO_3]_2Ba$. To a stirred soln. of 8 g. SO_3 in 50 cc. $(CH_2Cl)_2$ at 0°, was added 8.8 g. of dioxane and 4.3 g. of I, kept cold 6 hrs., then evapd. on a water bath 8 hrs., 5 cc. H_2O in 2 portions added, and treated with $BaCO_3$ to yield 20% II. To a similar dioxane-SO_3 iced mixt. 1 g. of isopropenyl acetate was added with stirring to yield 67% of $(C_3H_5O_4S)_2Ba.H_2O$. $ClHgCH_2CHO$ (*C.A.* 44, 7225d) was sulfonated with SO_3 in $(CH_2Cl)_2$ to give 41% $(HO_3CCH_2SO_3)_2Ba$ instead of the expected II, which in acid gave off CO_2 and did not form insol. salts with *S*-(β-naphthyl)thiuronium chloride (III). To 21.2 g. of I was added while cooling, 63 g. of dioxane dibromide in portions (cf. *C.A.* 44, 835i-e), the lower layer washed with ice H_2O, dried over $CaCl_2$, distd. *in vacuo* gave $AcOCHBrCH_2Br$ (IV) (yield 50%), b_{23} 101–3°, n^{20}_D 1.5067, d_{20} 1.9170 (cf. McElvain, *C.A.* 39, 2600^9). To 2.5 g. IV was added 3 g. Na_2SO_3 in 25 ml. H_2O, heated under reflux and then treated in the usual manner with $BaCO_3$; after cooling, III was added and the salt recrystd. from C_6H_6, m. 202–3°. Identification of the sulfonic acids was simplified by the fact that the salts with III had a definite m.p. at 203–4°.

I. Bencowitz

OBREJA, Alexandru

Dome hydrogeological data on the Tecuci Plain. Probleme geog 7: 167-178 '60. (EEAI 10:3)
(Rumania--Hydrology)

PIRGHIBSCH St., dr., prof. univ. [illegible], Univ. Iasi.

Principles, methods, and procedures [illegible] in teaching geography in the general education [illegible]. Natura Geografie 16 no. 4:52-56 Jl-Ag '[illegible]

OBREJA, Al.

Some problems relative to the neotectonics of the Birlad Basin. Comunicarile AR 11 no.9:1131-1135 S '61.

1. Comunicare prezentata de T. Morariu, membru corespondent al Academiei R.P.R.

OBREJA, A.

New data on the terraces of the Birlad River. Comunicarile AR 11 no.9: 1127-1130 S '61.

1. Comunicare prezentata de T. Morariu, membru corespondent al Academiei R.P.R.

OBREJA, Al.

Some geomorphological aspects of the relief of the Moldavian Central Plateau. Anal St Jassy II 9:117-124 '63.

OBREJA, Al.

Climatic aspects of the Tecuci Plain. Anal [illegible] Iasay II 10:169-[illegible]
'64.

1. Submitted October 26-27, 1963.

SACUIU, Ion, ing.; OBREJA, Constantin

Cellulose in the Danube Delta is increasing. St si Teh Buc 15 no.10: 8-9 O '63.

1. Cellulose and Paper Concern, Braila.

[illegible], Gheorghe
SURNAME (in caps); Given Names

Country: Rumania

Academic Degrees: Engineer

Affiliation: "Mao Tze-dun" works (Uzinele "Mao Tze-dun").

Source: Bucharest, Stiinta si Tehnica, No [illegible], Mar 1961, pp 12-13.

Data: "Steam at the Most Convenient Parameters."

Co-author:

ELLIO, Souzi, Engineer, "Mao Tze-dun" Works.

TEODORESCU, A., dr.; OBREJA, S., dr.; GRIGORESCU, Gh., dr.

Some aspects and considerations o. otorhinolaryngological neoplasms treated at Hospital No.1, Craiova (Otorhinolaryngological Section, during the period 1953-1963). Otorinolaryngologie (Bucur.) 9 no.4:315-320 O-D '64

OBREZHANU, G. [Obrejanu, G.]; MEYYANU, Al. [Maianu, Al.]; AKSENOVA, I.

Investigations in the establishment of agrochemical and soil melioration indices for the characteristics of the fertility of floodlandsoils in the steppe and forest-steppe zone of the Danube Plain. Pochvovedenie no.6:68-78 Je'64 (MIRA 17:7)

1. Geologicheskiy institut Akademii nauk, Rumyniya.

OBREJANU, G.

"Soil exhaustion in the USA", p. 26 (Stinta Si Cultura, Vol. 5, no. 4, Apr. 1953, Bucuresti)

SO: Monthly List of East European Accessions, Vol. 2, No 9, Library of Congress, September 1953, Uncl.

Agrochemical characterization of some peat beds in Romania. Gr. Obrejanu, N. Stănga, and V. Bănaru. *Acad. rep. populare Romîne, Bul. ştiinţ. Secţ. biol. ştiinţe agr.* 8, 809–16(1956).—Peat beds from different parts of Romania were studied for their compns. in view of their utilization in agriculture. The ratio C/N is an indication of the state of decompn. of the various materials in the peat beds. There was a good correlation in the degree of decompn. detd. macroscopically and some limits of variation of the C/N. Values of C/N are given for the peat beds studied.
—Martha Arcos

COUNTRY : Rumania L
CATEGORY : Meadow Cultivation.

ABS. JOUR. : RZhBiol., No. 1959, No. 1[illegible]

AUTHOR : Obrejanu, Gr.; Nemes, N.; Velea, C.; Maxim, I.; [illegible]
INST. : Cluj Affiliate, AS RPR
TITLE : Increased [illegible] rural [illegible] eastern Carpathians (Rumania).

ORIG. PUB. : Studii si cercetari agron. Acad. RPR Fil. Cluj. 1957, 8, No.1-2, 99-116

ABSTRACT : No abstract.

1/1

CARD: * Dragan, Viorica

COUNTRY : RUMANIA
CATEGORY : Cultivated Plants. Fodder Grasses and Root Crops. M

ABS. JOUR. : RZhBiol., No. 3, 1959, No. 10992

AUTHOR : Buda, L., Ohrejanu, Gr., Resmerita, I., Velea, C.
INST. : Cluj Experimental Station.
TITLE : On Breeding Transylvanian Red Clover.

ORIG. PUB. : Studii si cercetari agron. Acad. RPR Fil. Cluj, 1957, 8, No. 1-2, 139-146

ABSTRACT : At Cluj Experimental Station in the Rumanian People's Republic, there were obtained by the method of individual and mass selection, the clover lines Cluj-4 and Cluj-9 which in 1955-1956 gave an increase in the yield of green forage and hay of 12.4 and 10% respectively and of the seeds - 5% and 6.4% in comparison with the original lines.

CARD: 1/1