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E073/E335

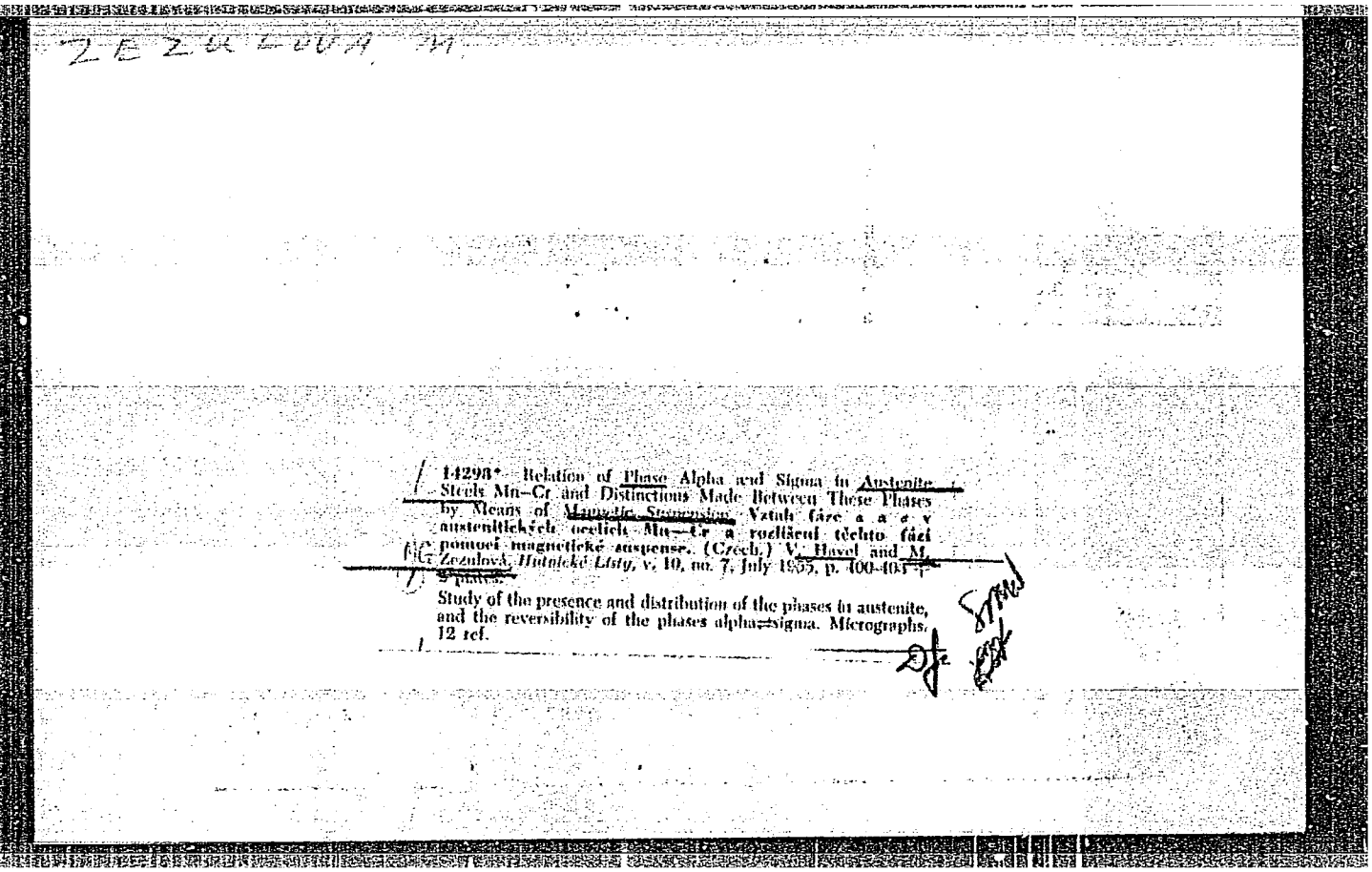
State of Development ....

There are 9 figures, 5 tables and 6 references: 5 Czech and 1 non-Czech.

ASSOCIATION: Výzkumný ústav hutnictví železa, Praha
(Research Institute for Ferrous Metals, Prague)

(Abstractor's note: key to Tables 3, 4 and 5 on card 12/12)

Card 7/12



14298* Relation of Phase Alpha and Sigma in Austenite Steels Mn–Cr and Distinctions Made Between These Phases by Means of Magnetic Suspension. Vztah fáze α a σ v austenitických ocelích Mn—Cr a rozlišení těchto fází pomocí magnetické suspense. (Czech.) V. Havel and M. Zezulová, *Hutnické Listy*, v. 10, no. 7, July 1955, p. 400-403, 2 plates.

Study of the presence and distribution of the phases in austenite, and the reversibility of the phases alpha⇌sigma. Micrographs, 12 ref.

ZEZYANOV, S.P.

Testing electrofilters for the purification of liquid titanium tetrachloride from solid particles in suspension. Titan i ego splavy no.9:147-148 '63. (MIRA 16:9)
(Electrostatic separators)
(Titanium chloride)

REZNIKOV, I.L.; BEZUKLADNIKOV, A.B.; UKSHE, N.S.; GLADYSHEV, A.F.; ZEZYANOV, S.P.; KURMAYEV, R.Kh.

Formation of phosgene during the chlorination of titanium slag in electric shaft furnaces and chlorinators. Titan i ego splavy no.9: 140-146 '63. (MIRA 16:9)
(Titanium—Metallurgy) (Chlorination)
(Phosgene)

REZNIKOV, I.P.; ZEZYANOV, S.P.

Proportioning feeder for even delivery of liquid at a low rate. Zav. lab. 30 no.1:109-110 '64. (MIRA 17:9)

1. Bereznikovskiy filial Vsesoyuznogo nauchno-issledovatel'skogo alyuminiyevo-magniyevogo instituta.

DUNIN, M.S.; ZEZYUKIN, A.I.

Comparative study of the methods for the serodiagnosis of phytopathogenic viruses. Izv. TSKHA no.4:141-155 '65.
(MIRA 18:11)

1. Kafedra fitopatologii Moskovskoy sel'skokhozyaystvennoy ordena Lenina akademii imeni Timiryazeva. Submitted February 27, 1965.

ZEZYULIN, D.M.

Investigating the thermophilic fermentation of sewage sludge in methane tanks. Sbor. nauch. rab. asp. AKKH no.1:21-43 '59.
(MIRA 14:7)
(Sewage—Purification)

ZEZYULIN, D.M.

Thermophilic digestion of sewage sediments. Sbor. nauch. rab. AKKH no.6:105-115 '61. (MIRA 15:3)
(Sewage--Purification)

BEZENOV, V.V.; GYUNTER, L.I.; ZEZYULIN, D.M.

A method of designing one-stage digestion tanks with thermophilic and mesophilic digestion. Sbor. nauch. rab. AKKH no.6:134-137 '61. (MIRA 15:3)

(Sewage--Purification)

ZEZYULIN, D. M., Cand Tech Sci -- (diss) "Investigation of the processes of thermophilic fermenting of the residue in methanates in chains of established technico-economic indices." Moscow, 1960. 28 pp; with graphs; (Ministry of Higher and Secondary Specialist Education RSFSR, Moscow Order of Labor Red Banner Construction Engineering Inst im V. V. Kuybyshev); 180 copies; price not given; (KL, 52-60, 120)

ZEZYULINSKIY, V.F.; CHISTOKLETOV, P.F.

All hidden potentials in the economy of electric power should be fully utilized. Elek. i tepl. tiaga 7 no.3:4-5 Mr '63. (MIRA 16:6)

1. Predsedatel' otraslevoy sektsii elektrifikatsii i energetiki Nauchno-tekhnicheskogo obshchestva Pridneprovskoy dorogi (for Zezyulinskiy).
(Electric power)
(Electric railroads--Current supply)

ROSTOVTSEV, A.A.; IL'IN, Yu.I.; BEREGOVSKIY, A.S.; TISHIN, V.G.; ZEZYULIN, V.Ye.; YERMAKOV, B.A.

Two-dimensional 1024-channel pulse height analyzer DMA-1024. Atom. energ. 11 no.1:58-59 Jl '61. (MIRA 14:7)
(Electronic analog computers)

ZEZYULINA, A.I.(Leningrad)

"First aid by nonphysicians given in accidents and acute illnesses, demanding surgery. V.N. Khodkov. Reviewed by Z.I. Zeziulina. Fel'd. i akush. no.1:59-62 Ja '56 (MLRA 9:4)

(FIRST AID IN ILLNESS AND INJURY)

ZEZYULINSKIY, V.M.

H

Physchem

Molecular interactions between pyrrole and other compounds by solution absorption spectra in the near infrared. V. M. Zezyulinskii (Bakh Biochem. Inst., Moscow). *Zhur. Fiz. Khim.* 24, 1442-6(1950).—The H bonding between pyrrole (I) and acetone (II), acetylacetone (III), acetoacetic ester (IV), phenol (V), and pyridine (VI) is investigated by means of absorption spectra between 0.75–1.2 μ and 1.3–1.6 μ. The NH valence frequencies (resp., fundamental, 1st overtone, 2nd overtone) of I in CCl_4 soln. are 3500, 6850, and 10,050 cm.$^{-1}$ whereas the corresponding values for pure liquid I are 3410, 6710, and 9950. The shifts (2.5, 2, and 1%, resp.) are due to H bonding (assocn.). The CH band at 1.64-μ is broader in liquid I than in the CCl_4 soln. but is not shifted. Spectra of 3.5 *M* solns. of I in II, III, and IV show that the NH bands coincide in shape and position with the 1.49-μ band of liquid I. A variation from 1:2 to 1:30 in the mol. ratio I:III does not shift the 1.49 band. The CH absorption peak at 1.64 does not become broader and retains the sharpness it has in CCl_4 solns. A shift is also observed in the 2nd overtone of NH for I in II. The latter fact suggests a rather weak H bond. In solns. of I in VI the shift of the NH band in the 1.3–1.6-μ region attains 7.8% but in the region of the 2nd overtone the NH band disappears entirely (strong H bond). The shift increases with the basicity of the H bond acceptor. In I-V mixts., one expects I to be the acceptor. The absorption max. of OH are at 1.6 and 0.990 μ (1st and 2nd overtones, resp.) in molten V. The values for a 1 *M* soln. of V in CCl_4 are 1.43 and 0.968. In a 4.7 *M* soln. of V in I, the OH 2nd overtone disappears whereas the NH band does not change. In CCl_4 solns. of V (4 *M*) and I (4 *M*), the OH 1st overtone is shifted so that it coincides with the NH band. In dil. CCl_4 solns. the H bond between I and V is disrupted as can be seen from the simultaneous occurrence of the OH (1.43 μ) and NH (1.472) bands. The latter bands are slightly shifted and this effect persists in very dil. solns. This fact and the preceding one show that I prefers to act as a donor not as an acceptor for H bonding. When increasing quantities of II are added to a soln. of I in CCl_4, one observes a decrease in the intensity of the NH band (1.49 μ) which disappears entirely for large II concns. The band is not shifted as it is in I-II mixts. in the absence of CCl_4. At the same time, the CH peak (1.64 μ) does not change at all. Similarly, the NH band (1.46 μ) progressively disappears whereas the CH peak (1.64 μ) remains unaffected in CCl_4 solns. of I and VI. A more rapid decrease in the NH band intensity is effected by VI than by II. This decrease may thus serve as a criterion for the basicity of the acceptor.

Michel Boudart

ZEZYULINSKIY, V. F.

"M. A. Il'inskiy - Originator of the Hydrogen Bond Theory," Uspekhi Khim., 18, No. 6, 1949.

ZEZYULINSKII, V. M.

Study of the hydrogen bond between phenol and other organic compounds by means of absorption spectra in the near infrared. V. M. Zezyulinskii (A. N. Bakh Inst. Biochem., Moscow). Zhur. Fiz. Khim. 25, 702-8 (1951).—The aim of this spectroscopic investigation in the near infrared (5500–7500 cm.$^{-1}$) is to elucidate the intermol. interaction between phenol (I) on the one hand and acetone (II), acetylacetone (III), acetoacetic ester (IV), or pyruvic acid (V) on the other hand. The spectra of I-III-CCl_4 and I-IV-CCl_4 mixts. show H bonding of the type OH...O=C between I and III or IV and also a shift of the keto-enol equil. of III and IV in a direction favoring the intermol. interaction of the alc. type between mols. of III or IV instead of the intramol. forms predominating in the absence of I (Shigorin, *C.A.* 43, 7343*c*). Of course no keto-enol shift is observed in I-II-CCl_4 mixts., only H bonding between I and II. A measure of relative proton affinities is provided by the magnitude of the shift $\Delta\gamma$ of the absorption band (1.43 μ) of I as a result of H bonding: $\Delta\nu$ = 700, 670, and 378 cm.$^{-1}$ for II, III, and IV, resp. Spectra of I-pyridine, V-pyridine and I-V-pyridine mixts. show that in the latter ternary system, an assocn. of the following type takes place: PhOH...O:C(Me)C(:O)OH...NC_5H_5.

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ZEZYULINSKII, V. M.

Study of the hydrogen bond between phenol and other organic compounds by means of absorption spectra in the near infrared. V. M. Zezyulinskii (A. N. Bakh Inst. Biochem., Moscow). *Zhur. Fiz. Khim.* 25, 702–8(1951).—The aim of this spectroscopic investigation in the near infrared (5500–7500 cm.$^{-1}$) is to elucidate the intermol. interaction between phenol (I) on the one hand and acetone (II), acetylacetone (III), acetoacetic ester (IV), or pyruvic acid (V) on the other hand. The spectra of I-III-CCl_4 and I-IV-CCl_4 mixts. show H bonding of the type OH...O=C between I and III or IV and also a shift of the keto-enol equil. of III and IV in a direction favoring the intermol. interaction of the alc. type between mols. of III or IV instead of the intramol. forms predominating in the absence of I (Shigorin, *C.A.* **43**, 7343c). Of course no keto-enol shift is observed in I-II-CCl_4 mixts., only H bonding between I and II. A measure of relative proton affinities is provided by the magnitude of the shift $\Delta\gamma$ of the absorption band (1.43 μ) of I as a result of H bonding: $\Delta\nu$ = 700, 670, and 378 cm.$^{-1}$ for II, III, and IV, resp. Spectra of I-pyridine, V-pyridine and I-V-pyridine mixts. show that in the latter ternary system, an assocn. of the following type takes place: PhOH...O:C(Me)C(:O)OH...NC_5H_5.

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ZEZYULINSKII, V. M.

extra

Study of the hydrogen bond between phenol and other organic compounds by means of absorption spectra in the near infrared. V. M. Zezyulinskii (A. N. Bakh Inst. Biochem., Moscow). *Zhur. Fiz. Khim.* 25, 702–9(1951).—The aim of this spectroscopic investigation in the near infrared (5500–7500 cm.$^{-1}$) is to elucidate the intermol. interaction between phenol (I) on the one hand and acetone (II), acetylacetone (III), acetoacetic ester (IV), or pyruvic acid (V) on the other hand. The spectra of I-III-CCl_4 and I-IV-CCl_4 mixts. show H bonding of the type OH...O=C between I and III or IV and also a shift of the keto-enol equil. of III and IV in a direction favoring the intermol. interaction of the alc. type between mols. of III or IV instead of the intramol. forms predominating in the absence of I (Shigorin, *C.A.* 43, 7343*c*). Of course no keto-enol shift is observed in I-II-CCl_4 mixts., only H bonding between I and II. A measure of relative proton affinities is provided by the magnitude of the shift $\Delta\nu$ of the absorption band (1.43 μ) of I as a result of H bonding: $\Delta\nu$ = 700, 670, and 378 cm.$^{-1}$ for II, III, and IV, resp. Spectra of I-pyridine, V-pyridine and I-V-pyridine mixts. show that in the latter ternary system, an assocn. of the following type takes place: $PhOH...O{:}C(Me)C(:O)OH...NC_5H_5$.

Michel Boudart

ZEZYULINSKIY, V. M.

Spectrum Analysis

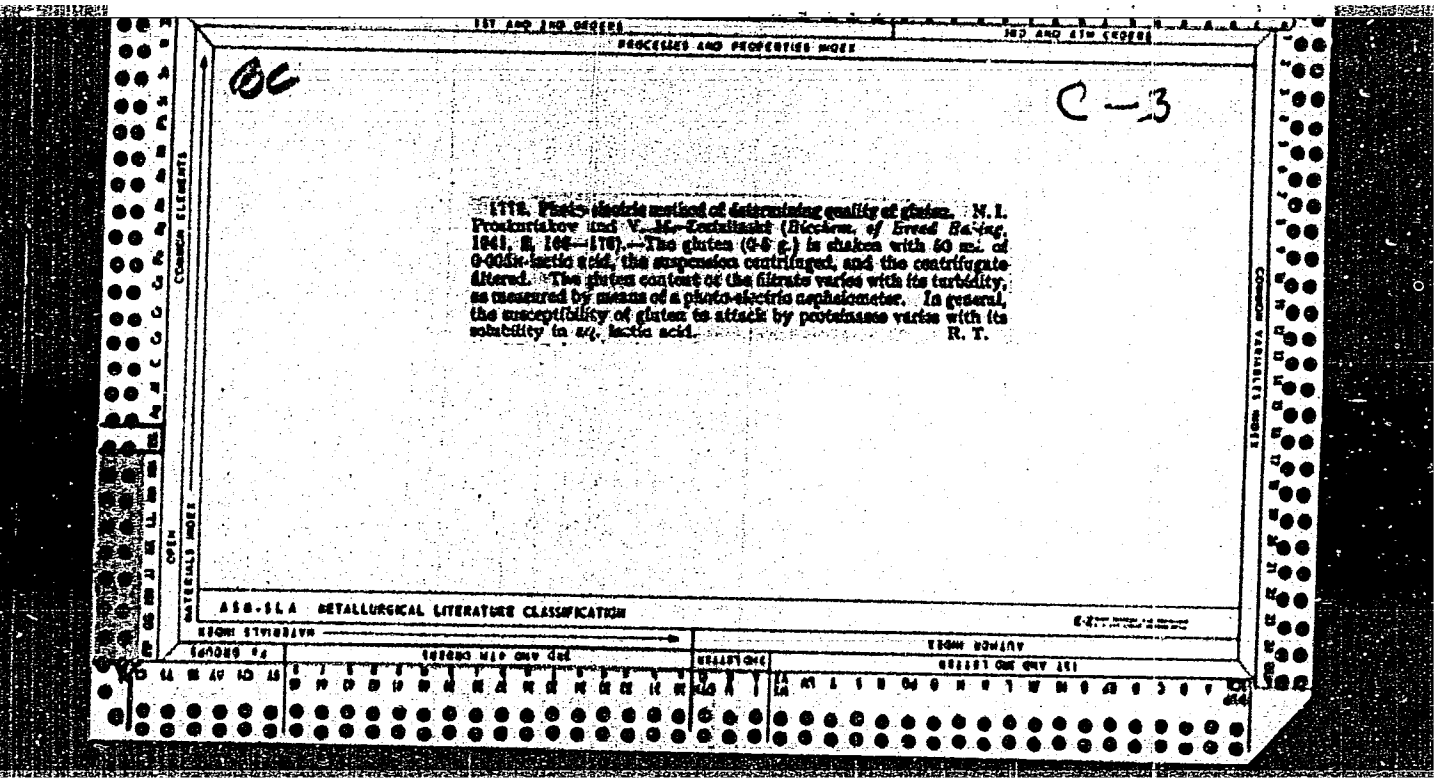
Examination of absorption spectra in the near infra-red zone of phenol solutions of certain neutral solvents. Dokl. AN SSSR 81 no. 4, 1951. Institut Organicheskoy Khimii Akademii Nauk SSSR, Rcd. 26 Sept 1951.

Monthly List of Russian Accessions, Library of Congress, May 1952. UNCLASSIFIED.

PEYVE, Ya.V.; PETERBURGSKIY, A.V., doktor sel'khoz. nauk, prof.; GAR, K.A., kand. sel'khoz. nauk; GOLYSHIN, N.M., kand. biol. nauk; KOROTKIKH, G.I., kand. sel'khoz. nauk; CHESALIN, G.A., kand.sel'khoz.nauk; RAKITIN, Yu.V., doktor biol. nauk; ZEZYULINSKIY, V.M., kand. sel'khoz.nauk; DEVYATKIN, A.I., ~~kand. sel'khoz. nauk~~; VENEDIKTOV, A.M., kand.sel'khoz. nauk; TARANOV, M.G., kand. biol. nauk; BORISOVA, L.G.; BEREZNIKOV, V.V., kand. tekhn.nauk; KONDRATENKO, R.V., st. nauchn.sotr.; BORISOV, F.B., st. nauchn.sotr.

[Chemistry in agriculture] Khimiia v sel'skom khoziaistve. Moskva, Kolos, 1964. 381 p. (MIRA 17:9)

1. Chlen-korrespondent AN SSSR (for Peyve). 2. Nachal'nik laboratorii Nauchno-issledovatel'skogo instituta plastmass (for Borisova). 3. Nauchno-issledovatel'skiy institut plastmass (for Kondratenko, Borisov).

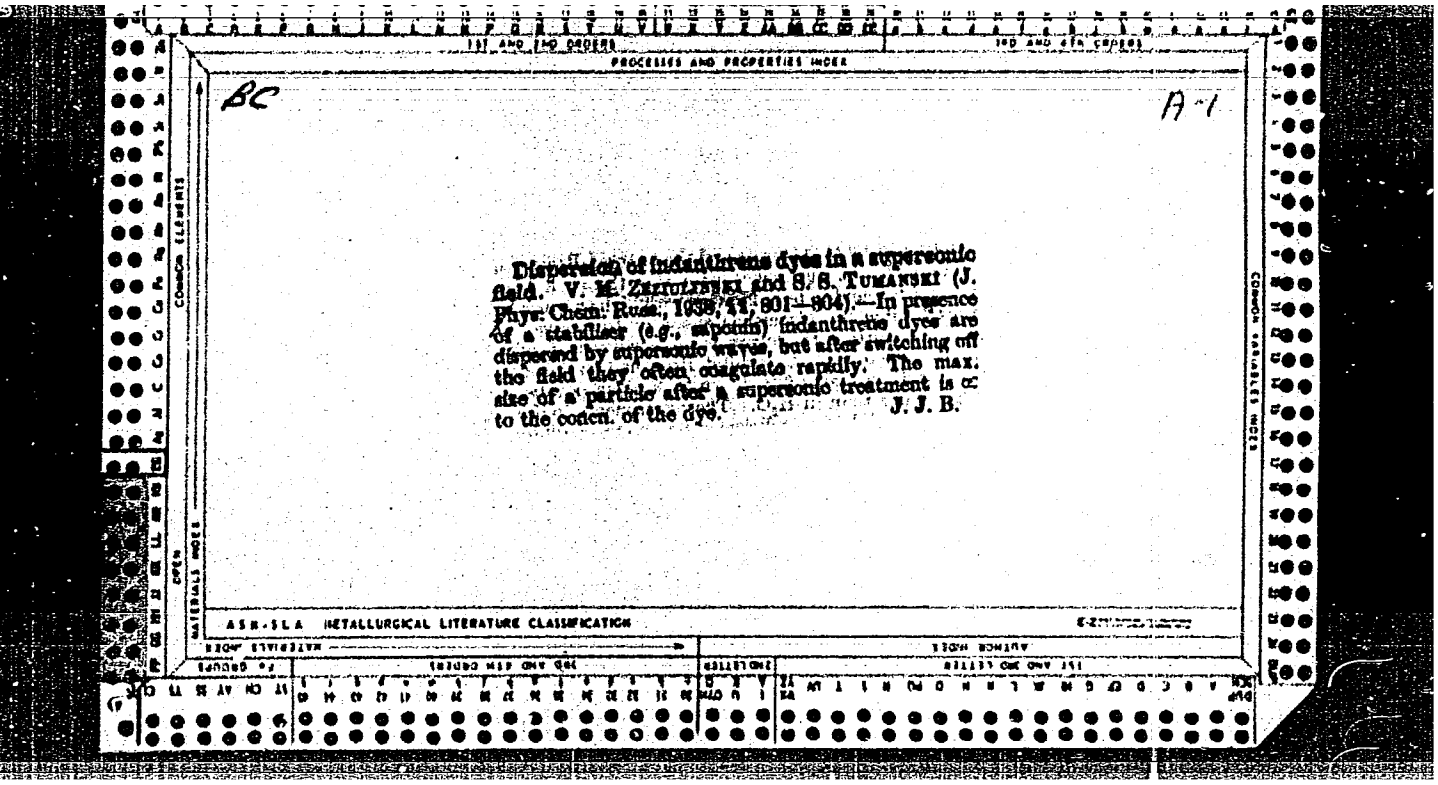


BC

C-3

1118. Photo-electric method of determining quality of gluten. N. I. Prokuriakov and V. M. Tsvilikhin (*Biochem. of Bread Making*, 1941, 8, 168—176).—The gluten (0·6 g.) is shaken with 50 c.c. of 0·005*N*-lactic acid, the suspension centrifuged, and the centrifugate filtered. The gluten content of the filtrate varies with its turbidity, as measured by means of a photo-electric nephelometer. In general, the susceptibility of gluten to attack by proteinases varies with its solubility in *aq.* lactic acid. R. T.

ASS-SLA METALLURGICAL LITERATURE CLASSIFICATION



BC

A-1

Dispersion of indanthrene dyes in a supersonic field. V. M. Zaitsevskii and S. S. Tumanski (J. Phys. Chem. Russ., 1938, 11, 801–804).—In presence of a stabiliser (e.g., saponin) indanthrene dyes are dispersed by supersonic waves, but after switching off the field they often coagulate rapidly. The max. size of a particle after a supersonic treatment is ∝ to the concn. of the dye. J. J. B.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

25378

21.6000

S/089/61/011/001/007/010
B102/B214

AUTHORS: Rostovtsev, A. A., Il'in, Yu. I., Beregovskiy, A. S., Tishin, V. G., Zezyulin, V. Ye., Yermakov, B. A.

TITLE: A two-dimensional 1024 channel pulse-height analyzer of the type ДМА-1024 (DMA-1024)

PERIODICAL: Atomnaya energiya, v. 11, no. 1, 1961, 58 - 59

TEXT: The two-dimensional amplitude analyzers developed in the west suffer from certain shortcomings. For example, the one described in Ref. 1 allows only for a qualitative study of the spectrum; those described in Refs. 2 and 3, though allowing for quantitative study, have two-stage recording and the results can not be observed during the experiment. These have some other disadvantages, too. The authors of this "Letter to the Editor" have developed and constructed a two-dimensional pulse-height analyzer with 1024 channels; it wears the designation DMA-1024. It consists of a recorder block and two equal sorting instruments "X" and "Y" into which the pulses of the detectors are fed; these are recorded and processed only under certain given conditions of coincidence. The anlyzer

Card 1/5

A two-dimensional 1024 channel ...

channels are arranged in the form of a matrix (32·32 = 1024). The channels of the magnetic storage system (with ferrite nuclei) have each a capacity of 16,000 pulses. The informations are made visible on the screens of two cathode-ray tubes of the type 13A037 (13L037). The information is represented on the screen of one of the tubes in a linear system with ~10% accuracy, and on that of the other in a two-decadic system in the form of an optically modulated point screen. The analyzer works with vacuum tubes and semiconductor diodes; in all it contains 360 tubes. The apparatus operates on a.c. mains (220 v, 50 cps) and consumes 2.5 kw. Its size is 2000·900·800 mm. The apparatus is easy to control, and has a reliable uninterrupted working for 8 hours. The temporal distribution of two correlated processes can also be studied with its help. The figure shows a two-dimensional spectrum of the Co^{60} -γ- radiation taken by means of this apparatus. The spectrum shows three groups of possible coincidences. The group of coincidences for complete absorption of the γ-rays with the energies 1.17 and 1.33 Mev in both crystals (photopeak) is represented by two vertices: 1.17; 1.33 Mev, and 1.33; 1.17 Mev. The group coincidences for complete absorption in the one, and partial absorption in the other crystal (Compton scattering) is represented by four "ridges" (photopeaks -

A two-dimensional 1024 channel ...

Compton). The group of coincidences for partial absorption in each of the two crystals, is represented by the surface part designated "Compton - Compton". Scintillation counters with photomultipliers of the type ФЭУ1С (FEU1S) and NaI (Tl) crystal of 30 mm length and 20 mm height were employed for taking the spectrum. The resolving time of the coincidence circuit was ~1 μsec. The authors thank Yu. S. Zamyatnin on whose initiative the work was carried out; V. M. Gorbachev for discussion and interest, and L. P. Bilibin for help. There are 1 figure and 6 references: 3 Soviet-bloc and 3 non-Soviet-bloc. The three references to English-language publications read as follows: Ref.1: L. Grodzins. Proceedings of the Second United Nations Inter. Conference on the Peaceful Uses of Atomic Energy. Vol. 14, Geneva, 1958, p. 351. Ref.2: M. Birk, T. Braid, R. Detenbeck. Rev. Scient. Instrum., 29, 203 (1958). Ref.3: P. Cavanagh, Boyce. Rev. Scient. Instrum., 27, 1028 (1956).

SUBMITTED: April 6, 1961

Card 3/5

CA 3

Study of the hydrogen bond between phenol and other organic compounds by means of absorption spectra in the near infrared. V. M. Zeayulinskii (A. N. Bakh Inst. Biochem., Moscow). *Zhur. Fiz. Khim.* 25, 702-9(1951).—The aim of this spectroscopic investigation in the near infrared (5000-7500 cm.$^{-1}$) is to elucidate the intermol. interaction between phenol (I) on the one hand and acetone (II), acetylacetone (III), acetoacetic ester (IV), or pyruvic acid (V) on the other hand. The spectra of I-III-CCl_4 and I-IV-CCl_4 mixts. show H bonding of the type OH...O=C between I and III or IV and also a shift of the keto-enol equil. of III and IV in a direction favoring the intermol. interaction of the alc. type between mols. of III or IV instead of the intramol. forms predominating in the absence of I (Shigorin, *C.A.* **43**, 7343c). Of course no keto-enol shift is observed in I-II-CCl_4 mixts., only H bonding between I and II. A measure of relative proton affinities is provided by the magnitude of the shift $\Delta\nu$ of the absorption band (1.43 μ) of I as a result of H bonding: $\Delta\nu$ = 700, 670, and 578 cm.$^{-1}$ for II, III, and IV, resp. Spectra of I-pyridine, V-pyridine and I-V-pyridine mixts. show that in the latter ternary system, an assocn. of the following type takes place: PhOH...O:C(Me)C(:O)OH...NC_5H_5.

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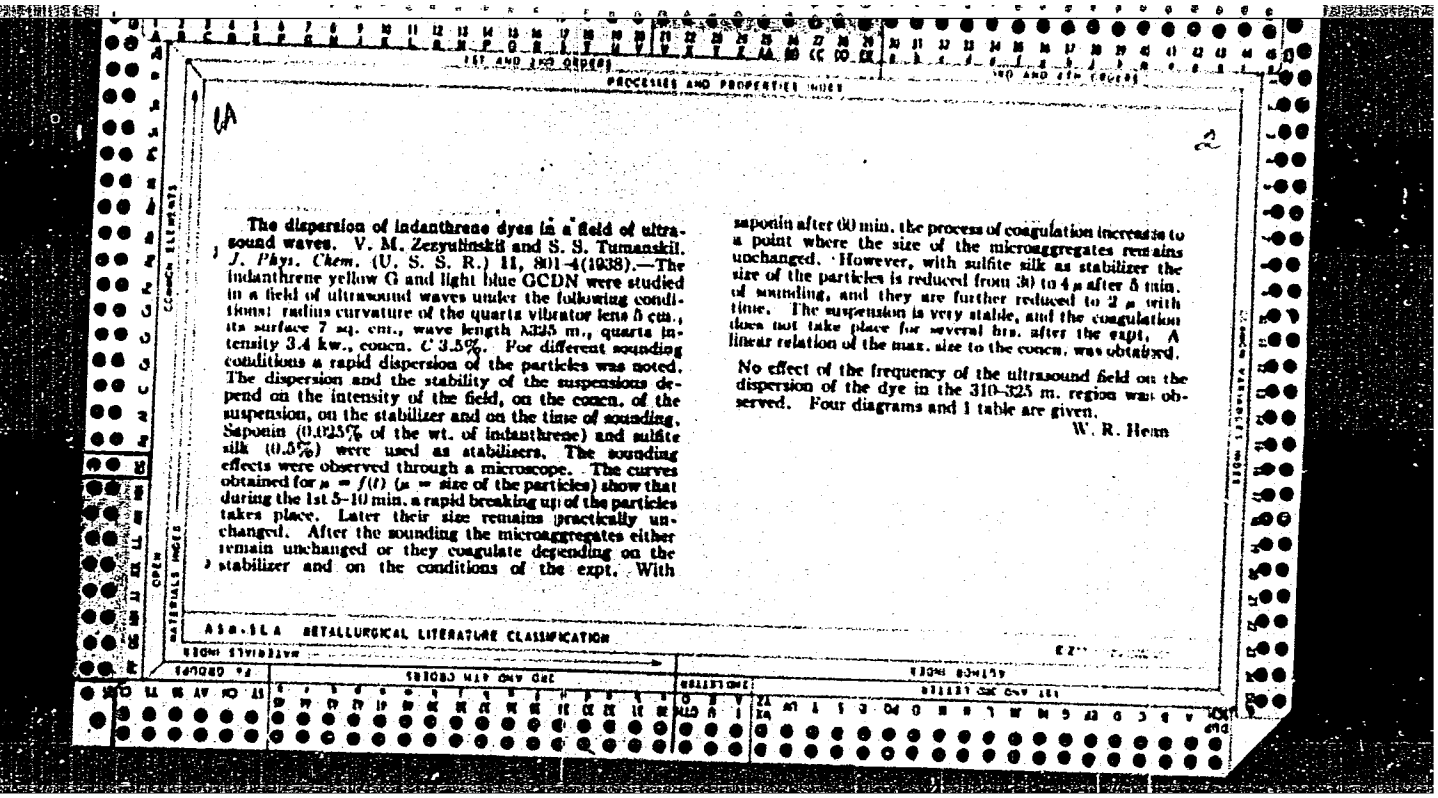


The dispersion of indanthrene dyes in a field of ultrasound waves. V. M. Zezyulinskiĭ and S. S. Tumanskiĭ. *J. Phys. Chem.* (U. S. S. R.) II, 801–4(1938).—The indanthrene yellow G and light blue GCDN were studied in a field of ultrasound waves under the following conditions: radius curvature of the quartz vibrator lens 5 cm., its surface 7 sq. cm., wave length 3235 m., quartz intensity 3.4 kw., concn. *C* 3.5%. For different sounding conditions a rapid dispersion of the particles was noted. The dispersion and the stability of the suspensions depend on the intensity of the field, on the concn. of the suspension, on the stabilizer and on the time of sounding. Saponin (0.025% of the wt. of indanthrene) and sulfite silk (0.5%) were used as stabilizers. The sounding effects were observed through a microscope. The curves obtained for $\mu = f(t)$ (μ = size of the particles) show that during the 1st 5–10 min. a rapid breaking up of the particles takes place. Later their size remains practically unchanged. After the sounding the microaggregates either remain unchanged or they coagulate depending on the stabilizer and on the conditions of the expt. With saponin after 90 min. the process of coagulation increases to a point where the size of the microaggregates remains unchanged. However, with sulfite silk as stabilizer the size of the particles is reduced from 30 to 4 μ after 5 min. of sounding, and they are further reduced to 2 μ with time. The suspension is very stable, and the coagulation does not take place for several hrs. after the expt. A linear relation of the max. size to the concn. was obtained.

No effect of the frequency of the ultrasound field on the dispersion of the dye in the 310–325 m. region was observed. Four diagrams and 1 table are given.

W. R. Heun

FA

3

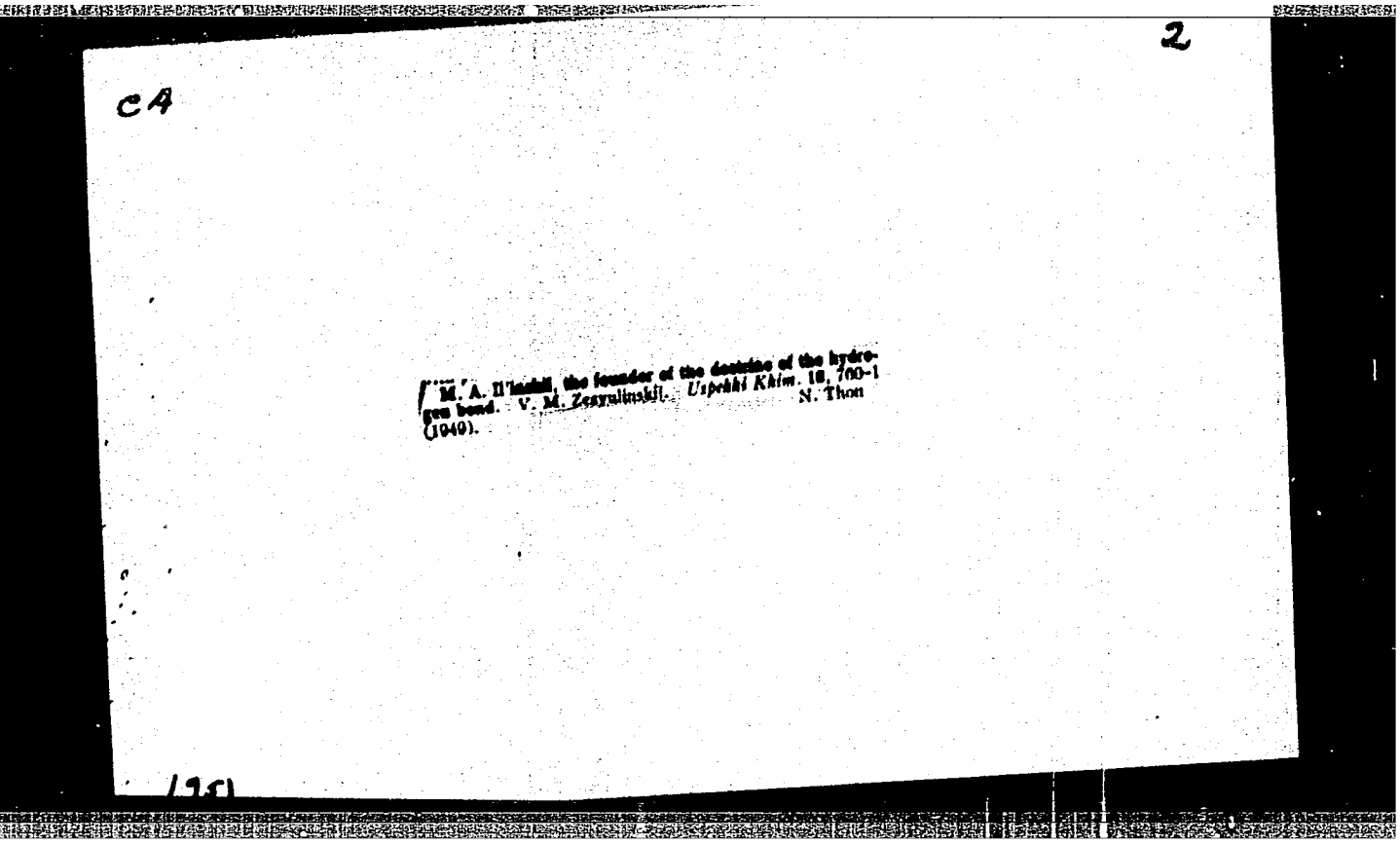
Near-infrared absorption spectra of phenol solutions in some neutral solvents. V. M. Zeyulinskii (Inst. Org. Chem., Acad. Sci. U.S.S.R., Moscow). *Doklady Akad. Nauk S.S.S.R.* 81, 633–5(1951).—In the 0.75–1.2-μ wavelength range, the position and the width of the OH band of PhOH (0.99 μ) in C_6H_6 soln. remain practically unchanged in a broad range of concns., 0.125–6 *M*. An almost analogous invariability of the absorption band is found in solns. of PhOH in PhMe and PhBr. This behavior indicates persistence of the hydrogen-bond assocn. of PhOH mols. even at low concns. In contrast to these solvents, dilu. of PhOH solns. in CCl_4 produces a narrowing of the OH band and its shift to shorter waves. In hexane and in cyclohexane, the position of the OH band is practically the same as in CCl_4. Evidently, in these solvents, there is no specific interaction between the PhOH and the solvent mols. N. Thon

CA

3

Molecular interactions between pyrrole and other compounds by solution absorption spectra in the near infrared. V. M. Zeifmanis (Inst. Khim. Fiz., Moscow). *Zhur. Fiz. Khim.* 24, 1442-9(1950).—The H bonding between pyrrole (I) and acetone (II), acetylacetone (III), acetoacetic ester (IV), phenol (V), and pyridine (VI) is investigated by means of absorption spectra between 0.75–1.2 μ and 1.3–1.6 μ. The NH valence frequencies (resp., fundamental, 1st overtone, 2nd overtone) of I in CCl_4 soln. are 3500, 6850, and 10,050 cm.$^{-1}$ whereas the corresponding values for pure liquid I are 3410, 6710, and 9950. The shifts (2.5, 2, and 1%, resp.) are due to H bonding (assocn.). The CH band at 1.64-μ is broader in liquid I than in the CCl_4 soln. but is not shifted. Spectra of 3.5 *M* solns. of I in II, III, and IV show that the NH bands coincide in shape and position with the 1.49-μ band of liquid I. A variation from 1:2 to 1:30 in the mol. ratio I:III does not shift the 1.49 band. The CH absorption peak at 1.64 does not become broader and retains the sharpness it has in CCl_4 solns. A shift is also observed in the 2nd overtone of NH for I in II. The latter fact suggests a rather weak H bond. In solns. of I in VI the shift of the NH band in the 1.3–1.6-μ region attains 7.8% but in the region of the 2nd overtone the NH band disappears entirely (strong H bond). The shift increases with the basicity of the H bond acceptor. In I-V mixts., one expects I to be the acceptor. The absorption maxs. of OH are at 1.41 and 0.980 μ (1st and 2nd overtones, resp.) in molten V. The values for a 1 *M* soln. of V in CCl_4 are 1.43 and 0.968. In a 4.7 *M* soln. of V in I, the OH 2nd overtone disappears whereas the NH band does not change. In CCl_4 solns. of V (4 *M*) and I (4 *M*), the OH 1st overtone is shifted so that it coincides with the NH band. In dil. CCl_4 solns. the H bond between I and V is disrupted as can be seen from the simultaneous occurrence of the OH (1.43 μ) and NH (1.472) bands. The latter bands are slightly shifted and this effect persists in very dil. solns. This fact and the preceding one show that I prefers to act as a donor not as an acceptor for H bonding. When increasing quantities of II are added to a soln. of I in CCl_4, one observes a decrease in the intensity of the NH band (1.46 μ) which disappears entirely for large II concns. The band is not shifted as it is in I-II mixts. in the absence of CCl_4. At the same time, the CH peak (1.64 μ) does not change at all. Similarly, the NH band (1.46 μ) progressively disappears whereas the CH peak (1.64 μ) remains unaffected in CCl_4 solns. of I and VI. A more rapid decrease in the NH band intensity is effected by VI than by II. This decrease may thus serve as a criterion for the basicity of the acceptor.

Michel Boudart



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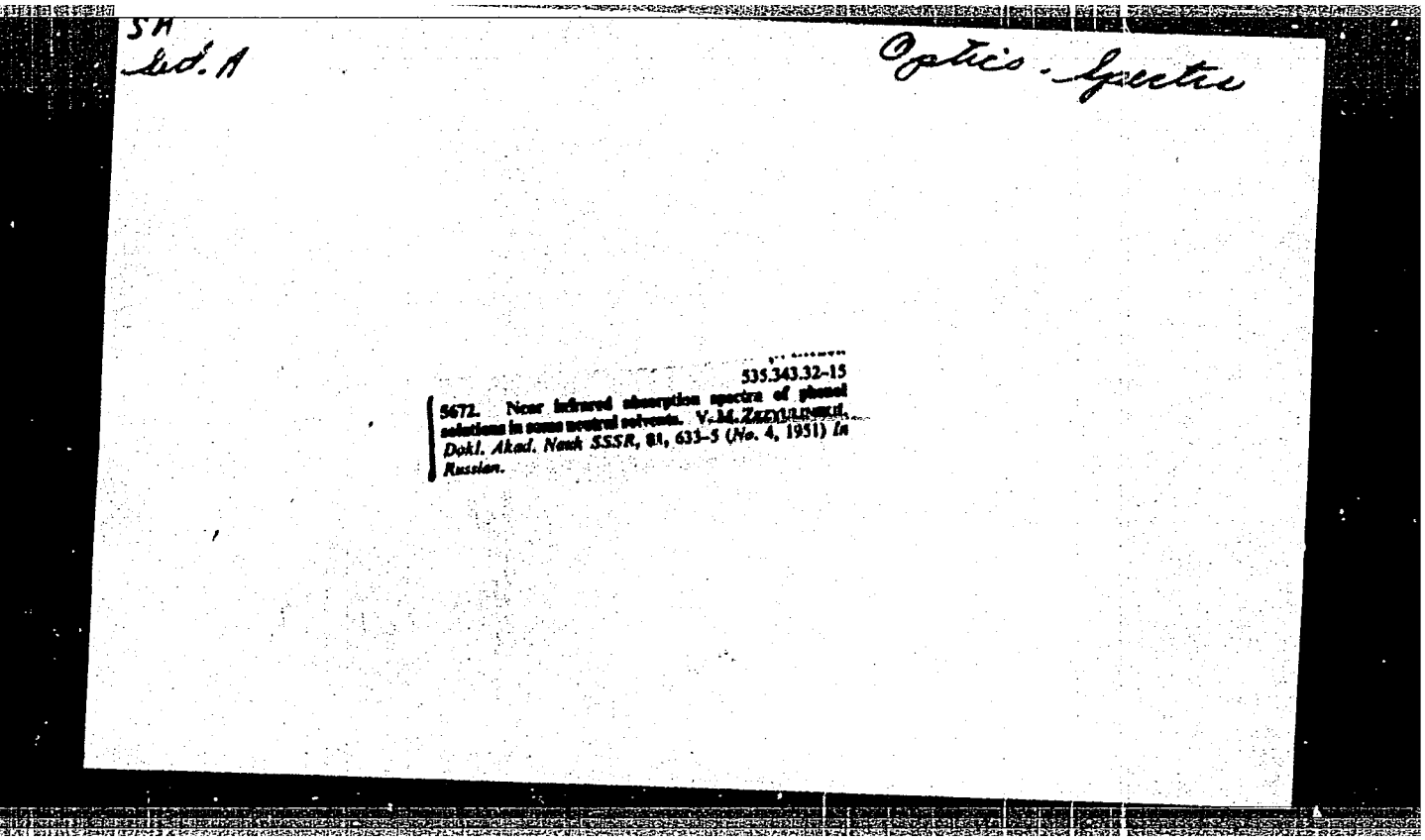
C4

M. A. Il'inskii, the founder of the doctrine of the hydrogen bond. V. M. Zeyrulinskii. *Uspekhi Khim.* 18, 700-1 (1949). N. Thon

/95



SA
Sec. A

Optics - Spectra

535.343.32-15

5672. Near infrared absorption spectra of phenol solutions in some neutral solvents. V. M. ZOLOTAREV. *Dokl. Akad. Nauk SSSR*, 81, 633–5 (*No.* 4, 1951) *In Russian.*

Zezyulinskiy, V.

USSR/General Division. General Problems. Philosophy A-1
Methodology

Abs Jour : Ref Zhur-Biologiya, No 2, 1958, 4595

Author : V. Zezyulinskiy
Inst :
Title : Application of the Method of Marked Atoms in Biology and Agriculture

Orig Pub : V sb; Primeneniye atom. energii V mirnykh tselyakh, M., 1956, 127-135

Abstract : A survey of the more important achievements made in the application of marked atoms in biology and medicine. The importance of these investigations in the study of the metabolism of brain tissue, the structure of glycoine and the mechanism of A, C, and B avitaminoses is

Card 1/2

USSR/General Division. General Problems. Philosophy A-1
Methodology

Abs Jour : Ref Zhur-Biologiya, No 2, 1958, 4595

Abstract : pointed out. In animal husbandry the method of marked atoms makes it possible to observe the intensity of phosphorus and calcium metabolism, the paths of infection by some infectious diseases (brucellosis), and the penetration of medicinal substances through the skin. A study with the aid of marked atoms of plant nutrition and problems of fertilizers revealed that noneroot feeds serve as supplementary sources of phosphorus nutrition of plants in the most important periods of their growth.

Card 2/2

ZEZYULINSKIY, V.M.

Radioisotopes and nuclear radiations in the service of agriculture.
Atom.energ. 9 no.3:234-235 S '60. (MIRA 13:8)
(Radioisotopes--Industrial applications)
(Atomic energy in agriculture)

AUTHOR: Zezyulinskiy, V. M. SOV/89-5-2-19/36

TITLE: Scientific Conference on the Use of Radioactive Isotopes and Their Radiation in the Agriculture of the USSR (Nauchnaya konferentsiya po primeneniyu radioaktivnykh izotopov i izlucheniy v sel'skom khozyaystve SSSR)

PERIODICAL: Atomnaya energiya, 1958, Vol. 5, Nr 2, pp. 187-189 (USSR)

ABSTRACT: A conference took place at Moscow from April 22 to April 26, 1958, which had been convened by the Vsesoyuznaya akademiya sel'skokhozyaystvennykh nauk (All-Union Academy of Agricultural Sciences). The conference was attended by 500 persons from the USSR and from the peoples' democracies. Lectures of a general nature were delivered during the plenary sessions. In three parallel sections the following subjects were dealt with: a) plant growing, b) animal breeding, c) hydro-engineering, amelioration and mechanization of agriculture.
Re. a): C^{14}, S^{35}, P^{32} etc. are being used to an ever growing extent for the investigation of biochemical and physiological processes. The following problems deserve to be mentioned as being of particular importance: Determination of the intensity of

Card 1/3

photosynthesis in the case of wheat and citrus shrubs. Investigation of the interrelation of photosynthesis intensity in plants with and without nutrition through the roots. Determination of optimum grain-sizes for superphosphate. Mobility of Ca in the soil. γ-test field with a Co^{60}-source of 190 C.

Re. b): The following problems were especially discussed: Metabolic processes in animals, physiology of the formation of milk and the action of vitamins. A number of lectures dealt with the therapy of skin diseases of domestic animals, in which connection radioactively marked preparations were used with good success.

Re. c): Investigations in this field were carried out in two directions: 1.) Application and improvement of γ-methods for the determination of moisture and density of the soil and ground. 2.) The use of radioactive isotopes for the investigation of the motion of gravitation- and capillary water in the soil.

Scientific Conference on the Use of Radioactive Isotopes and Their Radiation in the Agriculture of the USSR

SOV/89-5-2-19/36

In compliance with directions issued by the Presidium of the VASKhNIL the entire material of the conference will be published by the end of the year.

Card 3/3

ZEZYULINSKIY, V., kand.biol.nauk

Isotopes in agriculture. Nauka i perod. op. v sel'khoz. 8 no.8:54-56 Ag '58. (MIRA 11:10)

(Isotopes) (Agricultural research)

USSR/Cultivated Plants - General Problems. M.

Abs Jour : Ref Zhur - Biol., No 4, 1958, 15480

Author : V.M. Zezyulinskiy
Inst :
Title : Atomic Energy in Agriculture.
(Atomnaya energiya v sel'skom khozyaystve).

Orig Pub : Vestn. s.-kh. nauki, 1957, No 7, 145-148.

Abstract : No abstract.

Card 1/1

ZEZYULINSKIY, V.M.

Scientific conference on the utilization of radioactive isotopes and radiation in the agriculture of the U.S.S.R. Atom. energ. 5 no.2:187-189 Ag '58. (MIRA 11:8)
(Radioactivity) (Agriculture--Congresses)

ZEZYULINSKY, V.M.

Near-infrared absorption spectra of phenol solutions in some neutral solvents. V. M. Zezyulinskii (Inst. Org. Chem., Acad. Sci. U.S.S.R., Moscow). *Doklady Akad. Nauk S.S.S.R.* 81, 833-5(1951).—In the 0.75–1.2-μ wavelength range, the position and the width of the OH band of PhOH (0.98 μ) in C_6H_6 soln. remain practically unchanged in a broad range of concns., 0.125–5 *M*. An almost analogous invariability of the absorption band is found in solns. of PhOH in PhMe and PhBr. This behavior indicates persistence of the hydrogen-bond assocn. of PhOH mols. even at low concns. In contrast to these solvents, dilu. of PhOH solns. in CCl_4 produces a narrowing of the OH band and its shift to shorter waves. In hexane and in cyclohexane, the position of the OH band is practically the same as in CCl_4. Evidently, in these solvents, there is no specific interaction between the PhOH and the solvent mols. N. Thon

USSR/Cultivated Plants. Potatoes, Vegetables, Melons. M

Abs Jour: Ref Zhur-Biol., No 17, 1958, 77668.

Author : Zezyulya, R.B.
Inst : All-Union Scientific-Research Institute of the Sprit and Liqueur and Vodka Industry.
Title : Duration of Testing of Clones.

Orig Pub: Byul. nauchno-tekhn. inform. Vses. n.-i. in-t spirt. i likero-vodochn. prom-sti, 1957, No 3, 65-68.

Abstract: In 1954 and 1955, in the Latvian Experiment Station, a study was conducted of the influence of different improved selections on the variation ability of mother seeds of the Foran potato variety. During a two-year test of clones, in comparison with a one-year test, a marked difference in the harvest ability

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and quality of the mother seeds was not observed. In 1955 best results (in harvest of mother seeds) were obtained in a variant with seed material from a tuber selection of a harvest of potatoes raised in summer planting. In experiments of 1955 at the Tatar Base of the institute, the excellence was brought to light of the clone selection with a two year test (in comparison to the one year) in the Soviet (120%) and Kazan (109%) varieties. In the Lorkh and Oktyabrenok varieties, good results were obtained during the one-year test of the clones. The author recommends the use of clone selections with the one-year test. In regions with a positive effect of summer plantings, it is also expedient to use tuber selections from harvest

TOZHINA, A.G.; LEZYULYA, N.V.

Manufacturing guide rolls. Obm.tekh.opyt.[MLP] no.20: 22-23 '56. (MIRA 12:11)
(Sewing machines)

ZEZYULYA,R.D.; TARANETS,M.P.; TKACHENKO,P.I.

Improving the seed and strain qualities of potatoes. Trudy VNIISP no.4:52-84 '54. (MLRA 8:12)

(Potatoes)

ANDREYEV, L.L.; VAKHMAN, V.I.; CHEPURIN, P.I.; MIROSHNICHENKO, V.F.; BOGACHEV, A.S.; VOL'VACH, Ye.Ye., agronom-entomolog; CHEBOTAREV, M.Ya., agronom-entomolog (Georgiyevskiy rayon); ZGADOV, G.K., agronom po zashchite rasteniy

Killing shield bugs in combines. Zashch.rast.ot verd. i bol. 7 no.6:30-31 Je '62. (MIRA 15:12)

1. Zaveduyushchiy Severo-Kavkazskim opornym punktom Vsesoyuznogo instituta zashchity rasteniy (for Andreyev). 2. Zamestitel' direktora, glavnyy agronom sovkhoza "Kurskoy" (for Vakhman). 3. Zamestitel' direktora, glavnyy agronom oporno-pokazatel'nogo sovkhoza "Obil'nenskiy" (for Chepurin). 4. Glavnyy inzh. sovkhoza "Kurskiy" (for Bogachev). 6. Severo-Kavkazskiy opornyy punkt Vsesoyuznogo instituta zashchity rasteniy (for Vol'vach). 7. Sovkhoz "Starodubskiy" (for Zgadov).

(Stavropol Territory--Wheat--Diseases and pests)
(Stavropol Territory--Eurygasters)

ACC NR AR6016221 SOURCE CODE: UR/0058/65/000/011/E023/E023

AUTHOR: Zgadzay, E. A.; Maklakov, A. I.

TITLE: Magnetic and electric properties of certain polymers with semiconductor properties

SOURCE: Ref. zh. Fizika, Abs. 11E165

REF SOURCE: Sb. Itog. nauchn. konferentsiya Kazansk. un-ta za 1963 g. Sekts.: paramagnitn. rezonansa, spektroskopii i fiz. polimerov, radiofiz., astron., bion. Kazan', 1964, 52-53

TOPIC TAGS: organic semiconductor, magnetic susceptibility, conjugate bond system, temperature dependence, activation energy, semiconductor conductivity

ABSTRACT: The authors measured the static magnetic susceptibility χ and the electric conductivity σ of three polymers with conjugated bonds; χ was measured in the field-intensity interval 500 - 5500 Oe at room temperature, and σ in the range 20 - 110C. It follows from the obtained data that χ varies hyperbolically with the field for all samples, while σ varies in accordance with the usual exponential law with temperature. The experimental data show also the χ changes in the same manner as the activation energy σ. S. Kubarev [Translation of abstract]

SUB CODE: 20

Card 1/1 mc UDC: 538

ACCESSION NR. AP4030367 S/0190/64/006/003/0488/0492

AUTHOR: Zhuravleva, I. P.; Zgadzay, E. A.; Maklakov, A. I.

TITLE: Certain properties of polyphenylenemine

SOURCE: Vy*sokomolekulyarny*ye soyedineniya, v. 6, no. 3, 1964, 488-492

TOPIC TAGS: organic semiconductor, semiconductor polymer, polyphenylenemine, electrical property, magnetic property

ABSTRACT: A study has been made of the electrical properties of a new semiconducting polymer — polyphenylenemine $[-C_6H_4-NH]_n$ (V. I. Nikitina, A. I. Maklakov, R. S. Balakireva, A. N. Pudovik, Sb.: Geterotsepny*ye vysokomolekulyarny*ye soyedineniya [Symposium: Heterochain High-Molecular-Weight Compounds], Izd. "Nauka," 1964, p. 87). This research was done at the Kazanskiy gosudarstvenny*y universitet im. V. I. Ul'yanov-Lenin (Kazan' State University imeni V. I. Ul'yanov-Lenin). Three types of samples were used: samples prepared without catalysts and reprecipitated (I) or nonreprecipitated (II), and samples prepared in the presence of Al_2O_3

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ACCESSION NR. AP4030367

catalyst and reprecipitated (III). D-c electrical conductivity was studied in air or at 3 x 10^{-2} mm Hg for pellet samples as a function of ambient temperature (20—270C) and preliminary heat-treatment temperature (200—300C). The temperature dependence of electrical conductivity of I shown in Fig. 1. of enclosure indicates that at about 120C (inflection) and above the electrical nature of the polymer changes probably owing to the elimination of bound water. Of all the samples, nonheat-treated I showed the highest conductivity at 20C — 10^{-7} ohm^{-1} x cm^{-1}. This conductivity dropped to 10^{-14} ohm^{-1} x cm^{-1}, and activation energy rose with heat-treatment temperature increases to 300C. Nonheat-treated II and III showed poorer conductivity than I, evidently owing to the presence of impurities. Room temperature degassing of nonheat-treated samples produced a partially irreversible rise in resistivity by a factor of 1.2—3.0 owing to the elimination of free water. The sign of the thermoelectric power for all the samples indicated p-type conductivity. The magnetic susceptibility was positive for all the samples; its value rose with rising ambient and heat-treatment temperatures. X-ray analysis indicates that order in the polymer

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ACCESSION NR. AP4030367

structure is no greater than "gas crystalline" order and deteriorates with heat treatment. The authors thank R. S. Balakireva for making the samples available. Orig. art. has: 3 figures and 2 tables.

ASSOCIATION: Kazanskiy gosudarstvenny*y universitet imeni V. I. Ul'yanov-Lenin (Kazan State University)

SUBMITTED: 16Mar63 DATE ACQ: 07May64 ENCL: 01

SUB CODE: CH,PH NO REF SOV: 007 OTHER: 002

Card 3/4

ACCESSION NR: AP4030367

ENCLOSURE: 01

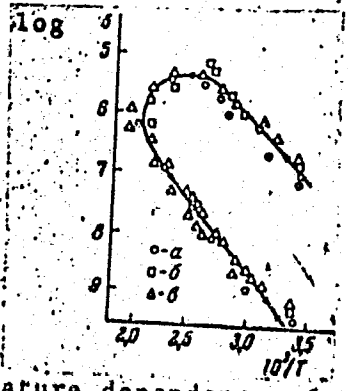

Fig. 1. Temperature dependence of conductivity (σ) of nonheat-treated I.

a, b - in vacuum; c - in air. The arrow indicates the course of the temperature change.

Card 4/4

ZGAGA, Ranko, inz.

Significance of the nonuniformity of hardness in welded metals.
Strojarstvo 5 no.3/4:3-6 '63.

ZGAGA, V.; MILETIC, B.

Physiological conditions of the irradiation induction of provirus into virus in Escherichiae coli K 12. Bul sc Youg 7 no.1/2:14 F-Ap '62.

1. Institut "R. Boskovic," Zagreb.

ZGAGA, Vera; MILETIC, Branimir

Effect of the precursors of nucleic acids and their analogues on the induction of proviruses to viruses by irradiation. Biol. glas 16 no.1:13-19 '63

1. Institut "Ruder Boskovic", Radiobioloski odjel, Zagreb.

ZGAGA, Vera; MILETIC, Branimir; ZAJEC, Ljerka

Induction of proviruses to viruses by irradiation depending on the physiological state of bacteria and the dose of irradiation. Biol glas 16 no.1:1-12 '63

1. Institut "Ruder Boskovic", Radiobiloski odjel, Zagreb.

ZGALIN, A.

Selecting the route and means in shipping the freight to Great Britain. Medun transp 8 no.6:328-429 Je '62.

ZGALIN, A.

Palletization in in road transportation. Medun transp 9 no.12: 833 D '63

ZGALIN, Antun

Supplements necessary to the prepayment clauses. Medun transp 8 no.3:204-205 Mr '62

ZGARDAN, Ye.S., mladshiy nauchnyy sotrudnik

Anoplocephalatosis in sheep in the Moldavian S. S. R.
Veterinariia 39 no.1:36-40 Ja '62. (MIRA 15:2)

1. Moldavskiy nauchno-issledovatel'skiy institut zhivotnovodstva i veterinarii.

(Sheep--Diseases and pests)
(Tapeworms)

ZGARDAN, E.S., (Junior Scientific Co-Worker, Moldavian Scientific Research Institute of Livestock Breeding and Veterinary Medicine).

"Anoplocephala infestation of sheep in the Moldavian SSR."

Veterinariya, Vol 39, no 1, Jan 1962. pp36

ZGAYEVSKIY, V.

News review. Khim.volok.no.5:78-79 '64. (MIRA 17:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut steklyannogo volokna.

CHANYSHEV, S.M.; ZGAYEVSKIY, V.E.

Temperature dependence of a chemical potential. Izv.vys.ucheb.zav.; fiz. no.4:127-134 '58. (MIRA 11:11)

1. Sibirskiy fiziko-tekhnicheskiy institut pri Tomskom gosuniversitete imeni V.V. Kuybysheva.
(Semiconductors)

L 13053-63 EWP(j)/EWT(1)/EWG(k)/EWT(m)/BDS/EEC(b)-2 AFFTC/ASD/ESD-3 79
Pc-4/Pz-4 RM/AT/IJP(C) 75
ACCESSION NR: AT3003003 S/2927/62/000/000/0198/0205

AUTHOR: Katayev, G. A.; Presnov, V. A.; Cheglokov, Ye. I.; Zgayevskiy, V. E.; Batuyeva, Ye. N.; Katayev, Yu. G.

TITLE: Effect of physicochemical conditions of surface on the parameters of germanium p-n junctions [Report of the All-Union Conference on Semiconductor Devices held in Tashkent from 2 to 7 October 1961]

SOURCE: Elektronno-dy*rochny*ye perekhody* v poluprovodnikakh. Tashkent, Izd-vo AN UzSSR, 1962, 198-205

TOPIC TAGS: germanium transistor, germanium transistor stabilization.

ABSTRACT: Complex chemical and adsorption compounds determine the concentration and position of energy levels of impurity centers and also the recombination conditions and conductivity of the semiconductor. Theoretical and experimental studies of the surface conditions reported in the article were intended to help in solving the problem of stabilization of Ge devices. Effect of the surface potential on the parameters of semiconductor devices is considered, and theoretical current-gain vs. surface charge and current-voltage curves are presented. Experiments were conducted with P-5 and P-6 open-type Ge transistors which were treated with amines (aniline, dimethylaniline, aniline black, quinoline, triethylamine)

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ACCESSION NR: AT3003003

4

or with As, Se, Mg, Zn. The amine treatment brought about the following results: (1) amine adsorption lowers the reverse collector currents; (2) it also affects the gain which increases or decreases depending on the basicity of the amine in question; (3) durability of the adsorption bond, which is connected with the semiconductor-device stability, depends on the type of amine used; (4) amine treatment makes the surface charge less negative. Detailed explanations of the above results are offered. Adsorption of elementary substances has revealed that As, Se, Mg increase the gain and decrease the collector currents; Zn has the reverse effect. Protective coating of treated surfaces by RPE-401 and EM-50 enamels was also tested. Orig. art. has: 4 figures, 8 formulas, and 3 tables.

ASSOCIATION: Akademiya nauk SSSR (Academy of Sciences SSSR) Akademiya nauk Uzbekskoy SSR (Academy of Sciences UzSSR) Tashkentskiy gosudarstvenny*y universitet Tashkent State University)

SUBMITTED: 00 DATE ACQ: 15May63 ENCL: 00

SUB CODE: 00 NO REF SOV: 003 OTHER: 004

Card 2/2

84596

S/181/60/002/010/018/051
B019/B056

9.4177

AUTHORS: Chanyshev, S. I. and Zgayevskiy, V. E.

TITLE: The Problem of the Temperature Dependence of the Chemical Potential of a Semiconductor

PERIODICAL: Fizika tverdogo tela, 1960, Vol. 2, No. 10, pp. 2461-2462

TEXT: In the introduction, the finding of the temperature dependence of the chemical potential of a semiconductor is discussed, when the neutrality condition is assumed to be satisfied. Usually the temperature dependence of the forbidden band width is not taken into account. Here, $\Delta E(T) = \Delta E(0) - \beta T$ (1) is given for the forbidden band width as temperature function, where β must be determined by electrical or optical methods. The authors calculated the temperature dependence of the chemical potential of InSb on the basis of data obtained by Oswald (Ref. 4). The results showed the importance of taking the temperature dependence of the forbidden band width into account. Calculations were carried out for

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84596

The Problem of the Temperature Dependence of the Chemical Potential of a Semiconductor

S/181/60/002/010/018/051
B019/B056

ΔE = 0.24 ev and $\beta = 2.6 \cdot 10^{-4}$ ev/deg taking into consideration the surface zone. The results are graphically represented in Fig. 1. It was shown that consideration of the temperature dependence of the forbidden band width becomes necessary first at about 300°K. It was found that consideration of the temperature dependence of the forbidden band width becomes necessary earlier than taking account of the degeneracy and the surface states. There are 1 figure and 5 references: 3 Soviet and 2 German.

ASSOCIATION: Sibirskiy fiziko-tekhnicheskiy institut Tomsk (Siberian Institute of Physics and Technology, Tomsk)

SUBMITTED: October 21, 1959

Card 2/2

CHANYSHEV, S.I.; ZGAYEVSKIY, V.E.

Effect of temperature on the chemical potential of a semiconductor. Fiz. tver. tela 2 no.10:2461-2462 '60. (MIRA 13:12)

1. Sibirskiy fiziko-tekhnicheskiy institut, Tomsk.
(Semiconductors)

SOV/139-58-4-21/30

AUTHORS: Chanyshev, S. M. and Zgayevskiy, V. E.

TITLE: Temperature Dependence of Chemical Potential (O temperaturnoy zavisimosti khimicheskogo potentsiala)

PERIODICAL: Izvestiya Vysshikh Uchebnykh Zavedeniy, Fizika, 1958, Nr 4, pp 127-134 (USSR)

ABSTRACT: The behaviour of chemical potential with temperature is evaluated theoretically with special reference to indium antimonide (InSb). The chemical potential is related to the surface density of electrons by:

$$n_{SURF} = \frac{4\pi k T m}{h^2 f_n} \ln \left[1 + \exp (\mu'^* - E_1^*)\right]$$

Here f_n is the excitation function for the nth zone, E_1^* is a 'reduced' excitation energy, related to the true excitation energy by:

$$E_1^* = E_1/kT$$

also $\mu'^* = \mu'/kT$

Card1/4

where μ' is the excess of the chemical potential over the (known) surface function u_o, thus:

$$\mu'(T) = \mu(T) - u_o(T)$$

All other symbols have their standard meanings.
In principle, then, the problem is to enumerate the number of electrons in the surface band. The balance of electrons between various bands at any given temperature is represented by:

$$(N_D - N_L) + N_R = (N_a - N_L') + N_p + N_{SURF}$$

where: $N_D - N_L$ is the number of positive holes in the donor band;
N_R is the number of positive holes in the fundamental band;
$N_a - N_L'$ is the number of electrons in the acceptor band;
N_{SURF} is the number of electrons in the surface band;
N_p is the number of electrons in the conduction band.

Temperature Dependence of Chemical Potential

All electrons and positive holes obey accurately the Fermi law, although this may - and does at high temperatures - prove an unnecessary refinement over the Maxwell law. Using, then, the Fermi (or Maxwell) law the distribution of electrons between the various bands is readily evaluated as a function of temperature, and this leads immediately to N_{SURF}, and hence the chemical potential. The quantity μ'^* is plotted against T for various-sized InSb crystals: it varies from $-\infty$ at $0^\circ K$ to small positive values (< 5) at $1500^\circ K$; for a given temperature μ'^* decreases with the crystal dimension. Since the number of conduction electrons is evaluated in the course of the calculation an incidental result of this work is to relate the chemical potential to the electrical conductivity. There are 7 figures and 8 references, 5 of which are Soviet, 3 English.

ASSOCIATION: Sibirskiy fiziko-tekhnicheskiy institut pri Tomskom gosuniversitete imeni V. V. Kuybysheva
(Siberian Physico-Technical Institute of Tomsk State University)

ZGENTI, V.S.

Struct + Mech.

Zgenti, V. S. Application of functional analysis in the theory of bent thin elastic shells of small curvature. Doklady Akad. Nauk SSSR (N.S.) 91, 217-219 (1953). (Russian)

Let the middle surface of the bent shell be the surface $z=f(x, y)$, where f has continuous second partial derivatives in a domain G_0 with boundary L_0, and write, in symbolic form, the equations of equilibrium of the shell in the form $AU=q$, which is a system of three second-order partial differential equations for the displacement vector $U=(u, v, w)$ of the shell. The boundary-value problem considered consists of this system of partial differential equations in G_0, plus the boundary conditions $u=v=w=\partial w/\partial \nu=0$ on L_0. The existence of a solution is shown by proving that, in a suitable Hilbert space whose elements are "displacement vectors" satisfying the boundary conditions, the operator A is positive definite. An imbedding theorem of S. L. Sobolev [Certain applications of functional analysis in mathematical physics, Izdat. Leningrad. Gos. Univ., 1950; these Rev. 14, 565] guarantees the uniform convergence, in G_0+L_0, of a minimizing sequence of the equivalent variational problem to the solution of the differential problem. *J. B. Diaz* (College Park, Md.).

Mathematical Reviews
Vol. 15 No. 2
Feb. 1954
Mechanics

Mathematical Reviews
Vol. 15 No. 3
March 1954
Mechanics

Zgenti, V. S. Application of functional analysis in the theory of thin elastic spherical shells. Soobščeniya Akad. Nauk Gruzin. SSR 13, 257–263 (1952). (Russian)

The author employs the method used in existence theorems in elasticity by K. O. Friedrichs [Ann. of Math. (2) 48, 441–471 (1947); these Rev. 9, 255] to establish the existence of the solution, obtainable by Ritz' method, of a certain boundary-value problem in the theory of thin elastic spherical shells. The method consists in showing that a certain operator A, defined in a linear subset M of a Hilbert space which is naturally associated with the boundary-value problem, is positive definite, i.e.

$$(Au, u) \geqq \gamma^1 \|u\|^2, \quad \gamma^1 > 0,$$

for u in M, where $(\ ,\ )$ and $\|\ \|$ are the scalar product and the norm in the Hilbert space. [See S. G. Mihlin, Direct methods in mathematical physics, Gostehizdat, Moscow-Leningrad, 1950.] *J. B. Dias* (College Park, Md.).

EH
6-11-54

ZGEREBATAT'YEV, F. A.

Zgerebatat'yev, F. A. - "Some problems of the irrigation economy of the south of Kazakhstan," Izvestiya Akad. nauk Kazakh. SSR, No. 65, Economics Series, Issue 1, 1949, p. 36-55

So: U-3566, 15 March 53, (Letopis 'Zhurnal 'nykh Statey, No. 13, 1949)

ZGIERSKI, J.

Meeting of the authorities of public administration of agriculture with students of the Warsaw Polytechnic College. Przegl geod 35 no.9:396-397 S '63.

ZGIERSKI, J.; KOWALEWSKI, A.; BRYKNER, H.

"Problem of the Instruction of Fishermen." p. 13, (GOSPODARKA RYBNA, Vol. 6, No. 2, Feb. 1954. Warszawa, Poland.)

SO: Monthly List of East European Accession, (EEAL), LC, Vol. 3, No. 12, Dec. 1954, Uncl.

ZAMELLO, Jerzy, doc. dr.med.; ZGLICZYNKSI, Jan M.;

The blood-peroxidase activity in women in the perinatal period. Ginek. Pol. 36 no.2:147-151 F '65

1. Z II Kliniki Poloznictwa i Chorob Kobiecych Akademii w Krakowie (Kierownik: doc. dr. med. J.Zamello).

ZGIERSKI, J.

For a wide discussion on the publication plans and on the evaluation of the publications. p. 507. GOSPODARKA WODNA, Warszawa. Vol. 15, no. 12, Dec. 1955.

SOURCE: East European Accessions List (EEAL) Library of Congress Vol. 5, no. 8, August 1956.

ZGIET, Jozef

Remarks on the secondary structure of the Skole unit near Brzozow. Kwartalnik geol 6 no.4:803-804 '62.

1. Karpacka Stacja Terenowa, Instytut Geologiczny, Warszawa.

MORGIEL, Janina; ZGIET, Jozef

Upper Chalk in the Dydnia Saddle (Sanok Carpathians). Kwartalnik geol 5 no.4:993-994 '61.

1. Karpacka Stacja Terenowa, Instytut Geologiczny, Warszawa.

ZGIET, Jozef

New data on the menilite-Krosno series of the Skole unit in the Rzeszow-Sanok Carpathians. Kwartalnik geol 5 no.4:995-996 '61.

1. Karpacka Stacja Terenowa, Instytut Geologiczny, Warszawa.

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Category : USSR/Radiophysics - Radio-wave reception I-7

Abs Jour : Ref Zhur - Fizika, No 1, 1957, No 1937

Author : Zgirskis, V.
Title : Determination of the Envelope of a Pulse

Orig Pub : Tr. Kaunassk. politekhn. in-ta, 1955, 4, 241-246

Abstract : Examination of the passage of a pulse through a linear system having a bandwidth that is much smaller than the carrier frequency of the pulse. The frequency characteristic of the system is replaced by the characteristic of the tuned oscillating circuit. The problem is solved by operational methods. The oscillograms cited show that the method has an adequate accuracy.

Card : 1/1

SOV/112-59-1-1859

Translation from: Referativnyy zhurnal. Elektrotekhnika, 1959, Nr 1, p 266 (USSR)

AUTHOR: Zgirskis

TITLE: Determining the Circuit of a Twopole From a Given Pulse Response

PERIODICAL: Tr. Kaunassk. politekhn. in-ta, 1957, Vol 7, pp 111-118 (Original in Lithuanian, summary in Russian)

ABSTRACT: A method is suggested for determining the circuit of a twopole whose impulse characteristic is known. The method is based on expanding the known impulse characteristic into a DC component and exponential components. Determining the parallel branches of the unknown twopole is made by analyzing and comparing the components with impulse characteristics of elementary twopoles; substituting an equivalent twopole for 2 parallel branches is permitted. The method is also applicable in cases where one of the components represents a damping sine curve; in this case, a twopole consisting of series-connected

Card 1/2

SOV/112-59-1-1859

Determining the Circuit of a Twopole From a Given Pulse Response

resistance, inductance, and capacitance is introduced into the circuit. A numerical example is cited of determining a twopole circuit when its impulse characteristic is known.

N.A.T.

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