

S/137/62/000/001/175/237
A006/A101

AUTHOR: Galinkin, B. Ye.

TITLE: Corrosion resistance of cast-iron sheets subjected to cold deformation

PERIODICAL: Referativnyy zhurnal. Metallurgiya, no. 1, 1962, 80, abstract 11564 (V sb. "Polucheniye izdeliy iz zhidk. met. s uskoren. kristallizatsiyey, Moscow - Kiyev, Mashgiz, 1961, 297 - 298)

TEXT: Corrosion resistance of cast-iron sheets increases with a higher degree of deformation. At 25% deformation and recrystallization annealing the corrosion resistance of the sheets increases by 4 times (as compared with non-deformed sheets). This is explained by the smoothening of the sheet surface by contraction. A further rise of the sheet deformation (up to 100%) does almost not increase its corrosion resistance, since already at 40% deformation the granular graphite becomes laminar. Thus, the optimum degree of deformation of cast-iron sheets with subsequent annealing, is 25%. There are 6 references.

[Abstracter's note: Complete translation]

N. Yudina

Card 1/1

GALINKIN, B.Ye., kand.tekhn.nauk; KURIS, I.Ye.

Promote building-up by the weaving-arc method for reconditioning worn-out parts. Mashinostroitel' no.3:20-21 Mr '63.

(MIRA 16:4)

(Electric welding)

GALINKIN, Boris Yevgen'yevich; KUMIS, Iosif Yevdokimovich;
RES ETNIKOV, N.S., red.

[Repairing the parts of lumbering machines by building up
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mashin naplavoiki i svarkoi. Moskva, Lesnaia promyshlen-
nost', 1964. 84 p. (MIRA 18:3)

GALENKIN, B.Ye., kand. tekhn. nauk; BENDIN, A.S., inzh.; KOZHEVNIKOV, B.I.,
inzh.

Studying the surface roughness in the machining of compressed
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(MIRA 18:11)

1. Voronezhskiy lesotekhnicheskiy institut.

GALINOV, K. Z.

Galinov, K. Z. - "Equilibrium equations for the theory of elasticity with final permutations, and their application to the theory of membranes", Izvestiya Kazansk. filiala (Akad. nauk SSSR), Seriya fiz.-matem. i tekhn. nauk, Issue 1, 1948, p. 25-46, - Bibliog: 13 items.

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TL230.G25

GALINOV, M.F., laureat Stalinskoy premii; ROZENBERG, L.I., inzhener;
AFANAS'YEV, L.L., kandidat tekhnicheskikh nauk, redaktor.

[ZIS-150 automobile] Avtomobil' ZIS-150. Izd. 2-e, ispr. 1 dop.
Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1952.
107 p. [Microfilm] (MIRA 7:8)
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Analysis of streptococcal strains isolated during scarlet fever epidemic in Zagreb from 1949-1952. Higijena, Beogr. 5 no.6: 369-377 1953.

1. Zavod za mikrobiologiju Medicinskog fakulteta i Centralni higijenski zavod. Zagreb.
(SCARLET FEVER, epidemiol.
Yugosl.)

RHINER, Zeljka, dr.; GALINOVIC-WEISGLASS, Maja, dr.

Symptomatology and bacteriology of children diarrhea caused by
Escherichia coli. Lijec. vjes. 76 no.7-8:355-360 July-Aug 54.

1. Iz Dječjeg odjela Bolnice dr. M.Stojanovica i Bakteriološkog odjela
Gradskog higijenskog savoda u Zagrebu.

(DIARRHEA, bacteriol.

E. coli in child.)

(ESCHERICHIA COLI, infect.
diarrhea in child.)

GALINOVIC-WEISGLASS, Marija, Dr.

Specific serological types of *Escherichia coli* in etiology of enterocolitis in children; results of one year's research in the city of Zagreb. Higijena, Beogr. 7 no.1-4:151-159 1955.

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(COLITIS, in inf. & child.

serologic specificity of *E. coli* strains in enterocolitis (Ser))

(*ESCHERICHIA COLI*, infect.

enterocolitis in child., serologic specificity of strains (Ser))

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Vaginal presence of fungi. Lijec vjes 82 no.12:961-968 '60.

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Ag-0 '64.

IVANOV, K.Ye., doktor geogr. nauk, prof.; ROMANOV, V.V., kand. tekhn. nauk; SIDORKINA, L.M., kand.geogr. nauk; SHIFMAN, N.M., inzh.; BAVINA, L.G., inzh.; GALINOVSKAYA, I.A., inzh.; KOZHINA, Z.M., red.; CHEPELKINA, L.A., red.; SHATILINA, M.K., red.; BRAYNINA, M.I., tekhn. red.

[Hydrological calculation in the drainage of bogs and swampy soils] Gidrologicheskie raschety pri osushenii bolot i zabolochen-nykh zemel'. Pod red. K.E.Ivanova. Leningrad, Gidrometeoizdat, 1963. 447 p. ___[Supplement no.9. Maps] Prilozhenie no.9. Karty.

(MIRA 16:12)

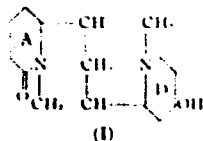
1. Leningrad. Gidrologicheskiy institut.
(Drainage)

BRO, E.L.; GALINOVSKAYA, S.V.; KRASIN, A.Ya.; OBRATSOVA, V.I.

Fertilizer in flower cultivation. Biul.Glav.bot. sada no.17:103-105
'54. (MIRA 8:3)

(Floriculture) (Fertilizers and manures)

The constitution of hydroxylupanine. Position of the hydroxyl group. F. Galinovsky, M. Böhm, and K. Riedl (Univ., Vienna). *Monatsh.* **81**, 77-82 (1950). The exhaustive chromic acid oxidation of hydroxylupanine (I) and hydroxysparteine (II) showed the C₁ position of the



HO group in ring B. The quant. detn. of the succinic acid produced by the oxidation of I and II as compared with that produced by similar oxidation of sparteine (III) and lupanine (IV) showed none produced by oxidation of ring B of I and II. Also partition chromatography (BuOH-HOAc-H₂O and PhOH-0.25% NH₃ as solvent) of the amino acid mixt. from the oxidation showed H.N. (CH₃)₂CO₂H (V) by the ninhydrin test from III, V and glycine from IV, while I gave β-alanine and glycine but no trace of V. V, β-alanine, and glycine were detected from II. The anhydrohydroxylupanine and anhydrohydroxysparteine produced the same amino acids as I and II, resp. M. M. Böhm

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GALLINOVSKY, F

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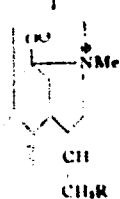
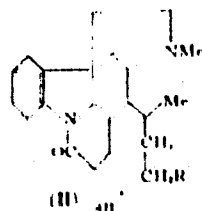
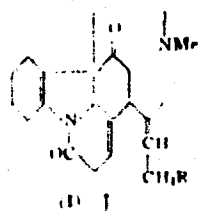
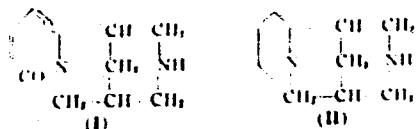
The monohydrochloride and mono-*N*-oxide of lupanine
 V. (Gallinovsky and G. Kalus (Univ. Vienna). Monatsch. 83,
 928-31 (1911).—When *Lupinus albus* is fractionated at 0.01
 mm., $C_{17}H_{27}ON_2 \cdot HCl$ (I) sublimes above 190° (m. 263-5°),
 and later absorbs H_2O from air to form the dihydrate (II),
 m. 128-9°. In contrast to Couch who had isolated trihydrate
 (III) (C.A. 31, 6666) and thought it to be the di-*N*-oxide of
L-lupanine (IV), the authors concluded III is the mono-*N*-
 oxide (V). I was hydrogenated in 5% HCl with PtO_2 as
 catalyst to give sparteine (picrate, m. 206°), which, when
 oxidized with $K_2Fe(CN)_6$ and recrystd. from petr. ether
 (m. 99-102°) was found to yield a mixt. of *l*- and *d*-hydroxy-
 sparteine. The di-HCl salt (VI) of IV obtained by treating
 pure IV with concd. HCl in ac.- Me_2CO and crystd., filtered,
 washed with Me_2CO , and dried over H_2SO_4 , m. 184°. When
 VI was heated at 0.01 mm., I sublimed at 181-200° and m.
 266-7°, to form II when recrystd. from Me_2CO-H_2O . I
 can also be obtained (30% yield) by exposing IV to $CHCl_3$
 for 1 month and treating as above. V was prepd. by treat-
 ing 1 g. IV with 10 cc. 3% H_2O_2 ; after 7 days the excess of
 H_2O_2 was destroyed by Pd-black, the Pd removed, and the
 traces of H_2O or to crystalline V, but the picrate, sulfate, and
 perchlorate were obtained, and, when hydrogenated cata-
 lytically, proved beyond doubt that V has the structure of a
 mono-*N*-oxide.

Gethard Aufberger

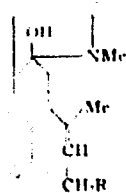
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[Handwritten] Organic Chemistry 10

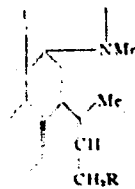
Synthesis of tetrahydrodeoxycytidine. F. Galimovsky, O. Vogl, and W. Moros (Univ. Vienna): *Monatsh.* 83, 1



2H



2H
100



[Handwritten] over

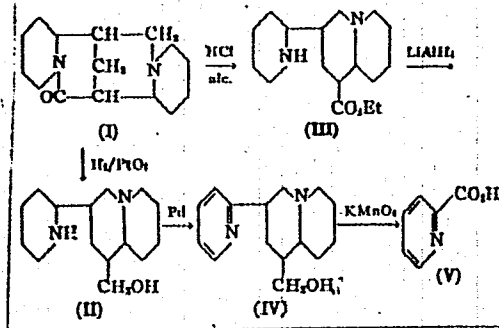
2428 (1952) -- The structure of cytoline (I) was proved by synthesis of the closely related tetrahydrofuroxycytaline (II). 1,3-Dicarbethoxy-4H-quinolizin-4-one, m. 132-3° (from alc.) [prepd. in 60% yield from Et 2-pyrrolone acetate and EtOCH₂C(CO)Et] (5.00 g.), in 35 ml. dioxane and 180 ml. alc. hydrogenated 22 hrs. at 20° and 720 mm. with 0.943 g. PtO₂ in 30 ml. alc. gave a colorless soln. from which was isolated a viscous oily mist. (III) of stereoisomeric 1,3-dicarbethoxyoctahydro-1H-quinolizin-4-one, partly cryst. on standing. Trituration with Et₂O and petr. ether and recrystn. from Et₂O gave 1 racemate, m. 83-1°. Crude III (10.04 g.) in 250 ml. Et₂O, added dropwise to 5 g. LiAlH₄ in 20 ml. Et₂O and refluxed 3 hrs., yielded 0.9 g. (92%) octahydro-1,3-bis(hydroxymethyl)-1H-quinolizine (IV), b.p. 144-75°. IV with Na chloroacetate gave a salt, m.

137-9°. By heating 4.7 g. IV and 100 ml. aq. HBr, satd. at 0°, in a sealed tube 10 hrs. on the steam bath, followed by evapn. *in vacuo*, the oily octahydro-1,3-bis(bromomethyl)-quinolizine-HBr (V) was isolated. The free di-HBr compd. from V, b.p. 145-50°, could be obtained as a colorless oil but resinified on standing. Crude V in 100 ml. abs. alc. satd. at 0° with dry NH₃, heated 4 hrs. on the steam bath in a sealed tube, the product extensively concd. *in vacuo*, acidified with HCl, the soln. evapd. to dryness, the residue, treated with KOH, steam-distd., and the distillate acidified and concd., gave an HCl salt which yielded 1.60 g. (18% based on IV) of a basic oily mist., b.p. 225-25°, of the 2 racemates of II; 1.50 g. of the mist. in 100 ml. alc. with 4.00 g. pyruvate in 100 ml. alc. immediately pptd. an oily perlate, and further heating gave a single racemic II perlate (VI), m. in *vacuo* 227-0° (decompn.) (from alc. H₂O), which depressed the m.p. (231-2°) of the perlate of II derived from natural I. VI (2.0 g.) decompd. with the calcd. amt. of 2 N HCl and the free base extd. and distd. twice, gave 0.624 g. of 1 racemate of II, which, treated with 0.630 g. *D*-tartaric acid in 10 ml. MeOH and cooled with natural II *D*-tartrate deposited in the course of several hrs. 180 mg. of (+)-II *D*-tartrate, m. 223-5° (decompn.) (from MeOH), identical with the natural II *D*-tartrate, as shown by mixed m.p. and $[\alpha]_D^{25}$ 37.9° (in H₂O). Free synthetic (+)-II (84 mg.) was prepd. from 100 mg. synthetic *D*-tartrate and proved by the following to be the same as the II derived from natural I: $[\alpha]_D^{25}$ 36.8° (abs. alc.); *dipicrate*, m. 230-40° (decompn.) (from alc. H₂O); *dipicronate*, m. 230-40° (decompn.) (from alc. H₂O); *N-Ac deris.*, b.p. 130-40°, m. 70-1° (from abs. alc.).
Marie Mercury Roth

GALINOVSKY, F.

Chemical Abst.
Vol. 48 No. 5
Mar. 10, 1954
Organic Chemistry

dem 2
The constitution of apyllin. F. Galinovsky and E. Jarisch. *Monatsh.* 34, 100-204 (1933). The structure (I) of apyllin (I) is confirmed by the indicated stepwise degradation. Catalytic reduction of I with PtO_2 in HCl gives a



25% II, m. 154°, besides *d*-sparteine. II has 1.01 active H atoms (Zerewitinoff). I is cleaved by dil. HCl to aphyllinic acid which with alc. HCl gives the ester (III) (C.A. 37, 3436). III (0.49 g.), dried over P₂O₅ in 30 ml. dry Et₂O added dropwise to 0.23 g. LiAlH₄ (73%) in 20 ml. dry Et₂O formed a ppt. and the soln. became yellow-orange; the mixt. was refluxed 2 hrs., decompd. with ice water, made strongly alk., exhaustively extd. with Et₂O, and the Et₂O evapd. giving 0.44 g. of mostly cryst. material, 0.38 g. of which dissolved in hot Me₂CO; concn. of the soln. and addn. of Et₂O gave 0.23 g. II, m. 152°; the mother liquors gave a further 0.09 g. [total yield, 0.33 g. (76%)]. II (0.14 g.) and 0.70 g. finely ground Pd-sponge in a small tube were heated to 180°; during the first 10 min. a vigorous evolution of H was observed, and after 1 hr. at 190° the mixt. was cooled, some sublimate washed back with Me₂CO, again heated 20 min. to 190-200°, and the product distd., giving 0.05 g. of a fraction b. 170-200°, which on crystn. from Et₂O-Me₂CO gave IV, m. 136°. To 43 mg. IV in 7 ml. H₂O and 7 ml. 2*N* H₂SO₄ was added 20 ml. 1% KMnO₄ in 2-ml. portions (decoloration was fast at first); the mixt. was heated on a water bath, another 18 ml. KMnO₄ then 1-ml. portions until decolorization required 45 min. (total 43 ml.), the MnO₂ filtered, washed with water, the soln. made acid with HCl, concd. *in vacuo*, the residue taken up in water, a drop of NH₄OH added, the (CO₂H)₂ pptd. with hot CaCl₂ soln., filtered off, the acidified soln. again concd. *in vacuo*, made strongly acid with concd. HCl, extd. 45 hrs. with ether, the aq. soln. concd. to a small vol. made exactly neutral to Congo acid, again extd. 2 days with ether, and the cryst. ether residue sublimed *in vacuo* at 100-105° to give V, m. 138°. J. VanAllan

GALINOVSKY, F.

The structure of laburnine. F. Galinovsky, O. Vogl, and H. Nevadba (Univ. Vienna). *Monatsh.* 83, 913-17 (1954). To confirm the previously proposed (C.A. 44, 1484b) structure of laburnine (I) as 1-hydroxymethylpyrrolizidine, it is converted by 2 methods into (+)-pseudo-hellotridane (II). First, the *p*-toluenesulfonate of I was prepd. by allowing 0.3 g. I in 2.46 ml. dry C₂H₅N to stand overnight at 0° with half of a soln. of 0.3 g. *p*-MeC₆H₄SO₃Cl in 3.7 ml. dry C₂H₅N, and to stand 48 addnl. hrs. at room temp. with the remainder, distg. off the C₂H₅N *in vacuo*, acidifying the aq. soln. of the residue with 5 ml. 2*N* HCl, extg. with ether, making the aq. layer alk., drying its concd. ether ext. over Na₂SO₄, adding 80 ml. abs. ether, and refluxing the soln. 7 hrs. with 0.25 g. LiAlH₄ (Karrer, *et al.*, C.A. 40, 6591d) to give, after the usual decompn. and purification, 50-60% II, bp 66-75° (air bath temp.); [α]_D²⁰ 17.1° (c 8.2; EtOH); picrate, m. and mixed m.p. 104-5° (decompn.). Second, 0.27 g. I treated at 0° with 20 ml. satd. aq. HBr was heated 6 hrs. at 100° in a sealed tube, the solvent distd. off *in vacuo*, and the residual 1-bromomethylpyrrolizidine-HBr hydrogenated over PtO₂ in aq. soln. made weakly alk. with NH₃ to give from the ether ext. after 6 hrs. II, identical to the preceding. A similar procedure changed lupinine through its *p*-toluenesulfonate into lupinate, bp 80-5° (air bath temp.), [α]_D²⁰ -8.8° (c 8.68; MeOH) (Karrer and Vogl, C.A. 25, 960); picrate, m. 185-6°; picronate, m. 238-7° (decompn.). A previous

prepn. (O., *et al.*, *loc. cit.*) of pyrrolizidine involved the oxidation of I to laburnic acid (III), and its immediate decarboxylation without isolation. The oxidation of I is here repeated to give almost 100% crude III, purified by sublimation *in vacuo* and recrystn. from EtOH-Et₂O to give III.H₂O, m. 215-16°, [α]_D²⁰ 44.2° (c 4.03; H₂O); picrate, m. 175-6° (cf. for the optical antipode, Menschikov, C.A. 41, 3022a). Since the configuration of II is known, this confirmation of the relationship between I and II establishes not only the structure of I but also its configuration as having the CH₂OH group *cis* to the H of the methine group (Leonard and Felley, C.A. 44, 9953b). H. S. French

(2) *MA*

GALINOWSKI, J.; WYSOKINSKI, T.

Some remarks on the terminology of shafts for journal bearings. p.323.
NORMALIZACJA (Polski Komitet Normalizacyjny) Warszawa
Vol. 23, no. 5, May 1955

So. East European Accessions List

Vol. 5, No. 1

Jan. 1956

GALFOWSKI, J.

The damage of the reverse gear of the Star automobile. p. 160.

(MOTORYZACJA, Vol. 12, No. 6, June 1957, Warszawa, Poland.)

SO: Monthly List of East European Accessions (EEAL) Lc. Vol. 6, No. 10, October 1957, Uncl,

POLAND

KRYNSKI, Stefan; BECLA, Eugeniusz; GALINSKI, Janusz and SAMET, Alfred; Regional Center for Typing of Staphylococci (Krajowy Ośrodek Typowania Gronkowcow) and Department of Microbiology of Medical College of the Academy of Medicine (Zakład Mikrobiologii Wydziału Lekarskiego AM) Gdansk.

"Strains of Staphylococcus aureus from the Area of the Gdansk Clinics and Hospitals."

Warsaw, Medycyna Doswiadczalna i Mikrobiologia, Vol 18, No 1, 1966; pp 1-5.

Abstract [English summary modified]: Analytical tabulation and discussion of the sources of isolation of 1052 strains of coagulase-positive S. aureus. Phage groups are reviewed, with discussion of causes for prevalence of some pathogenic strains in specific environments around patients. Table, diagram, 5 Polish including 1 unpublished and 6 Western references.

GALINOWSKI, J.

TECHNOLOGY

PERIODICAL: MECHANIK, VOL. 31, NO.7, July 1958.

GALINOWSKI, J. High-frequency current applied to the babbitting of bearing linings. p. 335.

Monthly List of East European Accessions (EPAI) LC Vol. 8, No. 4
April, 1959, Unclass.

GALINOWSKI, Jan, mgr inz.

Personality, role and tasks of the foreman in enterprises of
the machine building industry. Mechanik 35 no.12:679-680 D '62.

GALINOWSKI, S.

4003 .

547.657 . 542.044

Galinowski S., Świątły S. On Bromine Derivatives of 1,1'-Dinaphthyl-8,8'-bicarbonic Acid.

„O pochodnych bromowych kwasu 1,1'-dwunafitylo-8,8'-dwukarbo- nowego". Przemysł Chemiczny. No. 3, 1955, pp. 140-141, 1 fig.

An attempt to obtain bromine derivatives of 1,1'-dinaphthyl-8,8'-bicarbonic acid by means of direct bromination of this acid. It was established that the bromination proceeds sluggishly in nitrobenzene at a temperature of 130° in presence of iodine as a catalyst. It does not take place at all in chlorobenzene, carbon tetrachloride, carbon disulphide and even in a surplus of bromine used as a solvent. By treating the 4,4'-dibromo-1,1'-dinaphthyl-8,8'-bicarbonic acid obtained with 25 per cent oleum, an orange dye — 4,10-dibromonaphthanthrone was obtained in an 88 per cent theoretical yield.

Distr: 4E2c(j)/4E3d

4-2-may
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Bromine derivatives of 1,1'-binaphthyl-8,8'-dicarboxylic acid
S. Galinowski and S. Swiatly (Inst. Barwn. i Poligrafiki, Lodz, Poland). *Przemysl Chem.* 11, 140-1 (1955).
10 Brominate directly 1,1'-binaphthyl-8,8'-dicarboxylic acid (I), the latter is dissolved in PhNO₂, iodine (1% of the amt. of I) is added as a catalyst, then Br in 7% excess. The reaction mixt. kept 2 hrs. at 130° yields orange crystals of 4,4'-dibromo-1,1'-binaphthyl-8,8'-dicarboxylic acid (II). Treatment of II at 20° with H₂SO₄ (contg. 25% free SO₃) results in ring closure and yields 85-88% 4,10-dibromanthron. Werner Jacobson

BS
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S/081/63/000/002/064/088
B162/B102

AUTHORS: Galinowski, Stanisław, Światły, Stanisław

TITLE: Obtaining 1-amino-4-bromanthraquinone-2-sulfo-acid

PERIODICAL: Referativny zhurnal. Khimiya, no. 2, 1963, 410, abstract
2N69 (Pol. patent 45480, Feb. 28, 1962)

TEXT: 1-aminoanthraquinone-2-sulfo-acid is brominated in the presence of $C_6H_5NO_2$. To save Br_2 , 50% of its quantity may be substituted by Cl_2 . For instance, to a mixture of 1 part of 1-aminoanthraquinone with 10 parts of $C_6H_5NO_2$ at $140^\circ C$, 0.6 part of $HOSO_2Cl$ is added dropwise. The reaction mass is poured out into 40 parts of water, a mixture of 0.36 part of Br_2 with 1 part of $C_6H_5NO_2$ is added dropwise at $\sim 10^\circ C$, and 0.16 part of Cl_2 is introduced. The aqueous layer is decanted and 2 parts of $NaCl$ is added to it. The residue is filtered off and dried. 1.7 parts ($\sim 100\%$) of 1-amino-4-bromanthraquinone-2-sulfo-acid is obtained... [Abstracter's note: Complete translation.]

Card 1/1

GALINSKA, H.

POLAND/Cultivated Plants. Fruits. Berries.

M

Abs Jour : Ref Zhur-Biol., No 15, 1958, 68337

Author : Wierszyllowski, J., Galinska, H.

Inst : Przybrod Nursery.

Title : The Effect of Cover Plants on the Freezing and Further Growth of Seedlings in a Nursery.

Orig Pub : Roczn. nauk rolniczych, 1956, 47, No 1, 65-77

Abstract : In 1953, in the Przybrod Nursery (Poland), the following cover crops were sown between the rows of an apple and pear nursery: beans (*Faba vulgaris*), mustard (*Sinapis alba*), phacelia (*Phacelia tanacetifolia*), and a mixture of pulse crops and barley. All the cover crops were left uncut through the winter. After the

Card : 1/2

GALINSKA, Ye. B.

GALI SKA, Ye. B. - "Data on the Study of Nutrition in Schoolchildren's Homes of the General Type Found in the City of Moscow." Sub 26 Dec 52, First Moscow Order of Lenin Medical Inst. (Dissertation for the Degree of Candidate in Medical Sciences).

SO: Vechernaya Moskva January-December 1952

WALIKOW, E.

Painting designs on glassware for overlay use. Buletyn Sztor. p. 1.
SZKLO I CERAMIKA, Warszawa, Vol. 6, no. 5, May 1955.

SO: Monthly List of East European Accessions, (SEAL), LC, Vol. 4, no. 10, Oct. 1955,
Uncl.

GALINSKA, Z.

Better methods of cooperation among designers. Biuletyn Wzor.

p. 1
Vol. 6, no. 9, Sept. 1955
SZKLO I CERAMIKA
Warszawa

SO: Monthly List of East European Accessions (EEAL), LC, Vol. 5, no. 3
March 1956

GALINSKA, Z.

Remarks concerning stonewares exhibited at the Leipzig Spring Fair
1961. Szklo 12 no.10:323-324 0 '61.

AID P - 2951

Subject : USSR/Electricity

Card 1/1 Pub. 29 - 1/35

Authors : Freydin, V. I. and A. M. Galinskaya, Engs.

Title : Adjusting the pulverized fuel system of boilers

Periodical : Energetik, 5, 1-4, My 1955

Abstract : At one of the electric power stations burning culm, an adjustment was made which effected considerable economies in coal pulverizing. The authors describe the measures adopted in the rebuilding and regulation of the ball mills and present the results obtained in tabulated form. Two tables, 2 drawings.

Institution : None

Submitted : No date

GALINSKAYA, G.

An interesting discovery. Neftnik 2 no.4:34 Ap '57. (MLRA 10:5)
(Paleontology)

GALINSKAYA, L.Ya., student

Economic efficiency of using rod bolting in the Noril'sk coal
mine. Nauch. trudy MGI no.43:57-62 '62. (MIRA 16:9)
(Noril'sk region--Mine roof bolting)

TIMOFEYEV, B.I., inzh.; SMIRNOV, B.G., inzh.; GALINSKAYA, M.N., inzh.

Testing experimental equipment for the automatic control of guides
in vertical mine shafts. Ugol' 40 no.12:58-59 D '65.

(MIRA 18:12)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut gornoy
geomekhaniki i marksheyderskogo dela.

GALINSKAYA, M. S.

GALINSKAYA, M. S.: "Determination of the optimum times for flooding spring and winter wheat based on physiological indicators." Min Higher Education USSR. Odessa Agricultural Inst. Kiev, 1956. (Dissertations for the Degree of Doctor in Agricultural Sciences).

SO: Knizhnays Letopis' No. 22, 1956

IOVENKO, N.G.; GALINSKAYA, M.S.

Moisture conditions of soils as related to new cultivation
practices. Trudy UkrNIGMI no.14:46-55 '58. (MIRA 12:5)
(Flowing) (Soil moisture)

MIKHAYLOVA, N.I.; GALINSKAYA, M.S.

Method of forecasting the harvesting time for sugar beets.
Trudy UKrNIGMI no.22:55-56 '61. (MIRA 14:6)
(Ukraine—Sugar beets—Harvesting)

BEL'TYUKOVA, K.I. [Bel'tiukova, K.H.]; GALINSKAYA, M.S. [Halyns'ka, M.S.]

Effect of preplanting treatment of tomato seeds with arenarin on the increase in plant resistance to *Corynebacterium michiganense*, a causative agent of bacterial cancer. *Mikrobiol. zhur.* 27 no.2:48-52 '65. (MIRA 18:5)

1. Institut virusologii i mikrobiologii AN UkrSSR.

GALINSKI, Jan, mgr inz.

Economic advantages derived from the introduction of daylight-saving time in 1958 and 1959. Energetyka Pol 14 no.4:101-105 Ap '60.

(EEAI 9:10)

(Poland-- Daylight saving)

(Poland--Industrial management)

KRYNSKI, Stefan; BOROWSKI, Jerzy; WROCZYNSKI, Marian; NIEMIRO, Aleksandra;
BECLA, Eugeniusz; GALINSKI, Janusz; SZYMANSKA-MALOTTKE, Renata

Significance of air microbiology in the epidemiology of hospital
infections in a surgical clinic. Polski przegl. chir. 33 no.7/8):
888-889 '61.

1. Z Zakladu Mikrobiologii AM w Gdansku Kierownik: prof. dr S.Krynski
i z II Kliniki Chirurgicznej AM w Gdansku Kierownik: prof. dr K.Debicki.
(AIR microbiol) (HOSPITALS)
(SURGERY OPERATIVE compl)

GALINSKI, Janusz; STĘŻALKOWSKA, Helena

Evaluation of the usefulness of a selective medium with neomycin for the isolation of Streptococci. Med. dosw. mikrob. 14 no.3:233-238 162.

1. Z Zakładu Mikrobiologii AM w Gdansk.
(STREPTOCOCCUS culture) (CULTURE MEDIA)
(NEOMYCIN)

GALINSKI, K.

GALINSKI, K.

Quick method of determining the hydroxyl number. p. 258. (PRZEMYSŁ ROLNY I
SPOŻYWCZY, Vol. 8, No. 7, July 1954, Warszawa, Poland)

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

Galinski, KAROL

Meel V

Washing powders (made) on the basis of synthetic products. Karol Galinski. Inst. Pieluchowia i Higieny, Gdansk, Poland. *Prace Inst. i Lab. Higieny i Pieluchowia Rolnego i Sporywarczego S.* No: 3, 23-24 (1971).—Data are tabulated on 31 different washing powders, prepd. under lab. conditions, with reference to their constituents, active washing substances (AWS), water hardness, cleaning efficiency, and chem. compn. (amt. of fatty acids, alkali acids, Mercapto-sulfonic acids, Na_2CO_3 , Na_2SO_3 , $\text{Na}_2\text{S}_2\text{O}_4$, and H_2O). Two types of washing powder comtn.: 40% AWS (which includes 7% Na Metaphosphate), tested in better qualities (cleaning efficiency, loss of fatty acids when dissolved, mineralization of the washed fabrics in comparison with a 40% soap prepn. and the remaining powder). The technology of these washing powders is described and a method for testing the washing powder and other cleaning solns. is worked out. 15 references. *Wiertnicki*

GALINSKI, K

Sulfones obtained from kogasin by means of an iron catalyst. p. 128

PRZEMYSŁ SPOZYWCZY. (Stowarzyszenie Naukowo-Techniczne Inżynierów i Techników Przemysłu Spożywczego) Warszawa, Poland
Vol.9, no.3, Mar. 1955

Monthly list of East European Accessions (EEAI) LC, Vol.9, no.1, Jan. 1960

Uncl.

POLAND/Chemical Technology - Fats and Oils. Waxes. Soaps.
Detergents. Flotation Agents.

H-25

Abs Jour : Ref Zhur - Khimiya, No 24, 1958, 83149

Author : Galinski, K., Bojanowska, A.

Inst : Institute badawcz.

Title : The Soaps with DDT. I. The Technology and Analysis of
Soaps Containing DDT. Disinfectant Properties of Soap
with DDT.

Orig Pub : Prace inst. i lab badawcz. przem. roln. i spozywcz., 1956,
6, No 2, 109-124, 125-135.

Abstract : I. A technological scheme is worked out for the prepa-
ration of a household soap (HS) with a 5% DDT (I). The
chemical, physical chemical and insecticidal properties of
such soaps were studied. An analytical method was develo-
ped for determining the content of I in HS, the method

Card 1/3

- 26 -

GALINSKI, Ryszard; SOKOLOWSKI, Lech

Output circuit of a high-power magnetron. Przegl elektroniki
4 no. 5/6: 323-328 My-Je '63.

1. Zjednoczenie Przemyslu Elektronicznego i Teletechnicznego,
Warszawa.

GALINSKI, Tadeusz

Case of fibrinous bronchitis. Polski tygod. lek. 13 no.42:1638-1640
20 Oct 58.

1. (Z I Kliniki Chorob Wewnętrznych Akademii Medycznej W Lublinie;
kierownik: prof. dr med. M. Kedra) Adres: Lublin, ul. Biernackiego
5 I Klin. Chor. Wewn. A. M.

(BRONCHITIS, case reports
fibrinous (Pol))

MESJASZ, Kazimierz, inż.; GALINSKI, Tadeusz, inż.; DZIUBEK, Feliks

Joining mill fans by common channel or mill fan chambers with blast
air fan. Gosp paliw 11 Special issue no.(95):42-43 Ja '63.

1. Elektrociepłownia, Żeran.

SALINIKI, Wbygniew, 197.

Ho to get the ship's sidelights. Teen goop marks 15 no. 3:
59-60 F'65.

1. Follen Ship Register, Gdansk.

ATROSHCHENKO, V.I.; YEFIMOV, V.T. [Yefimov, V.T.]; LITVINENKO, I.I.
[Lytvynenko, I.I.]; ALEKSEYEV, V.N. [Aleksejev, V.N.];
GALINSKIY, A.G. [Halyns'kyi, A.H.]

Investigating the process of the production of concentrated
nitric acid in an autoclave with reflux packing rings. Khim.
prom. [Ukr.] no.3:35-39 JLS '63. (MIRA 17:8)

1. Khar'kovskiy politekhnicheskyy institut (for Atroshchenko,
Yefimov, Litvinenko). 2. Dneprianskiy khimicheskyy kombinat
(for Alekseyev, Galinskiy).

ACC NR: AP6031790

SOURCE CODE: UR/0064/66/000/007/0038/0040

AUTHOR: Atroshchenko, V. I.; Yefimov, V. T.; Litvinenko, I. I.; Alekseyev, V. N.;
Kutovoy, V. V.; Abrosimova, A. M.; Galinskiy, A. G.; Golius, L. M.

ORG: none

TITLE: Film-type autoclave for the production of concentrated nitric acid

SOURCE: Khimicheskaya promyshlennost', no. 7, 1966, 38-40

TOPIC TAGS: nitric acid, nitrogen compound, chemical engineering, chemical reactor,
chemical plant equipment

ABSTRACT: A film-type autoclave (liquid reagents flow over the packing in form of a film) packed with aluminum coil coated with a fluorinated resin for production of concentrated nitric acid is described and its advantages over the conventional flooded-type autoclave are pointed out. The schematic of the autoclave is shown in figure 1. 98.4% nitric acid was obtained in this film-type autoclave at 25 atm, $N_2O_4:H_2O$ ratio of 8.5-8.9, and a contact time of 17 min. At 40 atm and $N_2O_4:H_2O = 8.1-8.7$ and 17 min contact time, the acid concentration was equal to 98.7-99.2%. The oxygen consumption was close to the stoichiometric amount. It was found that the film-type autoclave is twice as effective as the flooded-type autoclave and that it compared very favorably from the standpoint of corrosion. Orig. art. has: 4 figures, 2 formulas.

UDC: 661.565 : 66.023.7

Card 1/2

ACC NR: AP6031790

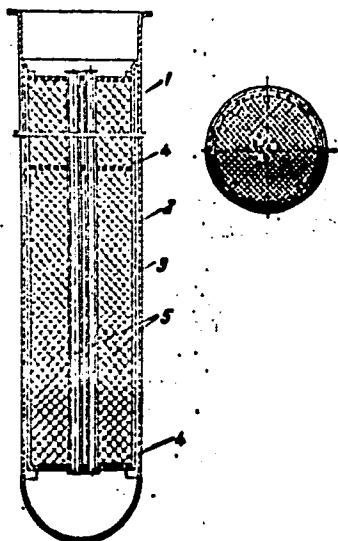


Fig. 1. 1--vessel; 2--shell; 3--coated aluminum coil; 4--grid; 5--concentrating tubes.

SUB CODE: // 1207/ SUBM DATE: none

Card 2/2

GALINSKIY, L.; KUZYAYEV, L. student II kursa; VORONOV, P.I. dotsent, kand.
fiziko-matematicheskikh nauk

Investigating the heat conductivity of rocks in connection with
research on the thermal method of boring. Nauch. rab. stud.
GNSO MGI no.7:61-68 1959. (MIRA 14:5)

(Boring)
(Rocks—Thermal properties)

GALINS'KIY, L. [Halyns'kyi, L.]

Visiting with my home town friend, the astronaut. Znan. ta pratsia
no.3:15 Mr '63. (MIRA 16:10)

GALINSKIY, P.P., inzh.

Evaluation of voltage quality and statistical method for calculating energy losses in a line with distributed load. Izv. vys. ucheb. zav.; energ. 6 no.5:8-15 My '63. (MIRA 16:7)

1. Tomskiy ordena Trudovogo Krasnogo Znameni politekhnicheskii institut imeni S.M.Kirova.

(Electric power distribution)

CHIZHEVSKIY, V., inzh.-polkovnik; IVANOV, P., inzh.-kapitan; GALINSKIY, V., inzh.

Light simulator. Voen. vest. 39 no.11:85-87 N '59.

(MIRA 13:3)

(Shooting, Military)

CHIZHEVSKIY, V., inzh.-polkovnik; BIRYUKOV, N., inzh.-podpolkovnik; GALINSKIY,
V., inzh.

Determining the exact site of a hit. Voen.vest. 39 no.4:82-87 Ap
'60. (MIR: 14:2)

(Targets (Military science))

MAKHNOVSKIY, I., kand. sel'skokhoz. nauk; GUZEYEV, G., nauchnyy sotrudnik;
GALINSKIY, V.; OCHERETENKO, Ye.; VOLGINA, T.; MULLIN, S.;
SAFIULLIN, M., aspirant; BABASYAN, A.

Use of toxic chemicals. Zashch. rast. ot vrod. i bol. 10
no.8:21-24 '65. (MERA 18:11)

1. Sredneaziatskiy institut lesnogo khozyaystva, Tashkent (for Makhnovskiy, Guzeyev).
2. Zaveduyushchiy Kabardino-Balkarskoy toksikologicheskoy laboratoriyey, Nal'chik (for Galinskiy).
3. Zaveduyushchiy kafedroy zashchity rasteniy Kamenets-Podol'skogo sel'skokhozyaystvennogo instituta (for Ocheretenko).
4. Starshaya laborantka Kamenets-Podl'skogo sel'skokhozyaystvennogo instituta (for Volgina).
5. Nachal'nik Tatarskoy stantsii zashchity rasteniy (for Mullin).
6. Kazanskiy pedagogicheskiy institut (for Safiullin).
7. Zaveduyushchaya Irkutskoy toksikologicheskoy laboratoriyey Vsesoyuznogo nauchno-issledovatel'skogo instituta zashchity rasteniy, Irkutskaya oblast' (for Babasyan).

GALLOPA, A.A.

SOV/32-59-9-5/13

Utkin, I.A., Isayev, M.I., Agapchev, M.I., Agafonov, V.G., and Gallopa, A.A.

The Utilization of Small Turbo-Drills for Core Drilling in Ravedka 1 okhrana nedr, 1959, Nr 9, pp 29-32 (USSR)

PERIODICAL:
ABSTRACT:

According to experimental data obtained from L.A. Pogarsky, G.M. Pokrovskiy, A.A. Minin, and I. Pogarskiy, mechanical drilling speed, measured with an in-crease in the number of rotations of the drilling bit, does not exceed 200-400 rotations per minute even with ZIP types of drilling, indicating this limitation being due to the necessity of rotating the drive-pipes together with the drill bit. This limitation is not observed with the use of turbo-drills. Thus the drilling productivity, which is increased only when turbo-drills were used, in which case the drive-pipes do not rotate. Commercial drilling speed of turbo-drills is 1.8 times higher than that of rotary drilling and 2 times higher than with the ZIP-1200A rig. The use of the

Card 1/3

turbo-drill ZSM-5 for structural drilling in Bashkirlya increased the drilling speed 5 times. The number of rotations per minute was also cut down. For instance, the break-down coefficient in the treat Bashspadnetermalvedka (Bashspadnetermalvedka Trust) decreased from 4.78 to 1.28 in comparison with rotary drilling. The small-sized drills were not widely used for the core-sample drilling, as only 28% of the core was satisfactorily extracted, when turbo cutters KPD-5 (127 mm) or KPD-5* were used. The problem was satisfactorily solved, when the ZIP developed and the ZSM-5 turbo-drills. This drill is provided with special bits with a hard alloy cutting edge. The formula for the calculation of the cutter's according to the formula

$$M = \frac{Hyd}{C}$$

Card 2/3

where Hyd is the hydraulic load on the axis of the turbo-drill in kg and C - permitted load for one cutter in kg. The RSM-5* turbo-drill was tested on the Svichitskaya plashchad' (Svichitskaya plashchad' - vostochnaya) (the Svichitskaya plashchad' of the Vostochno-Kavkazskaya Trust) in the Ravedka 1 okhrana nedr. With this drill 50 to 80% of the cores were extracted at a speed of 3.3 m/hour whereas only 20 to 30% of the cores were extracted with the use of drive-pipe with the milling-cutter head SDK-Nr 8 and at a speed of 1.16 m/hour. It was also found that the mentioned drilling bits can be used for rock of up to VII category of drillability. The bits quickly wear out in harder rocks at a speed of 500-900 rotations per minute. There are 2 tables, 2 diagrams and 1 Soviet reference.

ASSOCIATION: VITR

Card 3/3

GALIOTOV, S.A., inzh. (Khar'kov)

Rheostat tests of diesel locomotives should be performed
in the open air. Elek.i topl.tiaga 3 no.9:45 S 159.
(MIRA 13:2)

(Diesel locomotives--Testing)

GALIS-HELEJOWSKI, AWA

"Typy Salmonella typhi striedzalne za pomoca bakteriofagow i ich wlasnosci biochemiczne. Wroclaw, Nakl. Wroclawskiego Tow. Naukowego, 1951. 11p. (Wroclawskie Towarzystwo Naukowe. Sprawozdania 4, 1949. Dodatek 6) (Types of Salmonell typhi found with the help of bacteriophages and their biochemical peculiarities)."

SO: East European Accessions List, Vol 3, No 8, Aug 1954

Galis, A.

DEYLL, L.; GALIS, A.

Epidemiologic significance of typing of *Salmonella typhi* with typhoid bacteriophage anti-Vi. *Med.dow.Mikrob.* 2 no.2:274-279 1950.
(CJML 20:6)

1. Summary of the report given at 10th Congress of the Polish Microbiological and Epidemiological Society held in Gdansk, Sept. 1949. (Wroclaw)

GALIS-MALEJCZYK, A.; ZWIERZ, C.

Treatment of experimental animals with typhoid bacteriophage anti-
Vi. Med.dosw.Mikrob. 2 no.2:257-259 1950. (CLML 20:6)

1. Summary of the report given at 10th Congress of the Polish Mi-
crobiological and Epidemiological Society held in Gdansk, Sept.
1949. (Wroclaw.)

GALIS-MALEJCZYK, A.

Types of *Salmonella typhi* in Poland and their biochemical properties. *Med.dow.Mikrob.* 2 no.2:259 1950. (CML 20:6)

1. Summary of the report given at 10th Congress of the Polish Microbiological and Epidemiological Society held in Gdansk, Sept. 1949. (Wroclaw.)

GALIS, A.

Bacteriophages. *Pediat. polska* 26 no.4:438-449 Apr 1951 (CINL 21:1)

1. Of the National Institute of Hygiene, Warsaw.

BRILL, J.; GALIS, A.

Studies on bacteriophages for Salmonella dublin in feces in cattle.
Med. dozw. mikrob., Warsz. 4 no. 3:317-318 1952. (CLML 23:3)

1. Summary of work progress presented at 11th Congress of Polish
Microbiologists held in Krakow May 1951. 2. Warsaw.

GALIS, A.; LILL-SZYSZKOWICZ, I.

Effect of bacteria on agglutinating capacity of erythrocytes.
Med. dosw. mikrob., Warsz. 4 no. 3:354-355 1952. (GLML 23:3)

1. Summary of work progress presented at 11th Congress of Polish
Microbiologists held in Krakow May 1951. 2. Warsaw.

GALIS, A.; NIEWIAROWSKI, S.; KOWALSKI, E.

Synthesis and action of streptokinase. Polski tygod. lek. 8 no.36:
1244-1246 7 Sept 1953. (CML 25:4)

1. Of the Institute of Hematology (Director--A. Hausman, M.D.), Warsaw.

GALIS, Anna; BUJALSKA, Halina; SERAFINSKA, Daniela

Bactericidal action of preserved blood with albucid and rivanol.
Med.dow.mikrob.7 no.3:287-298 1955.

1. Z pracowni bakteriologicznej Instytutu Hematologii.

(SULFANAMIDES,

sulfacetamide in preserved blood, bactericidal eff.
of blood with sulfacetamide & rivanol)

(ACRIDINE DYES,

6,9-diamino-2-ethoxyacridine lactate in preserved
blood, with sulfacetamide, bactericidal eff. of blood)

(BLOOD BANKS,

preserved blood with rivanol & sulfacetamide, bacte-
ricidal eff.)

EXCERPTA MEDICA Sec 4 Vol 12/1 Med. Micro. Jan 59

391. THE VALUE OF THIOLYCOLATE MEDIUM FOR STERILITY TESTS OF STORED BLOOD AND BLOOD PRODUCTS - Wartość podłoża z tioglikolanem dla kontroli jowości krwi konserwowanej i produktów krwiopochodnych - Galis A. and Serafińska D. Z Pracowni Bakteriologii i Hematologii. Warszawa - MED. DOSW. MIKROBIOL. 1957, 9/4 (425-432)
The growth of 52 strains of Staphylococci and 13 strains of Gram-negative bacilli was studied in media with or without Na thioglycolate. The growth of some staphylococcal strains was inhibited by Na thioglycolate, which suggests that these media should not be used exclusively in sterility tests. Dubiski - Zabrze-Rokitnica

Iz Pracowni bakteriologicznej Instytutu Hematologii w Warszawie

GALISHEV - V. S.

USSR

936. On the theory of the electric conduction of semiconductors. S. V. VONSOVSKII and V. S. GALISHEV. Zh. Eksper. teor. Fiz., Vol. 27, No. 5 (11) 584-95 (1953) In Russian.

A study of the temperature dependence of the conductivity of semiconductors with an atomic (i.e. not ionic) crystal lattice, based on the many-electron "polar" model of a homopolar crystal with inclusion of excited states ("excitons") according to S. P. Shubin and S. V. Vonsovskii (1935-6). Using the formalism of 2nd quantization it is shown that, if the conductivity of semiconductors is essentially due to the excited electronic states, its temperature dependence has the usual form $\sigma = \sigma_0 \exp(-\Delta E/kT)$, where ΔE is a quantity determined by the sum of the energy of the electron excitation and the width of the "exciton" conduction zone. This can be regarded as a justification for the result of the one-electron theory of semiconductors.

W. J. SWIATECZKI

BB

GALISHEV, V. S.

Y-4346

21

On the Theory of Exciton-Excited States. V. S. Galishev and S. V. Vongovskiy (Pizika Metallov i Metallofizika, 1956, II, (3), 393-405).—[In Russian]. Bogolyubov's theory of exciton excitation is generalized. Hence it is shown that the quantum state of a system of weakly excited electrons in a crystal can be treated as a collection of individual excitons. G. and V. finally compare their theory with that of Franke on the transformation of light in solids (Phys. Rev., 1951, (II), 37, 17).—A. F. B.

21

Phys

Y-4346

GOLISHEV V.S.

Category : USSR/Solid State Physics - Solid State Theory. Geometric E-2
Crystallography

Abs Jour : Ref Zhur - Fizika, No 3, 1957, No 6488

Author : Seidov, Yu.H., Golishov, V.S.

Title : Concerning the Problem of Allowance for the Interaction
Between the States of Two Bands in a Single-Electron Scheme

Orig Pub : Zh. eksperim. i teor. fiziki, 1956, 30, No 4, 695-700

Abstract : Within the band approximation, the results by N.N. Bogolyubov have been generalized to include the case where excited states are present. The following expression was derived for the self-energy of the electron

$$E = U_0 + \frac{1}{2} \sum \{ W_{\sigma_1}(k) + W_{\sigma_2}(k) + [(W_{\sigma_1}(k) - W_{\sigma_2}(k))^2 + 4W_{\sigma_1}(k)W_{\sigma_2}(k)]^{1/2} \} \hbar_{k_{\sigma_1}} + \frac{1}{2} \sum \{ W_{\sigma_1}(k) + W_{\sigma_2}(k) - [(W_{\sigma_1}(k) - W_{\sigma_2}(k))^2 + 4W_{\sigma_1}(k)W_{\sigma_2}(k)]^{1/2} \} \hbar_{k_{\sigma_2}}$$

Card : 1/2

AUTHORS: Vonsovskiy, S.V., Cherepanov, V.I. and Galishev, V.S.

TITLE: On the theory of exciton absorption of light. (K teorii eksitonogo pogloshcheniya sveta). ^{126-2-3/30}

PERIODICAL: "Fizika Metallov i Metallovedeniye" (Physics of Metals and Metallurgy), Vol.IV, No.2, 1957, pp.205-211 (U.S.S.R.)

ABSTRACT: The theory of Frenkel as generalised by Galishev and Vonsovskiy (1) is applied to the investigation of the mechanism of the absorption of light in crystals. The probability is calculated of a quantum transition of a system of electrons from a ground state to an excited state under the action of light. It is shown that the optical properties of such a system at absolute zero of temperature are not fully analogous to the properties of a system of isolated atoms. In the cases where exchange effects and pair processes of excitation can be neglected, the present theory reduces to Frenkel's theory. In accordance with refs. 1 and 6, a crystal lattice with "frozen" positive ions is considered in which non-uniformities in electron density are absent, and each crystal node has a valency electron over the closed shells. It is assumed that each such electron can be either in a ground state or in an excited state. Spin characteristics

Card 1/3

On the theory of exciton absorption of light. (Cont.)
of electrons are not considered and the excited states
under consideration are taken to be non-degenerate.
The probability of transition of the system from a normal
to an excited state is shown to be given by

$$P_{\nu}(t) = \left| \frac{2\pi W_0}{h} \right|^2 \cdot t \cdot \delta(\nu_1 - \nu)$$

where $P_{\nu}(t)$ is the probability of absorption of a quantum
 $h\nu$ in time t , $\nu_1 = (E_1 - E_0)/h$ is the transition of
frequency, and W_0 is given by (cf. Frenkel: Wave
Mechanics, Pt.II) :-

$$W_0 = \frac{\sqrt{N} e i}{\mu c} (\vec{A}_0 \cdot \vec{I}_{0,1}) \cdot a(0)$$

Card 2/3

The spectral coefficient of absorption of light is shown
to be given by (cf. Seitz, E, Ref.2):

$$\eta(\nu) = \frac{4\pi\sigma(\nu)}{c} = \frac{2\pi e^2 n}{\mu^2 c h \nu} (\vec{n}_0 \cdot \vec{I}_{0,1}) a(0)^2 \cdot \delta(\nu_1 - \nu).$$

There are 8 references, 6 of which are Slavic.

On the theory of exciton absorption of light. (Cont.)

SUBMITTED: October 30, 1956.

126-2-3/30

ASSOCIATION: Ural State University imeni A. M. Gorky;
Institute of Metal Physics, Ural Branch Ac.Sc., U.S.S.R.
(Ural'skiy Gosudarstvennyy Universitet imeni
A. M. Gor'kogo; Institut Fiziki Metallov Ural'skogo
Filiala AN SSSR).

AVAILABLE:

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AUTHORS: Cherepanov, V. I. and Galishev, V. S. 126-5-3-21/31
TITLE: The Exciton Theory of Light Absorption and Dispersion
(K teorii eksitonnoy dispersii i pogloshcheniya sveta)
PERIODICAL: Fizika Metallov i Metallovedeniye, 1957, Vol 5, Nr 3,
pp 547-8 (USSR)

ABSTRACT: A short note extending some calculations using Frenkel
excitons; instead of perturbation theory plus second
quantization, density matrices are used. Light
scattering and dielectric permittivities ϵ can then be
calculated at the same time. Eq.(1) gives the dispersion
formula for the conductivity σ , eq.(2) the same for ϵ
(symbolism not explained; see previous paper (Ref.1)).
The formulae differ from Seitz's only in a frequency-
independent factor.
There are 5 references, all of which are Soviet.

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ASSOCIATION: Ural'skiy gosudarstvennyy universitet imeni
A. M. Gor'kogo (Ural State University imeni A. M. Gor'kiy)

SUBMITTED: March 11, 1957

1. Light--Theory 2. Light--Absorption 3. Light--Scattering

AUTHOR: GALISHEV, V.S., OGIYEVETSKIY, V.I., ORLOV, A.B. PA - 2285
TITLE: On the Theory of the Multiple Scattering of γ -Rays. (Teoriya mnogokratnogo rasseyaniya gamma-luchey, Russian).
PERIODICAL: Uspekhi Fiz.Nauk, 1957, Vol 61, Nr 2, pp 161-216 (U.S.S.R.)
Received: 4 / 1957 Reviewed: 5 / 1957

ABSTRACT: The present paper gives a systematical survey of the methods of the theoretical investigation and computation of the multiple scattering of gamma rays hitherto dealt with by various publications. The authors here confine themselves on the investigation of γ -quanta with energies of from 0,05 to 10 MeV. The paper is arranged as follows:
I. Introduction: The main processes of interaction of gamma radiation with matter, the number of quanta, intensity and the factor of increase.
II. The equation of radiation transfer: The equation of transfer and the development of photon density according to LEGENDRE polynomials. The energy spectrum and angular distribution of photons in an unlimited homogeneous medium.
III. The method of polynomial disintegration. Results and comparison with the experiment: The bases of the method of polynomial developments, plane isotropic source, punctiform isotropic source. Numerical results and comparison with experiment.
IV. The approximation of small angles: The energy spectrum of scattered gamma radiation in great penetration depths: Introductory remarks: The equation of the transfer of radiation in the approximation of small

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On the Theory of Multiple Scattering of γ -Rays.

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scattering angles. The solution of this transfer equation. The evolution of angular distribution with increasing penetration depth. The state of organic radiation equilibrium. The energy spectrum of gamma radiation in large penetration depths in the approximation of small angles. Consideration of angle deviations. Semi-asymptotic method by SPENCER.

V. Other methods of approximation for the computation of multiple scattering: The MONTE-CARLO method. Direct approximation methods. The method of successive passage through thin layers.

By the methods of computation discussed here the general rules governing the propagation of gamma radiation in thick absorbers can be determined and the spatial distribution and energy spectrum of the scattered gamma radiation can be computed with sufficient accuracy for all cases occurring in practice. There follows a voluminous index of publications at the end of this survey. (34 illustrations and 4 tables)

ASSOCIATION: Not given
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ARKHAROV, V.I.; GALISHEV, V.S.; KLOTSMAN, S.M.; TIMOFFEYEV, A.N.

Feasibility of autoradiographic detection of nonuniform concentrations
of adsorption origin. Issl. po zharopr. splav. 3:296-302 ' 58.

(MIRA 11:11)

(Alloys--Metallography) (Adsorption)

67749

ID. 9100

SOV/126-8-5-1/29

AUTHORS: Galishev, V.S., Orlov, A.N. and Shvarte, I.A.TITLE: An Estimate of the Conditions Necessary for the
Autoradiographic Detection⁹ of Adsorptional
Irregularities in ConcentrationPERIODICAL: Fizika metallov i metallovedeniye, Vol 8, 1959, Nr 5,
pp 641-647 (USSR)

ABSTRACT: Arkharov et al (Ref 1) have discussed the autoradiographic method employing β -active isotopes⁹. They have considered a specimen in the form of a plane-parallel plate having a thickness b in the direction of the y axis, and infinite in the direction of the x and z axes. A part of the plane $x=0$, defined by the planes $y=0$ and $y=b$, forms an infinitely thin intercrystallite zone on which β -active atoms become adsorbed. It is then necessary to calculate the electron density $F(\gamma, r)$ for electrons having energy E . Bethe et al (Ref 2) have shown that if the condition given by Eq (1) is satisfied, then the determination of the function F , which can be found by solving a diffusion equation, is particularly simple. In Eq (1), $\lambda(E)$ is the mean free path of an electron having energy E (Ref 3). Under this condition,

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Detection of Adsorptional Irregularities in Concentration

the electron density emitted by the intercrystallite zone near the surface of the specimen and at the distance x from the zone, is given by Eq (2), where s_0 is the number of electrons emitted per unit area of the zone. The electron density emitted uniformly over the volume of a grain by distributed sources, and measured at the surface of the specimen, is given by Eq (3), where v_0 is the number of electrons emitted per unit volume of the grain. The spectral density of the electron flux at $y=c$ and $y=b$ is given by Eq (4). Galishev et al (Ref 3) have treated the problem more exactly and considered the systems $Al+0.1\%Ag^{110}$ and $Cu+0.1\%Sb^{124}$. They assumed that the concentration of the active component in the intercrystallite zone is 10% and that the criterion for the detection of this zone is that the difference between the blackening of the photographic plate due to the zone and the background should be greater than 0.1 (Eq 5). The blackening of the photographic plate is proportional to the radiation dose D which is given by Eq (6) where μ is the absorption coefficient of the

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An Estimate of the Conditions Necessary for the Autoradiographic
Detection of Adsorptional Irregularities in Concentration

photographic emulsion and $c'(E)$ is the probability of absorption of an electron with energy E during the formation of the latent image. The present paper gives a critical discussion of the criteria derived in the above papers and takes into account the form of the function $n(x)$ and the dependence of c on energy. A condition for optimum blackening of the photographic plate is derived (Eq 13). If the function $c(E)$ is assumed to be linear (there are no experimental data to contradict this) then the condition takes the form of Eq (14'). The integrals involved in this condition have been computed by the authors for electrons between 0.02 and 0.35 Mev for aluminium, copper and lead, and specimen thicknesses of 10^{-4} , 10^{-3} and 10^{-2} cm. The results obtained are summarized in one figure and two tables. There are 9 references, of which 3 are English and 6 are Soviet. 4

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SOV/126-6-5-1/29
An Estimate of the Conditions Necessary for the Autoradiographic
Detection of Adsorptional Irregularities in Concentration

ASSOCIATION: Institut fiziki metallov AN SSSR
(Institute of Physics of Metals, Academy of Sciences
of the USSR)

SUBMITTED: July 28, 1959

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S/520/59/000/022/005/021
E032/E514

AUTHORS: Galishev, V.S. and Shvarte, I.A.

TITLE: Autoradiographic Detection of Adsorptional Concentration Irregularities in Alloys

PERIODICAL: Akademiya nauk SSSR. Ural'skiy filial, Sverdlovsk. Institut fiziki metallov. Trudy, no.22, 1959, pp.37-49

TEXT: A large number of papers have appeared on the non-uniform distribution of alloy components in which the distribution was investigated by the autoradiographic method, using radioactive tracers (A. Kohn, Ref.1; S. Z. Bokshteyn et al., Ref.2; M.Ye.Drits et al., Ref.3 and S. F. Yur'yev and B. I. Bruk, Ref.4). In all these papers the nonuniform distribution of the alloy components was detected by introducing radioactive traces into the alloy or by activating the alloy with subsequent autoradiographic recording of the labelled component. V. I. Arkharov (Refs.5 and 6) working at the Laboratoriya diffuzii Instituta fiziki metallov AN SSSR (Diffusion Laboratory of the Institute of Physics of Metals, AS USSR) showed that equilibrium irregularities in the concentration of dissolved impurities exist in alloys and are associated with structural irregularities of the material. The formation of such

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concentration irregularities is due to the fact that the excess energy of structural irregularities and, in particular, inter-crystallite transition zones, is considerably reduced when these irregularities are enriched with one of the components of the alloy. This leads to the appearance of very small regions of modified concentration (100 to 1000 Å) and the change in the concentration in these regions as compared with the average composition of the alloy may be of one or two orders of magnitude (V. I. Arkharov, N. N. Skornyakov, Ref.7). The phenomenon of internal adsorption has been investigated by V. I. Arkharov (Ref.8) from the point of view of the possibility of its autoradiographic detection. In the present paper the problem is considered on the basis of the following simplified model. The specimen under investigation is in the form of a plane-parallel plate of finite thickness b in the y direction and lying on the xz plane. The intercrystallite zone is assumed to lie on the $x = 0$ plane and other intercrystallite zones are taken to be sufficiently distant to be ignored. Moreover, it is assumed that the concentration of the radioactive atoms in

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the specimen as a whole was only a few tenths of a percent, while the concentration in the intercrystallite zone was of the order of 10%. The electron density $F(x,y,z,\tau)$ at a point (x,y,z) satisfies the equation

$$\frac{\partial F}{\partial \tau} = \Delta F + S(x,y,z) \delta(\tau) \quad (1)$$

where S is the density of electrons emitted by the available sources and $\delta(\tau)$ is the Dirac δ -function. Eq.(1) is solved subject to the boundary conditions

$$-\frac{\partial F}{\partial y} + hF = 0 \quad (y = 0); \quad \frac{\partial F}{\partial y} + hF = 0 \quad (y = b) \quad (2)$$

where the parameter h is a proportionality coefficient. When $hb \ll \pi^2/2$, the solution of Eq.(1) is quite simple (Arkharov, Ref.8). Moreover, if the electrons are emitted only by the intercrystallite zone, which is looked upon as a plane isotropic source of electrons, then on the surface of the specimen

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$$F(x, 0, \tau) = F(x, b, \tau) = \frac{S_0}{\sqrt{2\tau}\sqrt{2\pi}} \exp\left(-\frac{2h'\tau}{b}\right) \cdot \exp\left(-\frac{x^2}{2(\sqrt{2\tau})^2}\right) \quad (4)$$

If the electrons are emitted by radioactive atoms, which are uniformly distributed in the specimen as a whole, then in the absence of the intercrystallite zone one has for any x on the surface of the specimen

$$F'(0, \tau) = F'(b, \tau) = \frac{v_0}{\sqrt{2\pi}} \exp\left(-\frac{2h'\tau}{b}\right) \quad (5)$$

The total electron density on the surface of the specimen is then given by the sum of the contributions represented by Eqs. (4) and (5). The ratio of the maximum electron density (at the point $x=0$) to the "background" electron density is given by

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$$\frac{F(O, b, \tau)}{F'(b, \tau)} = \frac{S_o}{v_o} \frac{1}{\sqrt{2\tau}} \quad (6)$$

where S_o and v_o is the number of electrons emitted by the sources per second in the intercrystallite zone and the specimen as a whole, respectively. In Ref.8 only qualitative conclusions were obtained about the intensity of the β -radiation on the surface of the specimen and, moreover, the magnitude of the coefficient h in Eq.(2) was not estimated. In the present paper the coefficient h is computed and an attempt is made to estimate the possibility of detection of intercrystallite boundaries in some specific cases. It is shown that the parameter h is inversely proportional to the mean free path and thus plays the role of an absorption coefficient for the electrons. It is a function of the energy of the electrons and the properties of the scattering material. In particular, it is shown that

$$h(E) = \frac{3}{\lambda(E)} \quad (18)$$

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The theoretical values of h for electron energies between 0.051 MeV and 10.22 MeV are given in Table 1 for Al, Cu and Pb. The calculated values of h are based on data given by H.A. Bethe et al. (Ref.9). A calculation is then carried out of the total number of electrons leaving a unit area of the surface of the specimen per unit time due to the electrons emitted by the specimen as a whole ("background") and the electrons emitted by the inter-crystallite zone. It is assumed that the parameter h is constant. The ratio of the latter two quantities at $x = 0$, which is denoted by Δ is then shown to be given by

$$\Delta = \frac{s_0 \sqrt{v} \sum_i g_i \sqrt{h_{ei}} \left(2 \sqrt{\frac{h_{ei} v_{ei}}{b}} \right)}{s_0 \sqrt{v} \sum_i g_i \left(1 - e^{-\frac{2 h_{ei} v_{ei}}{b}} \right)} \quad (31)$$

where g_i refers to the fraction of the electrons emitted by the Card 6/8

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i-th line and h_{oi} is the corresponding value of h (assumed constant). The values of Δ are then calculated for the following two specific cases:

Case I. Specimen as a whole 99.9% Al + 0.1% Ag¹¹⁰; intercrystallite zone 90% Al + 10% Ag¹¹⁰.

Case II. Specimen as a whole 99.6% Cu + 0.4% Sb¹²⁴; intercrystallite zone 90% Cu + 10% Sb¹²⁴.

It is shown that the parameter Δ can be used as a criterion for deciding whether a particular irregularity can be detected. If $\Delta > 1.1-1.5$, then a thin layer enriched with radioactive atoms can be detected by the autoradiographic method. However, the value of b must be sufficiently small. For example, in the case of the Al-Ag alloy, the thickness should be less than 10 μ , while for the Cu-Sb alloy it should be smaller still. The best results can be obtained if the following points are observed: a) the specimen thickness should be as small as possible, b) elements with low Z numbers should be used, c) β -particles employed should have as low an

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energy as possible and d) the regions of internal adsorption should have as large dimensions as possible. Acknowledgments are expressed to A. N. Orlov for his interest in this work. There are 1 figure, 5 tables and 19 references: 14 Soviet and 5 non-Soviet.

Table 1

Scattering material	Values of $h(E_0)$, cm^{-1}							
	Values of E_0 , MeV							
	0.051	0.102	0.255	0.511	1.022	2.555	5.110	10.22
Al	$1.16 \cdot 10^3$	$3.68 \cdot 10^2$	$1.07 \cdot 10^2$	$2.7 \cdot 10^1$	9.55	2.24	0.945	0.27
Cu	$8.33 \cdot 10^3$	$2.6 \cdot 10^3$	$7.05 \cdot 10^2$	$1.91 \cdot 10^2$	$6.7 \cdot 10^1$	$1.53 \cdot 10^1$	6.3	1.82
Pb	$3.1 \cdot 10^4$	$9.25 \cdot 10^3$	$2.0 \cdot 10^3$	$6.82 \cdot 10^2$	$2.27 \cdot 10^2$	$5.51 \cdot 10^1$	$1.83 \cdot 10^1$	5.41

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21 (8)

AUTHORS:

Orlov, A. N., Galishev, V. S., Taluts, G.G. SOV/20-126-5-17/59

TITLE:

Calculation of the Multiple Scattering of Gamma Rays of the Uranium and Thorium Series (Raschet mnogokratnogo rasseyaniya gamma-luchey semeystv urana i toriya)

PERIODICAL:

Doklady Akademii nauk SSSR, 1959, Vol 126, Nr 5, pp 975 - 978 (USSR)

ABSTRACT:

This article presents several new methods and results of the calculation of multiple scattering of gamma rays ($E > 0.5$ Mev) of the elements of the uranium and thorium series. The experimental data utilized is mentioned in references 2-4 and listed in table 1. The authors first investigated a point source in an unlimited medium. The authors calculated the spectra of the scattered radiation of a monochromatic point source in an infinitely extended absorber (water, graphite, aluminum, iron) by the polynomial method (Ref 9) for the energies $E_0 = 0.5, 1.0, 1.33, 1.50, 2.0$ and 2.6 Mev. By interpolation and superposition of the scattering spectra calculated, the distances $\mu_0 r = 1, 2, 3, 5, 6, 10, 15, 20$ (μ_0 denotes the absorption coefficient for

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