PEK, A.V.

Contact metamorphism in connection with neorganites of the Northern Caucasus. (In: Akademiia nauk SSSR. Voprosy petrografii i mineralogii. Moskva, 1953. Vol. 1, p.280-300) (MLRA 7:4)
(Caucasus, Northern--Granite) (Granite--Caucasus, Northern)

LUKIN, Leonid Ivanovich; CHERNYSHEV, Vadim Fedorovich; KUSHNAREV, Ivan Pavlovich; PEK, A.V., otv. red.

[Microstructural analysis; methodological textbook for geologists studying ore deposits] Mikrostrukturnyi analiz; metodicheskoe posobie dlia geologov, izuchaiushchikh rudnye mestorozhdeniia. Moskva, Nauka, 1965. 123 p.
___[Supplement] Prilozhenie I-XII. diagrs. (in folder)
(MIRA 19:1)

HILLS, E. Sherbon; Galdin N. Ye.[translator]; PEK, A.V., doktor geologo-mineralogicheskikh nauk, redaktor; SVET, Ya.M., redaktor; SHAPOVALOV, V.I., tekhnicheskiy redaktor.

[Outline of structural geology; translated from English] Ocherki strukturnoi geologii. Perevod s angliiskogo N.E. Galdina. Pod red A.V. Peka, Moskva, Izd-vo inostrannoi lit-ry, 1954. 173 p. (MLRA 8:9)
(Geology, Structural)

PEK, A. V.

FD-1793

USSR/Geophysics - Tectonics

Card 1/1 Pub 45-15/18

Author : Pek, A. V.

Title : Problem of so-called 'mechanical analysis' in geological literature

Periodical : Izv. AN SSSR, Ser. geofiz. 283-287, May-Jun 1955

Abstract : In this journal (No 3, 1954) was printed an article by G. I. Gurevich, "So-called 'mechanical analysis' in geological literature'", in which the author apparently endeavored to show that attempts taken in structural geology to interpret geological structures on the basis of certain elementary informations from the field of mechanics (more correctly, the resistance of materials) are not only unsuccessful but even harmful. In conclusion he wrote, without stinting on strong statements, that on this basis "there was created a position contrary to Soviet science", critical attitude to native and foreign scientific production was completely absent", it be proposed that "geologists break the chains of this vicious tradition" etc. The present writer answers the strong statements of Gurevich by a long discussion of terminology. Ten references, on deformation of rocks, strain flow, rupture, fissures, mechanical interpretation of joints, dilatancy, structural analysis, etc.

Institution: --

Submitted : --

MIK, A.V.; LISITSYNA, Ye.Ye.

Methods for studying joint tectonics. Geol. rud. mestorozh. 7 no.2: 80-83 Mr-Ap '65. (MIRA 18:7)

VOL'FSON, F.I.; LUKIN, L.I.; DYUKOV, A.I.; KUSHNAREV, I.P.; PEK, A.V.; RYBALOV, B.L.; SONYUSHKIN, Ye.P.; KHOROSHILOV, L.V.; CHERNYSHEV, V.F.; BIRYUKOV, V.I.; GARMASH, A.A.; DRUZHININ, A.V.; KARAMYAN, K.A.; KUZNETSOV, K.F.; LOZOVSKIY, V.I.; MALINOVSKIY, Ye.P.; NEVSKIY, V.A.; PAVLOV, N.V.; RONENSON, B.M.; SAMONOV, I.Z.; SIDORENKO, A.V. [deceased]; SOPKO, P.F.; CHEGLOKOV, S.V.; YUDIN, B.A.; KREYTER, V.M., doktor geologo-mineral.nauk, retsenzent; KOTLYAR, V.N., doktor geologo-mineral.nauk, retsenzent; GRUSHEVOY, V.G., doktor geologo-mineral.nauk, retsenzent; NAKOVNIK, N.I., doktor geologo-mineral.nauk, retsenzent; KUREK, N.N., doktor geologo-mineral. nauk, retsenzent; LIOGEN'KIY, S.N., retsenzent; SHATALOV, Ye.T., doktor geologo-mineral.nauk, red.; KRISTAL'NYY, B.V., red.; SERGEYEVA, N.A., red.izd-va; GUROVA, O.A., tekhn.red.

[Basic problems and methods of studying structures of ore provinces

(Continued on next card)

VOL'FSON, F.I.---(continued) Card 2.
and deposits] Osnovnye voprosy i metody izucheniia struktur rudnykh polei i mestorozhdenii. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po geol. i okhrane nedr, 1960. 623 p.
(MIRA 13:11)

1. Akademiya nauk SSSR. Institut geologii rudnykh mestorozhdeniy, petrografii, mineralogii i geokhimii. 2. Moskovskiy institut tsvetnykh metallov i zolota (for Dyukov, Biryukov, Druzhinin, Kuznetsov). 3. Institut mineralogii, geokhimii i kristallokhimii redkikh elementov AN SSSR (for Garmash). 4. Akademiya nauk Armyanskoy SSR (for Karamyan). 5. Baleyzoloto (for Sidorenko). 6. Institut geologii rudnykh mestorozhdeniy, petrografii, mineralogii i geokhimii AN SSSR (for Malinovskiy, Nevskiy, Pavlov, Chernyshev). 7. Moskovskiy geologorazvedochnyy institut im. S.Ordzhonikidze (for Ronenson). 8. Vsesoyuznyy nauchno-issledovatel'skiy institut mineral'nogo syr'ya (for Samonov). 9. Voronezhskiy universitet (for Sopko). 10. Kol'skiy filial AN SSSR (for Yudin).
(Ore deposits)

PEK, A.V., VOL'FSON, F.I., LUKIN, L.I.

Studying structures of endogenous ore deposits. Geol. rud. mestorozh. no.4:3-30 Jl-Ag '60. (MIRA 13:8)

1. Institut geologii rudnykh mestorozhdeniy, petrografii, i mineralogii geokhimii AN SSSR, Moskva.
(Ore deposits)

VOL'FSON, F.I.; LUKIN, L.I.; NEVSKIY, V.A.; PEK, A.V.; SHENKMAN, P.A.

"Prospecting for mineral deposits" by V.M. Kreiter. Reviewed by F.I. Vol'fson and others. Sov.geol. 4 no.12:133-137 D '61. (MIRA 15:2)

1. Institut geologii rudnykh mestorozhdeniy, petrografii, mineralogii i geokhimii.
(Prospecting)
(Kreiter, V.M.)

PEK, G.

How to determine the necessity of changing the solution in scrubbers in dry ice plants. Khol.tekh. 32 no.1:67-68 Ja-Mr '55. (MLRA 8:7)
(Scrubber(Chemical Technology))

AUTHOR: Pek, G.

66-1-14/26

TITLE: Comparative evaluation of the methods of purifying monoethanol amine solutions. (Sravnitel'naya otsenka sposobov ochistki rastvorov monoetanolamina).

PERIODICAL: "Kholodil'naya Tekhnika"(Refrigeration Engineering), 1957, No.1, pp.44-49 (U.S.S.R.)

ABSTRACT: Aqueous monoethanol amine solutions become contaminated during operation as absorbent in dry ice factories and this initiates foaming and corrosion. Contamination of the solution can be prevented either by preliminary purification of the flue gases before their contact with the amine or by purifying the solutions by distillation, or by filtration, particularly by means of activated carbons. The aim of this paper was to compare both methods of purification of monoethanol amine solutions so as to determine which is the better one. It is concluded that by distillation it is possible to purify the amine from almost all contaminations. The output rate remains high throughout the entire process of purification and distillation is stopped only for cleaning the boilers. Distillation is considerably cheaper than purification with carbon and the only material required is steam, which is always available in a dry ice factory. The

Card 1/2

PEK, G.

Some measures against corrosion in refrigerating machinery. (MIRA 11:10)
Khol. tekh. 35 no.4:69-70 Jl-Ag '58.
(Regrigeration and refrigerating machinery)
(Corrosion and anticorrosives)

MOSKOVA, G.; PEK, G., MOISEYEVA, Ye.

Effect of low temperatures on the reproduction and biochemical activity of Achromobacter sp. Khol.tekh. 35 no.5:44-48 S-O '58. (MIRA 11:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut kholodil'noy promyshlennosti.
(Achromobacter) (Food--Storage)

PEK, G. Ya, MOSKOVA, G. L.

"Bacterial Index of the State of Freshness of Cooled Products."

Report submitted for the 10th Intl. Refrigeration Congress, Copenhagen, 19 August - 2 September 1959.

MOSKOVA, Glafira Leonidovna; PEK, Georgiy Yul'yevich; ISHKOVA, A.K., red.; BABICHEVA, V.V., tekhn.red.

[Microbial food spoilage of perishable food products in storage; a scientific report] Mikrobial'naia porcha skoroportiashchikhsia pishchevykh produktov pri khranenii; nauchnoe soobshchenie. Moskva, Gos.izd-vo torg.lit-ry, 1959. 62 p. (MIRA 13:4)
(Food spoilage)

Pek, G. Yu.

PHASE I BOOK EXPLOITATION SOV/3747

International Congress of Refrigeration. Moscow, 1958

Sbornik dokladov ot SSSR (Collected Soviet Reports) Moscow, Gostorgizdat, 1959. 214 p. Errata slip inserted. 2,000 copies printed.

Ed. (Title page): Sh. N. Kobulashvili; Ed. (Inside book): N. V. Chichkov; Tech. Ed.: V. V. Rabicheva.

PURPOSE: This collection of articles is intended for those interested in the problems of food refrigeration.

COVERAGE: The collection contains 26 reports which were submitted at the meeting of the 3rd, 4th, and 5th Committees of the International Institute of Refrigeration. The meeting was held in Moscow, September 3-6, 1958, and was attended by 265 Soviet specialists and 115 representatives from other countries. The 73 reports discussed at this meeting cover such broad areas as the automation of the cooling of refrigerating installations, the use of finned-tube type refrigerating devices, fast-freezing food freezers, the theory and technique of rapid cooling and freezing of meat and fish, the use of antibiotics in the cold storage of food, and the operation of refrigerators and cooling systems. A complete account of the proceedings of this meeting was published by the International Institute of Refrigeration in 1959. No personalities are mentioned. References follow several of the articles.

TABLE OF CONTENTS:

COMMITTEE NO. 5

SHEYNKER, Yu.N.; PEK, G.Yu.; PEREL'SON, M.Ya.

Nuclear magnetic resonance spectra of natural coumarins and furocoumarins. Dokl. AN SSSR 158 no.6:1382-1385 O '64. (MIRA 17:12)

1. Institut khimii prirodnykh soyedineniy AN SSSR i Vsesoyuznyy institut lekarstvennykh i aromaticheskikh rasteniy. Predstavleno akademikom M.M. Shemyakinym.

NOSKOVA, Glafira Leonidovna; PEK, Georgiy Yul'yevich. Prinimala uchastiye MOISEYEVA, Ye.L. NIKIT'YEVA, N.P., retsenzent; APT, F.S., retsenzent; TSIPERSON, A.L., red.; BABICHEVA, V.V., tekhn.red.

[Microbiology of the cold storage of food products] Mikrobiologiia kholodil'nogo khraneniia pishchevykh produktov. Moskva, Gos.izd-vo torg.lit-ry, 1960. 119 p. (MIRA 14:1)
(Food--Storage) (Microbiology)

PEREL'SON, M.Ye.; NIKONOV, G.K.; PEK, G.Yu.; SHEYNKER, Yu.N.

Structure of xanthogalol and zosimol. Dokl. AN SSSR 159 no.1:154-157 N '64. (MIRA 17:12

1. Vsesoyuznyy institut lekarstvennykh i aromaticheskikh rasteniy i Institut khimii prirodnykh soyedineniy AN SSSR. Predstavleno akademikom M.M. Shemyakinym.

MOISEYEV, I.I.; BELOV, A.P.; PEK, G.Yu.

π-Hexenyl complex from propylene and palladium chloride.
Zhur. neorg. khim. 10 no.2:336-343 F '65. (MIRA 18:11)

1. Institut obshchey i neorganicheskoy khimii imeni Kurnakova AN SSSR i Institut tonkoy khimicheskoy tekhnologii imeni Lomonosova. Submitted July 12, 1964.

BELOV, A.P.; PEK, G.Yu., MOISEYEV, I.I.

Oxidation of propylene by palladium chloride in acetic acid. Izv.AN SSSR.Ser.khim. no.12:2204-2206 '65.

(MIRA 18:12)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii im. Lomonosova i Institut obshchey i neorganicheskoy khimii im. N.S.Kurnakova AN SSSR. Submitted April 7, 1965.

MOSKOVA, G. L. and PEK, G. YU.

Combined Effect of Cold and Vacuum on the Microflora of Products during storage.

Report submitted for the 11th Intl. Congress of Refrigeration, Munich, Germany, 27 Aug - 4 Sept 1963.

NOSKOVA, Glafira Leonidovna; PEK, Georgiy Yul'yevich; GEYMBERG, V.G., kand. biol. nauk, nauchnyy red.; KAPLUN, M.S., red.; BRODSKIY, M.P., tekhn. red.

[Effect of vacuum on the microflora of refrigerated food products] Vliianie vakuuma na mikrofloru okhlazhdennykh pishchevykh produktov; nauchnye soobshcheniia. Moskva, Gostorgizdat, 1963. 37 p. (MIRA 16:7)
(Refrigeration and refrigerating machines)

NOSKOVA, G.L.; PEK, G.Yu.

Bacteriological method of determining the quality of raw materials of animal origin. Kons.i ov.prom. 17 no.10:32-34 O '62. (MIRA 15:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy kholodil'nyy institut.
(Sanitary microbiology)
(Canning industry--Quality control)

PEK, L.V.

Biocenologic complexes of insects associated with the common poppies of the Issyk-Kul' basin in Kirghizistan. Vop. ekol. 7:149-150 '62. (MIRA 16:5)

1. Institut zoologii i parazitologii Kirgizskoy SSR, Frunze.
(Issyk-Kul' region--Poppy)
(Issyk-Kul' region--Insects, Injurious and beneficial)

PROTSENKO, A.I., otv. red.; PALIY, V.F., red.; TARVIT-GONTAR', I.A., red.; IBRAIMOVA, K., red.; TARBINSKIY, S.P., red.; PEK, L.V., red.; MARKOV, F.I., red.

[Entomological studies in Kirghizia] Entomologicheskie issledovaniia v Kirgizii. Frunze, "Ilim", 1965. 120 p. (MIRA 18:12)

1. Akademiya nauk Kirgizskoy SSR, Frunze.

NECSEI, Pal, dr.; PEK, Laszlo, dr.

Enzyme effects and cytological changes in epidemic keratoconjunctivitis. Orv. hetil. 104 no.47:2228-2232 24 N '63.

1. Budapesti Orvostudomanyi Egyetem, I Szemeszeti Klinika.
(KERATOCONJUNCTIVITIS) (CYTODIAGNOSIS)
(FIBRINOLYSIS) (ENZYME TESTS) (EYE PROTEINS)
(PATHOLOGY) (LEUKOCYTE COUNT) (LYMPHOCYTES)

PEK, Laszlo

Clinical significance of intravascular aggregations (clinical analysis of 100 cases). Szemeszet 97 no.4:211-215 D '60.

1. A Budapesti Orvostudomanyi Egyetem I. sz. Szemklinikajanak (Igazgato: Radnot Magda egyetemi tanar, az orvostudomanyo doktora) kozlemenye.
(CONJUNCTIVA blood supply)

PEK, Laszlo

Conjunctival manifestations of rheumatic fever. Szemeszet. 99 no.3: 155-157 S '62.

1. A Budapesti Orvostudomanyi Egyetem I. sz. Szemklinikajanak (Igazgato: Radnot Magda egyetemi tanar) kozlemenye.
(RHEUMATIC FEVER diag) (CONJUNCTIVA dis)

PALIY, V.F., red.; TARVIT-GONTAR', I.A., red.; IBRAIMOVA, K., red.; MARKOV, F.I., red.; PEK, L.V., red.; TARBINSKIY, S.P., red.

[Collection of entomological papers] Sbornik entomologicheskikh rabot. Frunze, Izd-vo "Ilim," 1965. 137 p. (MIRA 18:6)

1. Vsesoyuznoye entomologicheskoye obshchestvo. Kirgizskoye otdeleniye.

Card 1/3

USSR / General and Specialized Zoology - Insects. P

Abs Jour : Ref Zhur - Biologiya, No 5, 1959, No. 20900

discovered, of which the 11 following were recognized for the first time as pests of the poppy, Amphipyra tragopogonis, Phytometra gutta, Chephasia sedana, Agriotes nadary, Oodescelis brevipennis, Platyscelis striata, Euspermophagus sericeus, Mordella aculeata, Haplothrips sp., Anaphothrips obscurus, Gryllotalpa unispina. There are 11 chief insect pests of the poppy in Kirgizia, out of which: the roots of the poppy are attacked by Amphimallon solstitialis, Agriotes nadary and A. squalidus, Oodescelis brevipennis, Opatrum sabulosum and Platyscelis striata; and those attacking the overground parts of the plants - Acyrthosiphon papaverinum (the only specific pest of the

Card 2/3

USSR / General and Specialized Zoology - Insects. P

Abs Jour : Ref Zhur - Biologiya, No 5, 1959, No. 20900

poppy in Kirgizia), Agrotis segetum, Barathra brassocae, Syngrapha circumflexa, Phasgonura viridissima. Basically, the poppy crops suffer from soil pests. -- A. P. Adrianov

Card 3/3

PEK, L.V.

Table for determining common poppy insect pests according to their injuriousness. Sbor.ent.rab. no.1:116-123 '62. (MIRA 16:2)
(Kirghizistan--Poppy--Diseases and pests)
(Kirghizistan--Insects, Injurious and beneficial)

PEK, L. V.: Master Biol Sci (diss) -- "The entomofauna of the opium poppy in Kirgizia". Frunze, 1959. 16 pp (Acad Sci Kirgiz SSR, Inst of Zoology and Parasitology), 150 copies (KL, No 14, 1959, 119)

PEK, L.V.

Vertical distribution of lamellicorn beetles (Coleoptera, Scarabaeidae) in the Issyk-Kul' Depression. Izv. AN Kir. SSR. Ser. biol. nauk 3 no.1:185-194 '61. (MIRA 14:12)
(ISSYK-KUL' DEPRESSION—SCARABAEIDAE)

PEK, RUDOLF

3

Preparing phytol by extracting dried green parts of plants. Jaroslav Berka, Rudolf Pek, and Lubomir Vybiral. Czech. 85,719, June 15, 1956. Finely ground drug of herba urticae (60 kg.) is extd. with 160 kg. boiling 90% EtOH for 8 hrs., and the ext. is evapd. to 30 kg. and saponif. after the addn. of 2 kg. solid KOH by heating to below the b.p. for 2 hrs. The resulting mixt. is dild. with 25 l. H_2O and extd. with C_6H_6. After distg. off C_6H_6, crude phytol (I) is distd. at 160° and 0.1 mm. Hg to give 60 g. I of 93-5% purity. Small amts. of waxlike impurities are removed by dissolving I in a double amt. of abs. MeOH and cooling to −70°.

L. I. Urbánek

PEK, V.

"Phase Reduction in the Analysis of Electric Rotation Machinery by Means of Matrix Calculus." p . 539.
(Elektrotechnicky Obsor, Vol.42, No.10, Oct. 1953, Praha.)

Vol. 3, No. 3.
SO Monthly List of East European Accessions, Library of Congress, March 1954, Unc .

PEK, V.

"Comparison of [illegible] of d.c. machines" By V. Pek.

Elektrotechnicky Obzor (Electrical Engineering Review, Czechoslovakia), Vol. 42, No. 12, Dec. 1953, pp. 665-718. (Air, AA, London, IR-594-54, 22 Mar 54, Unclassified)

Pek, V.

621.372.4/.5

4275. SIMPLIFIED MATRIX CALCULATION OF COMPLEX CHARACTERISTICS. V.Pek. Elektrotech. Obzor, Vol. 43, No. 11, 561-6 (1954). In Czech.

A deliberately chosen network system composed of linear units is selected for the calculation of complex characteristics relative to a quantitatively real and varying parameter, on the assumption that the network is fed by a system of imposed voltages. The method introduced by G.Kron can be simplified by choosing independent circuits and by setting up, in conformity with the network structure, the matrix of impedances transformed into positions of the independent circuits. Accordingly, an example presenting the problem of the output and input voltage ratio of a network relative to the varying frequency, is reduced to a bicircular solution with a position vector.

J.C.Stark

Pek, V.

55. Comparison of the heating of lap and Latour windings in d.c. machines. V. Pek. *Elektrotech. Obzor*, 43, No. 1, 34–43 (1954) in Czech.

This comparison is carried out by means of differential equations for one-dimensional heat transfer. The influence of the bandages, as well as of the bare end connections is shown. The Latour winding shows a rather high temperature rise in the inner conductors, in particular under the bandages, due to insufficient cooling.

H. Hörl

PEK, V.

Fundamentals of the amplidyne theory. p. 153.
(ELECTROTECHNICKY CASOPIS, Vol. 4, no. 3, Mar. 1953, Prague)

SO: Monthly List of East European Accession,(EEAL), LC, Vol. 4, No. 11, Nov. 1955, Uncl.

PEK, V.

Functional diagram of an electric rotating machine. (Supplement)

P. T33, (Elektrotechnicky Obzor) Vol. 46, no. 5, May 1957, Praha, Czechoslovakia

SO: Monthly Index of East European Acessions (EEAI) Vol. 6, No. 11 November 1957

FEK V.

Problem of arrest on the commutation curve of the current in the armature coil. p. 432.

ELEKTROTECHNICKY OBZOR. Praha Czechoslovakia. Vol. 48. no. 8 Aug 1959

Monthly list of East European Accessions (EEAI) LC Vol. 9, no. 2, Feb. 1960 Uncl.

PEK, Zdenek, inz.

A belt conveyer loader of a new design. Uhli 4 no.12:432-433 D '62.

1. Dul Antonin Zapotocky, Uzin, Usti nad Labem 1.

РЕКА, Г.Р.

38(4) PHASE I BOOK EXPLOITATION SOV/3140

Akademiya nauk Ukrainskoy SSR. Institut fiziki

Fotoelektricheskiye i opticheskiye yavleniya v poluprovodnikakh; trudy pervogo Vsesoyuznogo soveshchaniya po fotoelektricheskim i opticheskim yavleniyam v poluprovodnikakh, g. Kiyev, 20-26 noyabrya 1957 g. (Photoelectric and Optical Phenomena in Semiconductors; Transactions of the First Conference on Photoelectric and Optical Phenomena in Semiconductors...) Kiyev, 1959. 403 p. 4,000 copies printed.

Additional Sponsoring Agency: Akademiya nauk SSSR. Prezidium. Komissiya po poluprovodnikam.

Ed. of Publishing House: I. V. Kiaina; Tech. Ed.: A. A. Matveychuk; Resp. Ed.: V. Ye. Lashkarev, Academician, Ukrainian SSR, Academy of Sciences.

PURPOSE: This book is intended for scientists in the field of semiconductor physics, solid state spectroscopy, and semiconductor devices. The collection will be useful to advanced students in universities and institutes of higher technical training specializing in the physics and technical application of semiconductors.

COVERAGE: The collection contains reports and information bulletins (the latter are indicated by asterisks) read at the First All-Union Conference on Optical and Photoelectric Phenomena in Semiconductors. A wide scope of problems in semiconductor physics and technology are considered: photoconductivity, photoelectromotive forces, optical properties, photoelectric cells and photoresistors, the actions of hard and corpuscular radiations, the properties of thin films and complex semiconductor systems, etc. The materials were prepared for publication by E. I. Rashba, O. V. Snitko, K. B. Tolpygo, A. F. Lubchenko, and M. K. Sheynkman. References and discussion follow each article.

KARKHANIN, Yu.I.; KOZHEVIN, V. Ye.[Kozhevin, V. IE.]; PEKA, G.P.[Peka, H.P.].

Effect of organic dyes on the condenser photoeffect of cuprous oxide and germanium. Ukr. fiz. zhur. 5 no.6:809-815 N-D '60. (MIRA 14:3)

1. Kiyevskiy ordena Lenina gosudarstvennyy universitet im. T.G. Shevchenko.

(Germanium)
(Copper oxide) (Photoelectricity)

30024
S/020/61/141/001, 006/021
B104/B138

24,3500 (1138, 1395)

AUTHORS: Peka, G. P., and Karkhanin, Yu. I.

TITLE: The influence of external electric field on the luminescence of cuprous oxide

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 141, no. 1, 1961, 65 - 6-

TEXT: The authors found that an external electric field perpendicular to the surface of the semiconductor influenced the infrared luminescence of cuprous oxide. The Cu_2O specimen was stuck onto a mica plate ($\sim 50\mu$). A semitransparent platinum electrode was sputtered onto the mica. A voltage of 500 to 3500 v was applied between electrode and Cu_2O. Luminescence was excited with monochromatic light (λ = 435.8 mμ, λ = 491.6 mμ). The luminescence was recorded by crossed filters. Three types of specimens were studied: 1) specimens with considerable bending of the surface barrier of the bands; 2) specimens with slight barrier surface bending of the bands; and 3) specimens without any noticeable bending. Three measurements were made: 1) intensity of luminescence without electric field; 2) intensity of luminescence with electric field;

Card 1/2

and 3) relative change of luminescence on the application of field. It was found that the sign of the effect depends on the sign of the potential applied. The luminescence of cuprous oxide will be quenched if the potential is negative, and it will increase if it is positive; (cf. Fig. 1). Fig. 2 shows the variation in intensity of luminescence in time. These results are explained as follows: The surface barrier bending of the band increases with a negative potential. This leads to a decrease in the number of uncharged acceptors in the surface region. If the potential is positive, the bend of surface barrier of the band will decrease and the number of uncharged acceptors will increase. The authors thank Professor V. I. Lyashenko for valuable advice and discussions. There are 2 figures and 4 Soviet references.

ASSOCIATION: Kiyevskiy gosudarstvennyy universitet im. T. G. Shevchenko (Kiyev State University imeni T. G. Shevchenko)

PRESENTED: May 20, 1961, by A. N. Terenin, Academician

SUBMITTED: April 20, 1961

24770

3689

S/181/62/004/004/036/042
B102/B104

AUTHORS: Karkhanin, Yu. I., and Peka, G. P.

TITLE: The inversion layer on Cu_2O

PERIODICAL: Fizika tverdogo tela, v. 4, no. 4, 1962, 1058-1060

TEXT: The field effect was studied with poly- or monocrystalline Cu_2O specimens. Cu_2O was glued onto a ~50 μ thick mica plate and a semitransparent Pt electrode was cathode-sputtered to the other side of the plate. A constant field of up to $7 \cdot 10^5$ v/cm was applied between Cu_2O and Pt. Ohmic contacts of gold were applied to this specimen and the resistance was measured with a d-c bridge. The field effect determined was almost equal for mono- and polycrystalline Cu_2O. The dependence of the resistance on the surface field had a minimum at a negative potential on the Cu_2O, with growing field in $\Delta\sigma_{surf.}$ changed its sign in several cases. $\Delta\sigma_{surf}$ depends on the surface-near band inflection

Card 1/3

The inversion layer on Cu_2O

$V_s : V_{s\ min} = \ln(p_o/bn_o)$, b is the electron-to-hole mobility ratio, n_o and p_o the respective concentrations. p_o was determined from Hall-effect measurements, n_o was determined from $n_o = n_i^2/p_o = (2.3 \cdot 10^{31} T^3/p_o) e^{-U/kT}$, U being the forbidden band width (2 ev). For b=1 and $2 \cdot 10^{13} \leq p_o \leq 2 \cdot 10^{10}$ cm^{-3}, the minimum of $\Delta\sigma_{surf} = f(V_s)$ is at V_s values between 52 and 41 kT/e. This high value is ascribed to the very small electron concentration. Near the surface, $n_o \sim p_o$. In some samples the field effect changed its sign at $\sim 8 \cdot 10^4$ v/cm, and in some cases the minimum of $\Delta\sigma_{surf} = f(V_s)$ corresponded to E=0. A similar effect was observed by S. R. Morrison (Techn. Rep. no. 2, Electr. Eng. Res. Lab. Univ., Illinois) with germanium. This anomalous behavior can be explained by assuming a strong initial blocking band inflection near the surface. The thickness of the inversion layer will be smaller than the screening depth which is

$l_{sc} = \sqrt{\varepsilon kT/8\pi e^2 p_o}$; $\varepsilon = 7.6$, the dielectric constant. Since $0.5 < l_{sc} < 1\mu$, the inversion layer is thinner than 0.5μ. Also the negative capacitor

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24.3500

37923
S/181/62/004/005/007/055
B102/B138

AUTHOR: Peka, G. P.

TITLE: Investigation of the influence of an electric field applied to the surface of Cu_2O on its luminescence and electrical conductivity

PERIODICAL: Fizika tverdogo tela,, v. 4, no. 5, 1962, 1118-1123

TEXT: The effect of an electric field applied to the surface of Cu_2O on its luminescence was discovered by the author (DAN SSSR, 141, 63, 1961). This paper is a more detailed study dealing with the effect of a perpendicular field on the infrared luminescence. The experimental arrangement is shown in Fig. 1; the light from an Hg lamp of type СВДШ-250 (SVDSh-250) passes through a cuvette with a solution of Mohr's salt ($Ф_1$), a monochromator УМ-2 (UM-2), and is focused by the lens $Л_2$ onto the specimen. Luminescence is recorded by an ФЭУ-22 (FEU-22) photomultiplier (ФУ in Fig.) connected to a mirror galvanometer. The photomultiplier is covered with a

Card 1/4

Investigation of the influence of an ...

thin ebonite plate (I_2 in Fig.). Poly- and monocrystalline samples of Cu_2O 0.3-0.4 mm thick were investigated. The Cu_2O was glued onto a 50 μ thick mica plate; the other side of the plate was covered with a semitransparent Pt electrode. The sample was vacuum-coated with ohmic gold contacts which were used for measuring the conductivity with a d-c bridge. The voltage between Pt and Cu_2O reached 3500 v and was applied in both directions. Luminescence was found to depend both on the strength and sign of the field. Minus at Cu_2O quenched the luminescence, while plus raised it. The effect depends greatly on the kind of surface treatment (etching, annealing, etc.), i.e., on the degree of band bending and on the wavelength of the exciting light. $\Delta i_{lum}/i=f(E)$ are slightly S-shaped curves passing through the origin; for $\lambda = 491.6$ mμ it is less steep than for $\lambda = 435.8$ mμ. The field-effect curve $\Delta\sigma_n=f(E)$ also goes through the origin and exhibits a flat minimum at greater negative field strengths. This curve, as $\Delta\sigma_n=f(V_s)$, was also calculated using the theory developed in FTT, 3, 1061, 1961. The

result is an almost square well, the bottom of which lies in the negative. A comparison of the experimental results with the theoretical curve makes it possible to establish the relation between the near-surface bending of bands and the applied field. The result, the relative change in luminescent intensity as dependent on the near-surface bending of bands is shown in Fig. 5. Positive V_s corresponds to anti-blocking bending. There are 5 figures.

ASSOCIATION: Kiyevskiy gosudarstvennyy universitet im. T. G. Shevchenko (Kiyev State University imeni T. G. Shevchenko)

SUBMITTED: December 6, 1961

Legend to Fig. 1. (a) Optical diagram; (b) sample holder. (1) sample, (2) mica cover, (3) Pt electrode, (4) high-voltage electrode, (5) electrodes for measuring conductivity, (6) plexiblass plate, (7) copper plate.

Card 3/6

24.3410

S/181/62/004/009/003/045
B108/B186

AUTHORS: Kurkhanin, Yu. I., Peka, G. P., and Yarmola, T. M.

TITLE: Quenching of infrared luminescence of cuprous oxide by hydrogen ions

PERIODICAL: Fizika tverdogo tela, v. 4, no. 9, 1962, 2306 - 2311

TEXT: The dependence of quenching the IR luminescence of Cu_2O on the concentration of the hydrogen ions in the surrounding medium was studied. Various electrolytic solutions were placed in irradiation cells with a transparent bottom and covered with Cu_2O. The latter was irradiated with monochromatic light, whereupon luminescence intensities of dry Cu_2O (i_{dr}) and of Cu_2O in contact with the electrolyte (i_{el}) were measured. Distilled water and slightly acid solutions caused stronger quenching than solutions of salts and bases. A linear dependence of the ratio $C = i_{el}/i_{dr}$ on the pH of the electrolyte was established. Quenching becomes less in-

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tensive with increasing ph. Quenching is attributed to adsorbed hydrogen ions which owing to their small radius ($\simeq 10^{-3}$ Å) are able to produce a field which increases the depletion (barrier) bending of the bands. The acceptor levels near the surface become filled up and an increased radiationless annihilation of excitons ensues, i. e. a quenching of luminescence. Measurements of the capacitive photoeffect confirmed this mechanism of quenching. There are 5 figures.

ASSOCIATION: Kiyevskiy gosudarstvennyy universitet im. T. G. Shevchenko (Kiyev State University imeni T. G. Shevchenko)

SUBMITTED: February 24, 1962

44180
S/181/62/004/012/037/052
B125/B102

AUTHORS: Peka, G. P., and Karkhanin, Yu. I.

TITLE: The influence of an electric field applied to the surface on the luminescence and electrical conductivity of cuprous oxide

PERIODICAL: Fizika tverdogo tela, v. 4, no. 12, 1962, 3618-3625

TEXT: The kinetics of the influence of an external magnetic field on the luminescence and electrical conductivity of Cu_2O specimens was studied at atmospheric pressure and at 10^{-5} mm Hg, using an unbalanced bridge circuit. The specimens were freshly etched in concentrated nitric acid and in a 40 percent ammonia solution and annealed (at 10^{-13} mm Hg and $600^{\circ}C$). An IR photomultiplier of the type ФЭУ-22 (FEU-22) connected with a mirror galvanometer was used for recording the luminescence. All the examined effects of Cu_2O monocrystals and Cu_2O polycrystals were found to be identical. Fig. 1 shows the time dependence of the absolute change Δi_{lum} of the luminescence intensity for the case in which a field is applied.

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The kinetics of the fading away of the luminescent effect depends on the direction in which the field is applied. If the potential applied to Cu_2O is positive, the luminescent effect becomes stationary more quickly ($\sim$ 10 to 20 sec) than in the case of a negative potential (90 to 120 sec). With a negative field, Δi_{lum} is very small. The luminescent field effect fades out much more quickly than the ordinary field effect. Both effects follow from the variation of the conditions for the exciton annihilation. A negative potential applied to Cu_2O reduces the field-induced increment in the filling of the acceptor levels, i.e. the conditions for the exciton annihilation reduce to the conditions to which the crystal surface was subject before the field was turned on. The asymmetry of the kinetics for various directions of the applied electric field is attributed to the increase in the antibarrier curvature of the bands when the potential applied to the semiconductor is positive, also to the screening from emergence of the holes onto the surface and to the trapping of the holes on surface levels. When the potential applied to the semiconductor is negative, $\Delta i_{lum} = f(\ln t)$ is for most of the specimens a linear function if the time interval is large enough. The dependence $\Delta V_k = f(\ln t)$ of the change

ΔV_s in the curvature of the bands likewise is linear, which indicates a distribution $g(\tau) = 1/\tau$ of the slow states over the relaxation times τ and shows that the model developed by G. W. Pratt, H. H. Kolm (Semicond. Surf. Phys., 297) does not apply in the present case. There are 7 figures and 1 table.

ASSOCIATION: Kiyevskiy gosudarstvennyy universitet im. T. G. Shevchenko (Kiyev State University imeni T. G. Shevchenko)

SUBMITTED: July 13, 1962

Fig. 1: The time dependence of the variation in the luminescence intensity with turned-on field (-2500 v on Cu_2O).

Legend: (1) Freshly etched specimen, (2) specimen annealed in rough vacuum.

L 04148-67 EWT(1)/EWT(m)/EWP(t)/ETI IJP(c) JD
ACC NR: AP6026672 SOURCE CODE: UR/0181/66/008/008/2293/2299

AUTHOR: Peka, G. P.; Guziy, A. S.

ORG: Kiev State University im. T. G. Shevchenko (Kiyevskiy gosudarstvennyy universitet)

TITLE: Investigation of the surface levels on cuprous oxide by the field effect and luminescent field effect methods

SOURCE: Fizika tverdogo tela, v. 8, no. 8, 1966, 2293-2299

TOPIC TAGS: cuprous oxide, electron structure, luminescent crystal, CRYSTAL SURFACE

ABSTRACT: A method is proposed for determining the parameters of surface levels from the dependence of the luminous intensity of a semiconductor on the band bending near its surface. Measurements of the field effect and luminescent field effect are performed at sinusoidal voltage and a frequency of 140 cps on Cu_2O crystals. The measurements reveal the existence of a system of fast (intrinsic time $\tau < 10^{-3}$ sec) levels at the Cu_2O surface, the relaxation times of which vary over a wide range. A direct effect of the degree of population of the surface levels on the luminous intensity of Cu_2O is also observed. The values of the energy position of a surface level determined by both methods are found to be in excellent agreement. Orig. art. has: 6 figures, 1 table, and 4 formulas.

SUB CODE: 20/ SUBM DATE: 05Nov65/ ORIG REF: 007/ OTH REF: 003

Card 1/1

ZINETS, O.S.; PEKA, G.P.; KARKHANIN, Yu.I.

Some aspects of the theory of the luminiscent field effect.
Fiz. tver. tela 6 no.12:3515-3523 D '64 (MIRA 18:2)

1. Kiyevskiy gosudarstvennyy universitet imeni Shevchenko.

L 17119-65 EEC(b)-2/EWT(1) AS(mp)-2/AFWL/ESD(gs)/ESD(t)/IJP(c)
ACCESSION NR: AP5000645 S/0181/64/006/012/3515/3523

AUTHOR: Zinets, O. S.; Peka, G. P.; Karkhanin, Yu. I.

TITLE: Some questions in the theory of the luminescent field effect

SOURCE: Fizika tverdogo tela, v. 6, no. 12, 1964, 3515-3523

TOPIC TAGS: field effect, luminescence, exciton, semiconductor impurity, electron motion, cuprous oxide

ABSTRACT: The theory of the luminescence produced in a semiconductor by an electric field applied to the surface is analyzed under the assumption that the luminescence has an exciton mechanism. The semiconductor is assumed to have only one type of impurity center, on which radiative annihilation of the excitons takes place. A diffusion mechanism is assumed for the motion of the electrons. The interaction between the excitons and the surface of the semiconductor is described by means of an exciton-annihilation surface rate that depends on the filling of the surface electronic state, and consequently also on the surface bending of the bands. The relative change in intensity of luminescence as a

Card 1/2

function of the bending of the bands and of the coefficient of light absorption is calculated. The obtained results explain the experimentally observed luminescence field effect in cuprous oxide. From a comparison of the theoretical and experimental values of the luminescence effect for this material, the length of diffusion displacement of the excitons is estimated to be ~1 and ~40 (for different samples), and the rate of the surface annihilation of the excitons is estimated at $\sim 10^5$ cm/sec. It is found that the probability of the radiative annihilation of the excitons by non-ionized acceptor centers is larger than or of the same order of magnitude as the annihilation of excitons by ionized acceptor centers. The effect of inhomogeneous electric fields on the diffusion of the excitons, which is of importance at low temperatures, is neglected. Orig. art. has: 2 figures, 32 formulas, and 2 tables.

ASSOCIATION: Kiyevskiy gosudarstvenny*y universitet im. G. T Shevchenko (Kiev State University)

SUBMITTED: 04May64 ENCL: 00

SUB CODE: SS, OP NR REF SOV: 010 OTHER: 001

L 10369-65 EWG(j)/EWT(m)/EPF(c)/EPR/EWP(b) Pr-4/Ps-4 AFWL/ESD(gs)/ESD(

RAEM(t) JD

ACCESSION NR: AP4046639 S/0181/64/006/010/3157/3159

AUTHOR: Peka, G. P.

TITLE: The field effect in cuprous oxide 27

B

SOURCE: Fizika tverdogo tela, v. 6, no. 10, 1964, 3157-3159

TOPIC TAGS: cuprous oxide, field effect, single crystal, surface level, valence band, energy level density

ABSTRACT: Measurements are reported of the field effect in cuprous oxide single crystals and the determination of the parameters of "slow" surface levels. The field-effect was measured by the standard method: a constant voltage (up to 3000 V) was applied to a capacitor, one electrode of which was the sample and the other a metal deposited on a mica plate 50 μ thick. Using this method, surface states with relaxation times shorter than 10 sec could be investigated. The surface-level parameters were determined from an experimental de-

Card 1/3

L 10369-65
ACCESSION NR: AP4046639

pendence of the charge at the surface levels on the surface band curvature. These parameters are listed in Table 1 of the enclosure. The energy positions were measured from the upper edge of the valence band. Orig. art. has: 1 figure, 3 formulas, and 1 table.

ASSOCIATION: Kiyevskiy gosudarstvenny*y universitet im. T. G. Shevchenko (Kiev State University)

SUBMITTED: 11May64 ENCL: 01

SUB CODE: SS NR REF SOV: 005 OTHER: 002

Card 2/3

L 10369-65
ACCESSION NR: AP4046639 ENCLOSURE: 01

Table 1. Values of Surface-Level Parameters

Type of level	Level Density, cm^{-2}	Energy Position (kT)
Donor	2×10^{12}	13.0
Acceptor	3×10^{11}	49.0
Acceptor	1×10^{11}	56.0
Acceptor	8×10^{11}	69.6

Card 3/3

PEKA, G.P.

Effect of molecule adsorption on the luminescence, electric conductivity, and luminescence field effect in Cu_2O. Fiz.tver. tela 5 no.7:2017-2019 Jl '63. (MIRA 16:9)

1. Kiyevskiy gosudarstvennyy universitet imeni T.G.Shevchenko.
(Copper oxide—Electric properties)
(Luminescence)

Distr: 4E3c 2 cys 19

Regeneration of uranium fuel by the fluoride distillation method. Ivo Peka (Czech. Acad. Sci., Prague). *Jaderná energie* 6, 225-64(1959).—In the 1st method, the irradiated fuel, with cladding removed, is dissolved in liquid BrF_3 at 110-20°. The UF_6 produced, together with BrF_3, BrF_5, and some volatile fluorides of fission products, is distd. off, and sepd. from the other fluorides by another distn. In the 2nd method, the fuel element, contg. U and Zr, is dissolved at 600-700° in molten $NaF + ZrF_4$ (41 mole % ZrF_4), while HF is bubbled through. The UF_4 produced is treated with F, BrF_3, or ClF_3 to prep. UF_6, which is distd. off as above. In either method, the UF_6 is collected by reaction with solid NaF to give $UF_6.3NaF$. In the 3rd method, the fuel element is dissolved in aq. HNO_3 or HCl, the soln. is spray-dried to particles 80-250 mesh, the powder is reduced with H in a fluidized bed by a countercurrent process, the UO_2 produced is treated in a fluidized bed at 250-600° with HF, and the UF_4 is then treated in a fluidized bed at 450° with F or BrF_3 to produce UF_6. Corrosion problems and container materials are discussed. H. Ne[illegible]

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APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239820013-2"

PEKA, Ivo; SYKORA, Frantisek

Laboratory electrolyzer for preparing elementary fluorine. Chem listy 58 no.8:969-975 Ag '64.

1. Institute of Nuclear Research, Czechoslovak Academy of Sciences, Rez near Prague.

84638

Z/038/60/000/007/002/006
A201/A026

21.3200

AUTHOR: Peka, Ivo

TITLE: Reprocessing of Uranium Fuel by the Fluoride Distillation Method

PERIODICAL: Jaderná energie, 1960, No. 7, pp. 228 - 334

TEXT: Based on the Proceedings of the First and Second Geneva Conferences on Peaceful Use of Atomic Energy, on the materials from the Symposium on the Reprocessing of Irradiated Fuels in Brussels, and on other Western sources, the author deals with methods of reprocessing irradiated nuclear fuels with special attention to the fluoride distillation method. A method operating at 120°C using BrF_3 as fluorination agent; a high-temperature method with fused $NaF+ZrF_3$ salts; and a method using the fluidization technique for production of UF_6 are described. Evaluating the merits of each of these methods, the author makes the following conclusions: The merit of the greatest simplicity has the method of the direct reprocessing of the fuel by reaction with BrF_3. However, its economical effect is determined by the cost of the expensive elemental fluorine. The consumption of elemental fluorine in large-scale reprocessing can be reduced by one third

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A201/A026

Reprocessing of Uranium Fuel by the Fluoride Distillation Method

(at the expense of the inexpensive hydrofluoric acid) by dividing the process into two steps: In the first step, uranium tetroxide is produced which is then converted into uranium tetrafluoride by hydrofluoric acid. In the second step, the uranium tetrafluoride is converted to uranium hexafluoride by elemental fluorine. Compared to the extraction and pyrometallurgical methods, the fluoride distillation method has a number of advantages: Radioactive wastes remain in solid form and occupy little space. The danger of contamination is greatly reduced since the overwhelming part of fission products is removed by one single operation. The factor of the decontamination of uranium from all fission products and plutonium, achieved by this method, is of the order of 10^8, and with the use of adsorption of UF_6 on NaF of the order of 10^5. Consequently, this method compares favorably even with the best results that can be obtained by the extraction method, while the decontamination factors obtained by the pyrometallurgical methods are much lower. The fluoride distillation method can, under certain circumstances, be used practically for all reactor fuels currently in use (oxides, metals, alloys). This method can also be employed in order to obtain high-purity uranium metal from ore concentrates. Finally, the uranium hexafluoride obtained can immediately be used by the diffusion plant for the separation of the fission-

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84638
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A201/A026

Reprocessing of Uranium Fuel by the Fluoride Distillation Method

able U-235 isotope from U-238. The disadvantages of this method are: Difficulties in working with anhydrous hydrofluoric acid and elemental fluorine; and the stringent requirements as to the materials of reaction vessels. (Editor: J. Beránek). There are 3 figures, 2 tables, and 32 references: 28 are English and 7 unidentified.

ASSOCIATION: Ústav Jaderného výzkumu ČSAV (Institute of Nuclear Research, ČSAV)

Card 3/3

CZECHOSLOVAKIA

PEKA, I; VACHUSKA, J

Nuclear Research Institute, Czechoslovak Academy of Sciences - (for both)

Prague, Collection of Czechoslovak Chemical Communications, No 1, January 1967, pp 426-430

"Decomposition of complex fluorides of the type $Me^{1}_{2}UF_{8}$"

PEKA, I.

Contribution to the semimicrodetermination of fluor in uranium fluorides. Coll Cz Chem 27 no.11:2692-2694 N '62.

1. Institut fur Kernforschung, Tschechoslowakische Akademie der Wissenschaften, Rez bei Prag.

MALY, J.; KURZWEILOVA, H.; LENK, R.; PEKA, I.

Study on actinides. Part 1: Determining the content of Am^{241} in plutonium by means of alpha and gamma rays spectroscopy. Coll Cz Chem 25 no.5:1383-1390 My '60.

1. Institut fur Kernoforschung, Tschechoslowakische Akademie der Wissenschaften, Prag.

PEKA, I.

Kinetics of the reaction between sodium fluoride and uranium hexafluoride. Coll Cz Chem 30 no.1:217-222 Ja '65.

1. Institute of Nuclear Research of the Czechoslovak Academy of Sciences, Rez near Prague. Submitted October 24, 1963.

23001

S/186/61/003/002/011/018
E142/E435

21.3100

AUTHORS: Maly, Ya., Peka, I., Talash, M. and Tympl, M.

TITLE: Reaction of plutonium dioxide with acidic ammonium fluoride in the absence of water

PERIODICAL: Radiokhimiya, 1961, Vol.3, No.2, pp.195-198

TEXT: Plutonium tetrafluoride is used for the preparation of metallic Pu. The described method consists in the fluorination of plutonium dioxide with ammonium fluoride in the absence of water and is analogous to the method of preparation of uranium tetrafluoride (Ref.5: J.Van Impe, Chem.Eng.Progress, 50, 5, 230 (1954)). A weighed quantity of plutonium dioxide is mixed in a 0.2 ml platinum crucible (Fig.3) with a 20 - 50% stoichiometric excess of re-crystallized and dried ammonium fluoride. The reaction mixture is heated in a vertical furnace to a previously determined temperature at which it is kept for 30 minutes; then the crucible is weighed. The starting temperature is 70°C, the end-temperature 350°C. The temperature is measured with a Pt/Pt-Rh thermocouple. The entire set up is placed in a glass casing through which argon is bubbling. The plutonium is determined by weighing the PuO_2, formed during the calcination of the

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Reaction of plutonium ...

corresponding flubrides in the crucible at 600 - 700°C; the employed analytical methods of determination of F and NH_3 are those described by J.Rodden (Ref.6: Analytical chemistry of the Manhattan project. McGraw-Hill Book Co., INC (1950)) and P.Kirk (Ref.7: Quantitative Ultramicroanalysis, N.Y. (1950)). The obtained results were checked by control experiments by the Debye-Scherrer X-ray method. Thermo-gravimetric tests on the $PuO_2 - NH_4HF_2$ mixture yielded the temperature-time dependence during experiments with 20 to 50 mg of this mixture. The thermo-gravimetric curve and results of chemical analyses showed the temperature range of stability of these compounds:

$NH_4PuF_5 \cdot 2H_2O$	110—125°
NH_4PuF_5	160—200°
PuF_4	250—270°

These results define the temperature conditions of fluorination. It is concluded that the reaction mechanism is as follows:

Reaction of plutonium ...

$$2PuO_2 + 5NH_4HF_2 \xrightarrow{125^\circ} 2NH_4PuF_5 + 2H_2O \cdot 3NH_3 \quad (1)$$

$$NH_4PuF_5 \cdot 2H_2O \xrightarrow{160-200^\circ} NH_4PuF_5 + 2H_2O \quad (2)$$

$$NH_4PuF_5 \xrightarrow{250-280^\circ} PuF_4 + NH_3 + HF. \quad (3)$$

Acknowledgments are expressed to L.N.Sedlakova who interpreted the X-ray patterns. There are 3 figures, 1 table and 7 non-Soviet-bloc references. References to English-language publications include the following: G.T.Seaborg, J.Katz. The Actinide Elements, N.Y. (1954); J.K.Dawson, R.M.Elliot, Rep. A.E.R.E. (C/R 1207), Harwell (1957); J.K.Dawson, R.M.Elliot, R.Hurst, A.E.Truswell, J.Chem.Soc., 558 (1954); J.K.Dawson, D.Eye, A.E.Truswell, J.Chem.Soc., 3922 (1954).

SUBMITTED: September 25, 1959

Card 3/3

PEKA, I

CZECHOSLOVAKIA

PEKA, I.

Institute of Nuclear Research, Czechoslovak Academy of Sciences (Institut für Kernforschung, Tschechoslowakische Akademie der Wissenschaften), Rez near Prague

Prague, Collection of Czechoslovak Chemical Communications, No 11, November 1966, pp 4245-51

"Research on the reaction of uranium hexafluoride with some stable fluorides."

PEKACKA, B.

rejet

(2)

Precipitation of penicillin with organic solvents. B. Pekacka, Z. Kowszyk, and T. Korzybski. *Farm. Polska* 9, 284-6 (1953).—A sample of amorphous Na salt of penicillin, derived from the undersurface culture of *Penicillium chrysogenum* Q 176, strength about 1024 units/mg., was tested with the following anhyd. solvents: MeOH, EtOH, PrOH, BuOH, and isoamyl alc; Et_2O and 1,4-dioxane; ethyl-, butyl-, and amyloctanes; 99% Me_2CO, MeCOEt and iso-BuCOMe; and $CHCl_3$. The effects of these solvents on the iodometric reaction results were studied with respect to the detn. of penicillin. The lower alcs. interfered only to a small degree in the detn., while higher alcs., and particularly ketones, gave erroneous results. However, if the concn. of penicillin in these solvents is of the order of several ten-thousands of units, the error of detn. will then not exceed more than a few %, which is within the limits of exptl. error for the method. The soly. characteristics of penicillin in the above solvents are tabulated. The following solvents are recommended for quant. testing: EtOH, BuOH, PrOH, isoamyl alc., and Me_2CO. These solvents cause initial soln. of the sample, followed by light copious pptn. of the Na salt of penicillin. Exptl.: 4-4.5 ml. of one of the solvents was added to 1 g. of the yellow penicillin. During soln., a yellow-white ppt. was formed, while the supernatant remained brownish. The soln., with ppt., was placed in an ice box for 30 min., centrifuged, the soln. (S_1) poured off, and its vol. measured. The remaining ppt. was suspended in 3 ml. of the same solvent, centrifuged, and the S_2 soln. poured off and vol. measured. The ppt. was washed 2 times with 3 and 2 ml. of Et_2O, and dried at room temp. in a vacuum desiccator over $CaCl_2$. (1) Strengths of the samples obtained (iodometric method) averaged 1370 units/mg. from EtOH, 1478 from PrOH, 1532 from BuOH, 1328 from isoamyl alc., 1398 from Me_2CO. (2) Pptn. by means of the above solvents leads to a marked increase in penicillin yields: per g. of yellow amorphous penicillin-EtOH, 41%; PrOH 60; BuOH 68; isoamyl alc. 53; Me_2C, 56; an av. of 56%. Samples, 10,000 units/ml., were photometrically analyzed; the lightest samples were obtained by butanol pptn. which were 13 times lighter in color than the original. Me_2CO pptn. was 5 to 8 times lighter. The relative amts. of benzylpenicillin (*G*) increased, while that of heptylpenicillin (*K*) decreased for all samples. Best results were obtained by pptn. with EtOH. The *Z* nos. (*C.A.* 45, 7748*h*) were for the original sample and for samples resulting from pptn. by EtOH = 6, for other solvents = 3. The *Z* no. for cryst. penicillin equals 1-3. The resulting samples approximated those of pure cryst. penicillin in properties. After 6 hrs.' heating at 100° a com. sample of cryst. penicillin was 2% inactivated, the original amorphous penicillin 72% and the samples from pptn. with org. solvents 2-4%. Clayton F. Holoway

PEKAR, S.I.

KT-803 [A new concept of electronic conductivity of ionic crystals] Novyi vzgliad na elektronnuiu provodimost' ionnykh kristallov.
Zhurnal Eksperimental'noi i Teoreticheskoi Fiziki, 13(2): 105-109, 1943.

KOWALSKI, Bronislaw, mgr inz.; PEKALA, Jozef, mgr inz.

Design and construction works given an award by the Committee of Building, City Planning and Architecture in 1961. Inz i bud 19 no.6:205-212 Je '62.

1. Biuro Studiow i Projektow Typowych Budownictwa Przemyslowego, Warszawa.

MALACHOWSKA, Irena; PEKALA, Tadeusz.

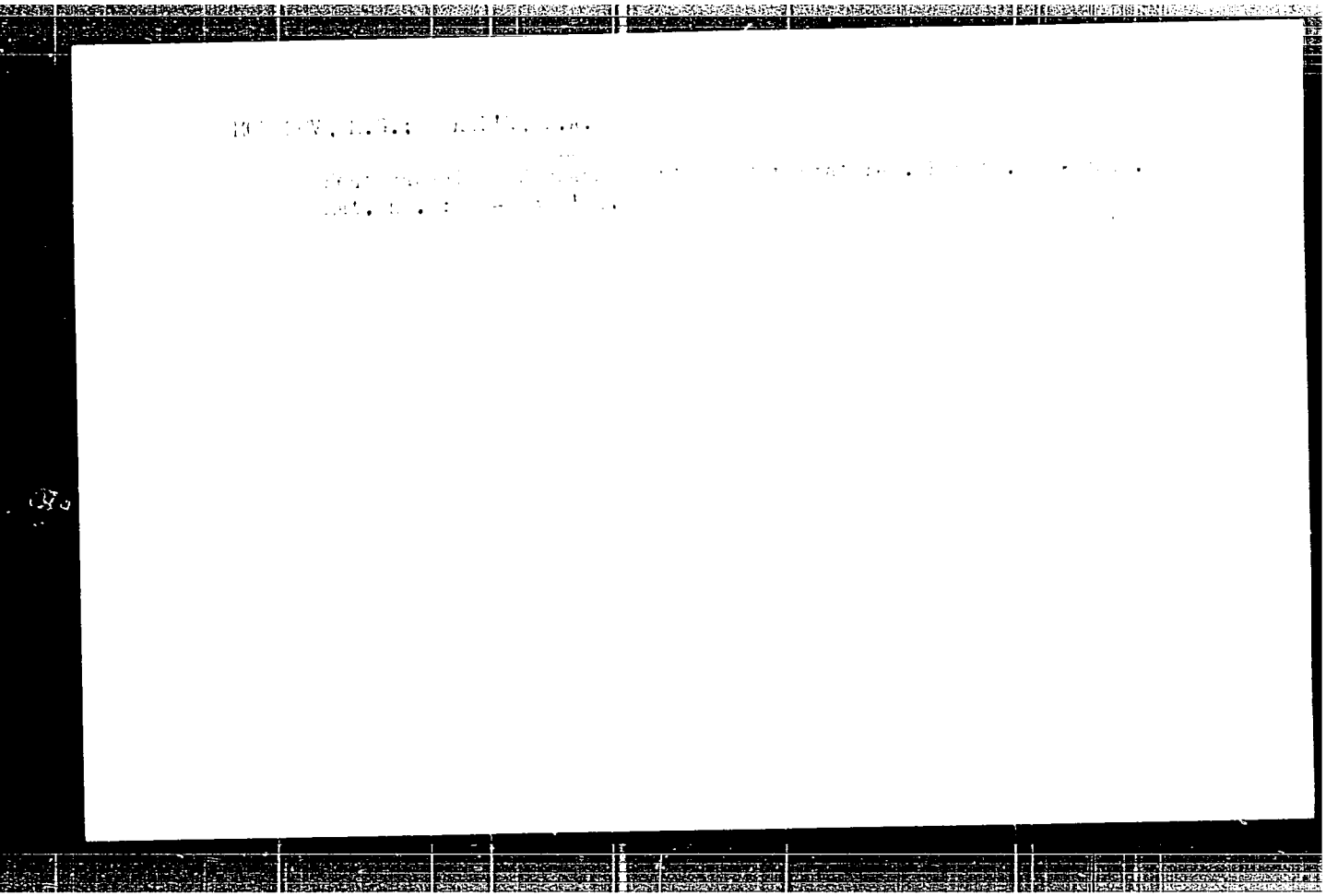
Anti-Escherichia coli specific antibodies in the blood of children with infantile diarrhea. Med.dosw.mikrob. 7 no.4: 371-376 1955.

1. Z Panstwowego Zakladu Higieny w Warszawie.
(DIARRHEA, in infant and child,
anti-E.coli specific antibodies in)
(ANTIGENS AND ANTIBODIES,
E. coli antibodies in inf.diarrhea)
(ESCHERICHIA COLI,
antibodies, in inf. diarrhea)

KROH, J.; PEKALA, W.

Radiation-induced polymerization in the solid state. Pt.1.
Bul chim PAN 12 no.6:419-423 '64.

1. Department of Radiation Chemistry of Lodz Technical University. Submitted March 31, 1964.



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"Choice of location for water-power plants."
Gospodarka Wodna, Warsaw, [illegible], Nov 1[illegible], p. 1[illegible]

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TECHNOLOGY

PERIODICAL: GOSPODARKA WODNA, Vol. 18, no. 11, Nov. 1958.

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PEKALSKI, Kazimierz

The 30th anniversary of the unveiling of the monument to Ignacy Lukasiewicz in Krosno. Wiad naft 8 no.11:263-264 N '62.

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Recollections of the oldest Polish petroleum worker. Wiad naft 7 no.11:261-263 '61.

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PEKAR, A.

Results of Hill's method of histamine-insulin therapy of mental diseases. Neur. & psychiat. cech. 13 no.3:170-174 July 1950. (CIML 20:1)

1. Of the Psychiatric Clinic of Masaryk University in Brno.

PEKAR, A.

(Uiitok Lapja, Vol. 5, No. 14, July 1953, Budapest)

SO: Monthly List of East European Accessions, Vol.3 No.2 Library of Congress Feb 54 Uncl

HUNGARY

PEKAR, Aranka, Dr; and TARI, Janos, Dr; Roentgen Clinic of Budapest Medical University (director: Prof Dr Zoltan ZSEBOK)

"X-Ray Physical Peculiarities of the Fluorescent Screen."

Budapest, Magyar Radiologia, Vol 18, No 3, Jun 66, pp 169-174

Abstract [authors' Russian, English and German summaries, modified]: The phenomenon of luminescence and the physical factors affecting it are described. The light intensity of the screen depends on its material, on the thickness of its layer, on the granulation of the luminescent substance and on its physical properties. Cadmium-wolframate is recommended to prevent after luminescence of the screen. Five Soviet-bloc and 6 Western references.

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HUNGARY

TARI, Janos, Dr, PEKAR, Aranka, Dr; Medical University of Budapest, Radiological Clinic (director: ZSEBOK, Zoltan, Dr, prof.) (Budapest) Orvostudomanyi Egyetem, Rontgenklinika).

"Fluoroscopy and the Factors Influencing the Quality of the Fluoroscopic Image."

Budapest, Magyar Radiologia, Vol XVIII, No 4, Jul 66, pages 231-235.

Abstract: In the present article, factors not involving the screen, the electronic parameters used in fluoroscopy and the body examined are discussed. The most important physical, geometrical and technical information related to fluoroscopy is described. In conclusion, it is stressed that not only good apparatus but its correct running and the best choice among the possibilities is also necessary for the achievement of good pictures. 5 Eastern European, 4 Western references.

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[illegible] are most important. Uncompromising political dedication to socialism is advocated as essential. Three graphs.

PEKAR', A.A. (Odessa)

Course of influenza during the 1959 epidemic. Vrach.delo no.11: 95-98 N '62. (MIRA 16:2)

1. Bol'nitsa No.1 TSentral'nogo rayona Odessy.
(INFLUENZA)

PEKAR', A.A.; KRYSS, I.I.

Experience in the treatment of patients with diabetes mellitus at a city medical district. Sov.med. 24 no.11:135-138 N '60. (MIRA 14:3)

1. Iz bol'nitsy No.1 TSentral'nogo rayona Odessy (glavnyy vrach Yu. N.Gordon).

(DIABETES)

EL'KIN, G.I., inzh.; DOROSHEVSKIY, V.V., kand. tekhn. nauk;
POTRAVKO, A.A., inzh.; PEKAR', G.M., inzh.

Measurement of the speed of dusty air and gas currents in pipelines. Elek. sta. 34 no.7:81-82 Jl '63.
(MIRA 16:8)

GLUSHCHUK, N.M., inzh.; PEKAR', G.M., inzh.

Operation of steam turbines condensers on seawater. Energ. i elektrotekh. prom. no.3:61-62 Jl-S '65. (MIRA 18:9)

ZIMA, V.L.; PEKAR', G.S. [Pekar, H.S.]; FAYDYSH, A.N. [Faidysh, O.M.]

Polarization of the luminescence of pure and impurity anthracene crystals. Dop. AN URSR no.8:1043-1046 '64.
(MIRA 17:8)

1. Kiyevskiy gosudarstvennyy universitet. Predstavleno akademikom AN UkrSSR S.I. Pekar' [Pekar, S.I.].

L 26602-65 EWT(m)/EPF(c)/EWP(j) Pc-4/Pr-4 RM S/0021/64/000/008/1043/1046

ACCESSION NR: AP4043727

AUTHOR: Zima, V. L.; Pekar, G. S. (Pekar', G. S.); Faydysh, O. M. (Faydysh, A. N.)

TITLE: Polarization of the luminescence of pure and impurity-containing anthracene crystals

SOURCE: AN UkrRSR. Dopovidi, no. 8, 1964, 1043-1046

TOPIC TAGS: luminescence spectrum, luminescence polarization, anthracene crystal, luminescence center, lattice defect, exciton

ABSTRACT: To elucidate the nature of crystal luminescence and the character of the temperature dependence of the energy transfer involved, the authors studied the luminescence of "pure" and impurity-containing anthracene crystals in polarized light at 20, 90 and 293K. A diagram of the luminescence spectra of pure anthracene and anthracene containing O-centers is given, together with a photograph of the luminescence spectra of the b and a components of the anthracene crystal at 293K. The study made it possible to distinguish between the natural and "defect" luminescence of the lattice. It was found that the first band of natural luminescence splits into differently polarized components, indicating the exciton origin of this band. The intensity of the natural and defect luminescence, and also of the impurity luminescence of anthracene, depends strongly

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ACCESSION NR: AP4043727

on the temperature. Causes of this dependence are discussed. Orig. art. has: 2 figures.

ASSOCIATION: Kyyivs'kyy derzhavnyy universytet (Kiev state university)

SUBMITTED: 27Dec63 ENCL: 00 SUB CODE: SS, OP

NO REF SOV: 011 OTHER: 006

Card 2/2

S/081/62/000/020/019/040
B158/B101

AUTHORS: Pekař, Jaroslav, Šplíchal, Karel

TITLE: Production of glass fibers by drawing from a melt

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 20, 1962, 362, abstract 20K289 (Czechoslovak patent 99160, March 15, 1961)

TEXT: Individual glass fibers, drawn from a spinneret, are sorted into 2 or more identical bunches which are bonded into yarns on separate greasing devices. Two or several yarns are wound onto the same bobbin of a receiving device. The procedure enables inadequate greasing to be overcome and eliminates breakage of separate threads on working units when a fiber containing a large number (more than 100) of elementary threads is being drawn. [Abstracter's note: Complete translation.]

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PEKAR, L., inzh.-fizik

With a magician's wand across the world. Znan. ta pratsia no.5:4-5 My '63. (MIRA 16:6)

(Spectrum analysis)