BOCEK, Jiri, MUDr.

Sinobronchitis. Cesk. otolar. 5 no.3:152-156 May 56.

1. ORL klinika PU v Olomouci, prednosta prof. MUDr. Fr. Ledl.
(SINUSITIS, complications,
bronchitis (Cs))
(BRONCHITIS, complications,
sinusitis (Cs))

ZAHRADNIK, R.; BOCEK, K.

Infrared spectra, kinetics of reduction and polarography of aromatic polynuclear nitro compounds. Coll Cz Chem 26 no.7:1733-1748 Jl '61.

1. Institute of Industrial Hygiene and Occupational Diseases, Prague.

(Spectrum, Infrared)
(Reduction, Chemical)
(Nitro compounds)

L 23674-66

ACC NR: AP6009353 (A) SOURCE CODE: CZ/0078/65/000/011/0015/0015

AUTHOR: Bocek, Karel (Praha); Urban, Jiri (Satalice) 24 B

ORG: none

TITLE: Detachable respirator unit with special valves. CZ Pat. No. PV 658-65, Class 30a

SOURCE: Vynalezy, no. 11, 1965, 15

TOPIC TAGS: respirator, life support equipment

ABSTRACT: An Author Certificate has been issued for a detachable system designed with adjustable respiration terminals. It is equipped with inhalation and exhalation valves and a detachable exhalation line which also serves as a draining line. The valve on the latter is of a torroidal type made to move vertically, and equipped with a weight for balancing. [KP]

SUB CODE: 06/ SUBM DATE: 30Jan65/

Card 1/1

Czechoslovakia

CZ/0078/65/000/011/0015/0015

AUTHOR: Bocek, Karel (Praha); Urban, Jiri (Satalice)

ORG: none

TITLE: Detachable respirator unit with special valves. CZ Pat. No. PV 658-65, Class 30a

SOURCE: Vynalezy, no. 11, 1965, 15

TOPIC TAGS: respirator, life support equipment

ABSTRACT: An Author Certificate has been issued for a detachable system designed with adjustable respiration terminals. It is equipped with inhalation and exhalation valves and a detachable exhalation line which also serves as a draining line. The valve on the latter is of a torroidal type made to move vertically, and equipped with a weight for balancing. [KP]

L 10612-66 EWT(d) IJP(c)

ACC NR: AP5004060 SOURCE CODE: CZ/0081/65/090/002/0209/0213

AUTHOR: Bocek, Leo--Bochek, L. (Prague); Nadenik, Zbynek (Prague) 32 B

ORG: none

TITLE: Total differential geometry of curves in Euclidean space

SOURCE: Casopis pro pestovani matematiky, v. 90, no. 2, 1965, 209-213

TOPIC TAGS: Euclidean space, differential geometry, curve geometry, plane geometry, space geometry

ABSTRACT: The Minkovskiy definition of the support function of a plane enclosed convex curve is extended to closed space curves with positive curvatures and is applied for the derivation of results which are analogous to the known properties of plane closed convex curves. Orig. art. has: 10 formulas. [JPRS]

SUB CODE: 12 / SUBM DATE: 09Jun64

Card 1/1

LENFELD, J.;KROUTIL, M.;BOCEK, M.;CTVRTNIK, J.;MAYER, J.

Toxicity and anti-inflammatory effects of chlorocrotylpyrazolidine. Cesk. fysiol. 9 no.1:87-88 Ja 60.

1. Farmakologicky a histologicky ustav lek. fak. PU a Farmakon, n.p., Olomouc.

(PHENYLBUTAZONE, rel. cpds.)

BOCEK, M.

CZECHOSLOVAKIA/Solid State Physics - Crystal Morphology. E

Abs Jour : Ref Zhur Fizika, No 1, 1960, 1125

Author : Bocek, Michal; Kratochvil, Petr; Valouch, Miloslav

Inst : Physics Institute and Faculty of Solid State Physics, Charles University, Prague, Czechoslovakia

Title : Fibrous and Ribbon-like Substructure of Single Crystals of Zinc, Obtained by the Czochralski Method

Orig Pub : Ceskosl. casop. fys., 1958, 8, No 5, 521-525

Abstract : A study was made of the fibrous substructure of metallic single crystals, grown from a melt. The single crystals grown under drfinite conditions are made up of fibrous of hexagonal cross section, arranged approximately parallel to the direction of the growth of the crystal. Under definite growth conditions these fibers form ribbons, placed parallel to each other.

Card 1/4

CZECHOSLOVAKIA/Solid State Physics - Crystal Morphology. E

Abs Jour : Ref Zhur Fizika, No 1, 1960, 1125

The dependence of the transverse dimensions of the fibrous substructure on the conditions of the growth coincides with that obtained by other authors. The dependence of the thickness of the ribbons on these factors is the same as for the fibrous substructure. The effect of orientation of the single crystals on the dependences given manifest itself more strongly in the region of ribbon-like substructure. It can be assumed that the mechanism, which according to Rutter and Chalmers (Canadian Journal of Physics, 1953, 31, 15) is the cause of the fibrous substructure, takes place also in the occurrence of ribbon-like substructure. According to this theory, a layer of concentration supercooling takes place near the hardening boundary. The diffusion of impurities, caused by concentration differences in this layer, decides essentially the magnitude of the transverse

Card 2/4

Abs Jour : Ref Zhur Fizika, No 1, 1960, 1125

dimensions of the substructure. Under growth conditions that give rise to a ribbon substructure, the effect of the zone of concentration supercooling is less than under conditions in which the fibrous substructure occurs, and therefore the effect of crystallographic anisotropy appears in a greater extent. This probably causes a radial anisoptrpy of the diffusion of impurities in the vicinity of the nuclei. The latter are unified in rows in definite directions and ribbons of this substructure occur as a result. The effect of anisotropy changes with its orientation relative to the boundary layer of the growing crystal and melt, and this manifests itself in the observed influence of the orientation on the transition from the fibrous substructure into ribbon-like and on the thickness of the produced ribbons. For a deep understanding of the mechanism of production of ribbon

CZECHOSLOVAKIA/Solid State Phyics - Crystal Morphology. E

Abs Jour : Ref Zhur Fizika, No 1, 1960, 1125

substructure it is necessary to have more detailed data on the influence of lattice orientation unit.

Card 4/4

ACCESSION NR: AP4013555 G/0030/64/004/002/0325/0342

AUTHOR: Bocek, M.; Kaska, V.

TITLE: The dependence of the hardening curves of zinc crystals upon orientation and temperature

SOURCE: Physica status solidi, v. 4, no. 2, 1964, 325-342

TOPIC TAGS: zinc crystal hardening curve, orientation, temperature, cubic face-centered metal, cross-slippage, thickly packed metal, crystal deformation

ABSTRACT: The paper discusses the dependence on orientation and temperature in the hardening curves of zinc crystals. Dependence on orientation in stage A is ascribed to the activation of accessory slippage systems. Dependence of the end of stage B on temperature is due to the same processes as in cubic face-centered metals, i.e. cross-slippage of the screw displacements. These studies have produced further indications of far-reaching similarities in the deformation process in the most thickly packed metals, and it may be assumed that the conditions are similar for other metals of this sort and that any possible differences lie essentially in the position of the axis. There are sections on "Production of

Card 1/2

ACCESSION NR: AP4013555

crystals," "Crystal deformation," "The dependence of some indices of the hardening curves on temperature," "Dependence on orientation," "Dependence on temperature," "The transition from 'ductile' to 'brittle'". Original has 1 equation, 26 graphs, 2 diagrams, 2 tables and 1 photo.

ASSOCIATION: Lehrstuhl fuer Festkoerperphysik der Mathematisch-Physikalischen Fakultaet der Karlsuniversitaet, Prague(Chair for Solid State Physics of the Mathematics and Physics Department of Karl University)

SUBMITTED: 22Nov63 DATE ACQ: 03Mar64 ENCL: 00

SUB CODE: PH NO REF SOV: 000 OTHER: 029.

Card 2/2

BOCEK, M.

The cellular substructure of zinc monocrystals prepared by the Czochralski method. Michal Bocek, Petr Kratochvil, and Miloslav Valouch (Karlova Univ., Prague). *Czechoslov. J. Phys.* 8, 557-62(1958)(in English).—The dependence of the cell size and appearance of cellular substructure on the growth rate and the temp. gradient was studied. The results agree with those obtained by the Bridgman method (Chalmers, *C.A.* 47, 5240a; 50, 11759b). The orientation of monocrystals dets. the degree of elongation of cells. A hypothesis on the mechanism of production of elongated cells is proposed. The impurity diffusion during crystal growth is discussed. A. Kreibelis.

G/030/62/002/009/004/004

AUTHORS: Boček, M., Kratochvíl, P., Lukáč, P. (Czechoslovakia)

TITLE: The effect of impurities on the critical resolved shear stress of zinc single crystals

PERIODICAL: Physica Status Solidi, v. 2, no. 9, 1962, 1221-1224

TEXT: Many measurements have been performed to explain in detail the effect of many parameters on the value of the critical resolved shear stress, the effect of impurities being of the greatest interest. The authors give a more detailed discussion of this subject than has previously appeared. It is assumed that during crystal growth a microsegregation takes place which is connected with the existence of a dislocation network. From this point of view the relation between the critical resolved shear stress of zinc single crystals and their purity is investigated. For the evaluation the measurements made by many authors on zinc single crystals were collected. Only those with solutes: that are soluble in the used range, i.e. they form solid solutions and that have known equilibrium distribution coefficients

Card 1/2

G/030/62/002/009/004/004

The effect of impurities on the critical...

are considered. The results: a) the square root dependence of τ, the critical resolved shear stress, on ρ, the density of dislocations, and b) the good value of the constant 2.6 in $\tau = 2.6\ (\sqrt{\rho})^{0.94}$, support the interpretation of the indirect effect of impurities on the critical resolved shear stress. Further calculations have shown that some other metals behave in the same manner. The authors thank Dr. E. Klier for many valuable comments on this work. One figure and one table are included.

ASSOCIATION: Department of Solid State Physics,
Charles University, Prague

SUBMITTED: July 9, 1962

Card 2/2

CZECH/37-59-2-15/20

AUTHORS: Michal Boček, Petr Kratochvíl

TITLE: Letter to the Editor: Dislocations in Zinc Single Crystals with Elongated Cells

PERIODICAL: Československý Časopis Pro Fysiku, 1959, Nr 2, pp 214-215 + 1 plate

ABSTRACT: Recently a number of mechanisms have been discussed (Refs 1-6) which can lead to the formation of dislocations during crystal growth. A new mechanism was proposed by Tiller (Ref 7), using micro-segregation of impurities. The boundary between a fibrous and a band sub-structure is a region rich in impurities ($k < 1$). Due to such an inhomogeneous distribution of impurities, a lattice distortion in the vicinity of the segregation occurs. This distortion can be relieved by the formation of dislocations. Eq (1) (Ref 7) gives the density of dislocation lines perpendicular to the boundary between the crystal and the melt. With a view to Tiller's model, we have measured the density and arrangement of dislocations in zinc crystals. The crystals, with a cross-section of 1 mm^2, were grown by the Czochralsky method. They contained 2.2×10^{-2} at.% of cadmium.

Card 1/2

Letter to the Editor: Dislocations in Zinc Single Crystals with Elongated Cells

CZECH/37-59-2-15/20

They were annealed at 200 °C for 24 hours, slowly cooled to room temperature and then etched by various methods (Refs 9, 10), in the plane parallel with the boundary between solid and liquid. The method of polishing described in Ref 9 and etching in a solution of 50% HNO_3 in ethyl alcohol for 15 minutes, was particularly successful. Fig 1 (p 222e) shows the observed array of dislocations. This was in good agreement with the model of Ref 7. The density of etch-pits was $6 \times 10^5/cm^2$. From Eq (2), we would have estimated $P = 10^6/cm^2$. The difference is accounted for by the homogenisation during growth and annealing (Refs 11, 12 and 13). We consider that the mechanism described in Ref 4 leads to the formation of the majority of the dislocations in the case described. There are 1 figure and 13 references, of which 10 are English, 2 Czech and 1 German.

ASSOCIATION: Katedra fysiky pevných látek matematicko-fysikální fakulty K.U., Praha (Chair of Solid State Physics, Charles University, Prague)

Card 2/2

SUBMITTED: October 4, 1958

BOCEK, Michal

Microgranular structure of the crystals of metals. Pokroky fys pev lat 3:69-100. 156

1. Fysikalni ustav Karlovy university, Praha.

BOCEK, Otto

Pomologie. (Pomology; a textbook for agricultural training schools on gardening. 3d ed. illus., bibl., index, notes) Prague, SZN, 1957. 208 p.

Bocek's book is already well known as a successful manual for Cz. fruit gardeners. It has been written for practical purposes and based on practice. The general part contains information on the principles of pomology and identification of species. The special part contains description of 580 types current in Czechoslovak fruit gardening. The third edition, intended mainly for the agricultural schools, contains some changes in illustrations (black and white photographies in a separate supplement, new texts).

Bibliograficky katalog, CSR, Ceske knihy, No. 30. 3 Sept 57. p. 652.

CZECHOSLOVAKIA/Optics - Physical Optics K-5

Abs Jour : Ref Zhur - Fizika, No 1, 1959, No 1943

Author : Bocek V.
Inst : -
Title : Correction of the Curve of Spectral Transmissionof Optical Systems with the Aid of a Suitable Choice of Anti-Reflection Films.

Orig Pub : Jemne mech. a opt., 1958, 3, No 3, 76-77

Abstract : The author considers the undesirable coloring of the image in optical systems, obtained when the spectral transmission of the used glass is supplemented in an unfavorable manner by selective transmission of the usually employed anti-reflection films. It is shown that by suitable choice of the parameters of the anti-reflection films, which differ somewhat from the ordinary ones, it is possible to correct the color of the image without harmfully reducing the total transmission.

Author's resume

Card : 1/1

CZECHOSLOVAKIA/Optics - Optical Technology.

Abs Jour : Ref Zhur - Fizika, No 6, 1959, 14047

enterprise. Identical elements of the table are located in steps at five different distances from the objective, and therefore one obtains on one photograph five images with different degrees of defocusing. In the middle and on the edge of the table are located photometric wedges for determining inhomogeneities in illumination in the plane of the image. Ideas are stated concerning the desirable improvement to the procedure. -- Ye. Yakhontov

Card 2/2

BOCEK, V.

TECHNOLOGY

periodicals: JEMNA MECHANIKA A OPTIKA Vol. 3, no. 10, Oct. 1958

BOCEK, V. Stabilizing roll film in cameras. p. 328.

Monthly List of East European Accessions (EEAI) LC Vol. 8, no. 5
May 1959, Unclass.

L 56717-65 EWA(k)/FBD/EWG(r)/EWP(b)/EWT(m)/EEC(k)-2/EWP(i)/EEC(t)/T/EEC(b)-2/EWP(k)/EWA(m)-2/EWA(h) Pm-4/Pn-4/Po-4/Pr-4/Peb/Pi-4/Pl-4 SCTB/IJP(c) WG/WH

ACCESSION NR: AP5003631 CZ/0030/65/000/001/0005/0006

535.37:535.891

AUTHOR: Bocek, V. (Engineer); Kment, V. (Engineer)

TITLE: Interference measurement of the homogeneity of ruby resonators for lasers

SOURCE: Jemna mechanika a optika, no. 1, 1965, 5-6

TOPIC TAGS: ruby laser, ruby resonator, resonator homogeneity, homogeneity measurement, laser production control, interferometric contro., interferogram, stimulated emission

ABSTRACT: The authors describe their experience with the interferometric control of the homogeneity of ruby rods used as resonators in lasers. They used an Askania IG 140 interferometer adapted to a Michelson interferometer, the 6438 Å line of a cadmium low-pressure discharge tube, and a Ne-He laser with a wavelength of 6328 Å as the source. The advantage of this method is that there is greater contrast of interference, greater emphasis on all the impurities and defects in the crystal as a result of their diffraction, and linear polarization of the laser beam used for the examination of anisotropic material. The interferograms illustrated in the article show that defects affect the frequency direction of the

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L 56717-65
ACCESSION NR: AP5003631

2

beam and that the quality of the ruby increases, in terms of internal homogeneity as the circles acquire greater contrast and sharper contours. Orig. art. has: 11 figures. [08]

ASSOCIATION: /Bocek/ Ustav pristrojove techniky CSAV, Brno (Institute of Building Technology, CSAV); /Kment/ Spolek pro chemickou a hutni vyrobu, Usti n. L. (Chemical Manufacturing Company)

SUBMITTED: 24 Sep64 ENCL: 00 SUB CODE: EC

NO REF SOV: 002 OTHER: 009 ATD PRESS: 4036

Card 2/2

BOCEK, V.

PHASE I BOOK EXPLOITATION SOV/4983

International symposium on macromolecular chemistry. Moscow, 1960.

Mezhdunarodnyy simpozium po makromolekulyarnoy khimii, SSSR, Moskva, 14-18 iyunya 1960 g.; doklady i avtoreferaty. Sektsiya II. (International Symposium on Macromolecular Chemistry Held in Moscow, June 14-18; Papers and Summaries) Section II. [Moscow, Izd-vo AN SSSR, 1960] 559 p. 5,500 copies printed.

Sponsoring Agency: The International Union of Pure and Applied Chemistry, Commission on Macromolecular Chemistry

Tech. Ed.: T.A. Prusakova.

PURPOSE: This book is intended for chemists interested in polymerization reactions and the synthesis of high-molecular compounds.

COVERAGE: This is Section II of a multivolume work containing papers on macromolecular chemistry. The papers in this volume treat mainly the kinetics of various polymerization reactions initiated by different catalysts or induced by radiation. Among the research techniques discussed are electron paramagnetic resonance spectroscopy and light-scattering interpolation. There are summaries in English, French and Russian. No personalities are mentioned. References follow each article.

31

45

BOCEK, Vl., inz.

Temperature changes in the prism monochromator. Jemna mech opt 8 no.10:304-306 O '63.

1. Ustav pristrojove techniky, Ceskoslovenska akademie ved, Brno.

ACCESSION NR: AP3003661 Z/0055/63/013/006/0459/0470

AUTHOR: Vavrouch, D.; Bocek, V.

TITLE: Some optimum parameters of Golay detector of infrared radiation

SOURCE: Chekhoslovatskiy fizicheskiy zhurnal, v. 13, no. 6, 1963, 459-470

TOPIC TAGS: infrared spectroscopy, Golay detector, pneumatic detector, flexible mirror, flexibile mirror deflection, infrared radiation

ABSTRACT: The relation for the sensitivity of the pneumatic detector based on the analysis of the themal, pneumatic, and optical parts of the instrument is derived, account being taken of the method of indicating the deflection of the flexible mirror and under the assumption that the detector has only time constant and that it can be expressed by a relation of the same form as is valid for a "flat cell." The optimum diameter of the flexible mirror and the optimum gas pressure in the detector cell are calculated from the relation derived. The resultant expressions for the optimum diameter differ somewhat from the results published by Yosihara (reference given), who did not take into consideration the method of indicating the deflection of the flexible mirror. Orig. art. has: 4 figures and 31 formulas.

Card 1/2

ACCESSION NR: AP3003661

ASSOCIATION: Ustav pristrojove techniky CSAV, Brno (Institute of Instrument Technology, CSAV)

SUBMITTED: 14Apr61	DATE ACQ: 16Jul63	ENCL: 00
SUB CODE: 00	NO REF SOV: 000	OTHER: 011

Card 2/2

ACCESSION NR: AP4016947 Z/0030/64/000/002/0038/0042

AUTHOR: Petru, F. (Engineer); Bocek, VL (Engineer); Krsek, J. (Engineer); Popela, B. (Engineer)

TITLE: Construction and technology of a helium-neon laser

SOURCE: Jemna mechanika a optika, no. 2, 1964, 38-42

TOPIC TAGS: laser, resonator, helium emission, neon emission, helium spectrogram, neon spectrogram, stimulated emission, high frequency generator

ABSTRACT: The authors describe the construction and technology of a continuously emitting He-Ne (9:1) laser. A resonator was used consisting of two concave mirrors 50mm in diameter (radius of curvature - 800 mm) with 13 dielectric interference layers for a maximum reflective capacity at a wavelength of 1.1523 μm. The setup for measuring the emission spectra is described. Three different shapes of tube were tested, differing in length, diameter, gas pressure, and the angle of closure. The first sign of stimulated emission was achieved with spherical mirrors at a distance of 860 mm; it appeared as a new emission line at a wavelength of 1.15μm. Various frequency patterns were observed, and the most typical ones were photographed; some of these photographs are reproduced in the paper. "In conclusion, the authors thank M. Rubes, K. Stefka

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Card

ACCESSION NR: AP4016947

and M. Horky for developing the technology of tube manufacture, Z. Vesela for work on the high frequency generator, R. Chudoba for work on the optical bench and O. Moudry for the spectral measurements." Orig. art. has: 13 figures and 1 table.

ASSOCIATION: Ustav pristrojove techniky CSAV, Brno (Institute for Equipment Design, Czechoslovak Academy of Sciences)

SUBMITTED: 06Dec63 DATE ACQ: 18Mar64 ENCL: 00

SUB CODE: SD,PH NO REF SOV: 000 OTHER: 012

2/2
Card

ACCESSION NR: AP4029389 Z/0039/64/025/004/0181/0185

AUTHOR: Petru, Frantisek (Engineer); Bocek, Vlastislav (Bochek, V.) (Engineer); Popela, Bohumir (Engineer); Krsek, Jiri (Krshek, Y.) (Engineer)

TITLE: Gas laser with a mixture of helium and neon

SOURCE: Slaboproudy obzor, v. 25, no. 4, 1964, 181-185

TOPIC TAGS: laser, stimulated emission, emission spectrum, emission line, emission intensity, helium emission, neon emission

ABSTRACT: A He-Ne (9:1) laser emitting continuous radiation at a wavelength of 1.1523 μm was used for measurements of stimulated emissions and emission spectra. The emitted radiation was measured by a PbS photoelectric cell and a monochromator made from an optical goniometer. Results are given of measurements with three silica tubes of various lengths and diameters and closed by plates installed at various Brewster angles. The best results with stimulated emission (~ 5 mW) were obtained with a tube in which the silica plates were fastened with glue rather than being soldered on. These tubes are free of deformation and tension. The relationship between input and the ratio P/P max. is shown on a graph for one type of tube. The reliability at maximum output was found to be good, and the stability of the emission during several hours of operation

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ACCESSION NR: AP4029389

was ±3%/hr. Orig. art. has: 9 figures and 1 table.

ASSOCIATION: Ustav pristrojove techniky CSAV, Brno (Institute for Equipment Design, Czechoslovak Academy of Sciences)

SUBMITTED: 10Dec63 DATE ACQ: 01May64 ENCL: 00

SUB CODE: SO, PH NO REF SOV: 003 OTHER: 011

Card 2/2

PETRU, F., inz.; BOCEK, Vl. inz.; KROFTA, J., inz.; [illegible]A, B., inz.

Design and technology of the gas molecular generator of He-Ne light. Jemna mech opt 9 no.2:38-[illegible] F'64.

1. Ustav pristrojove techniky, skoslovenska akademie ved, Brno.

BOCEK, V., inz.; KMENT, V., inz.

Interference measurement of the homogeneity of ruby resonators for lasers. Jemna mech opt 9 [i.e. 10] no.1:5-6 Ja '65.

1. Institute of Instrument Technology of the Czechoslovak Academy of Sciences, Brno (for Bocek). 2. Association for Chemical And Metallurgical Production, Usti nad Labem (for Kment). Submitted September 24, 1964.

S/081/62/000/015/022/038
B168/B101

AUTHOR: Bocek, Vladimir

TITLE: A method of polymerizing α-olefines

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 15, 1962, 547-548, abstract 15P124 (Czechoslovak Patent 97063, October 15, 1960)

TEXT: The α-olefines $CH_2 = CHR$, where R = alkyl, aryl or H, were polymerized from mixed crystals of $TiCl_2$ or $TiCl_3$ with chlorides of elements of groups II-VII in combination with trialkylaluminum or halogenalkylaluminum as catalyst. Polymerization was normally carried out at 40-80°C in a hydrocarbon medium; the pressure was normal or was increased up to 100 atm, depending on conditions. By using mixed crystals of different qualitative and quantitative compositions it was possible, within broad limits, to regulate separately the stereospecificity of the catalyst, the rate of polymerization and the molecular weight of the polymer. Mixed crystals of $TiCl_3$-$AlCl_3$ thus increased the rate of

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S/081/62/000/015/022/038
B168/B101

A method of polymerizing α-olefines

polymerization several times as compared with pure $TiCl_3$, whilst within the $AlCl_3$ content range of 5-90% the stereospecificity of the catalyst was retained and the molecular weight of the polymer was unchanged. The molecular weight of the product could be regulated by using $TiCl_3$-$MgCl_2$, $MnCl_2$, $ZnCl_2$, etc. as catalyst. The percentage of the crystalline part in the polymer could be changed by means of a catalyst of the type $TiCl_3$-$AlCl_3$-$FeCl_2$, $SnCl_2$, $MgCl_2$. 300 ml n-heptane and 40 g propylene were placed under an atmosphere of N_2 in a thoroughly dried stainless-steel autoclave and were heated to 50°C, whereupon a catalyst of 0.70 g triethylaluminum and 0.35 g mixed crystal composed of 29% $MgCl_2$, 17.3% $AlCl_3$ and 53.7% $TiCl_3$ was introduced. Intensive cooling was necessary in order to maintain the right temperature. Polymerization was discontinued after 1 hour by adding methanol. This produced 23 g polypropylene of intrinsic viscosity 2.34, crystalline part 45%. With pure $TiCl_3$ under the same

Card 2/3

A method of polymerizing α-olefines

S/081/62/000/015/022/038
B168/B101

conditions the figures were 5.0 g, 3.68 and 85% respectively. Very many more examples are given. [Abstracter's note: Complete translation.]

Card 3/3

L 22376-66 EWT(m) DIAAP

ACC NR: AP6009366 SOURCE CODE: CZ/0055/65/015/011/0824/0831

AUTHOR: Maly, L.; Plajner, Z.; Dragoun, O.; Kuklik, A.; Bocev, B.

ORG: Nuclear Research Institute, Czechoslovak Academy of Sciences, Rez

TITLE: Radioactive decay of Re^{188}

SOURCE: Chekhoslovatskiy fizicheskiy zhurnal, v. 15, no. 11, 1965, 824-831

TOPIC TAGS: radioactive decay, radiation spectrum, photoelectron, conversion electron spectrum, electron structure, nuclear radiation spectrometer, radioisotope, rhenium, gamma transition

ABSTRACT: The spectra of negatons, conversion electrons, and photoelectrons have been measured with the iron-collar double-focusing spectrometer. Two β-groups with end-point energies of 2128 and 1973 keV and lgft values of 8.04 and 8.41 were observed. The *K* and *L* conversion coefficients of the 155.0-keV transition were found to be nearly in agreement with theory. Three new γ-transitions, 635, 1175, and 1461 keV were observed, and some corrections of the decay scheme were made. The possible interpretation of the excited states are discussed. The partial results of this paper were presented at the Annual Nuclear Spectroscopy Conference, Dubna, June 1964. At this conference,

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L 22376-66

ACC NR: AP6009366

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the authors were told about the work on the same isotope done by the Soviet group. Because this information was incomplete, it was not included in the list of references. A paper has since been published (V. D. Vitman, N. A. Vionova, B. S. Dzhelepov, Yadernaya fizika, 1, 1965, 191). Besides the three new γ-transitions observed in the present paper, the seven additional γ-transitions are reported, and several energies in the two papers in question are slightly different. The authors thank M. Burianek, V. Kopriva, and F. Prazak for their assistance in this work. Orig. art. has: 7 figures and 2 tables.
[Based on author's abstract]

SUB CODE: 20/ SUBM DATE: 21Apr65/ ORIG REF: 003/
OTH REF: 017/ SOV REF: 002 [NT]

Card 2/2 nst

BOCEV, Jordan

Pregnancy and labor in nephrectomized women. Report of 2 cases.
Srpski arh. celok.lek. 91 no.7:731-734 Jl-Ag'63

1. Ginekolosko-akuserske adeljanje Opste bolnice u Titovom Velesu. Sef:dr. Jordan Bocev.

*

YUGOSLAVIA

Dr Jordan BOCEV, Chief (Sef)General Hospital (Opsta bolnica), Titov Veles.

"Current Therapeutic Practices in Placenta Previa."

Belgrade, Medicinski Glasnik, Vol 16, No 9, Sept 1962; pp 401-404.

Abstract [English summary modified]: A didactic review of the subject. Early diagnosis and continuous medical surveillance during pregnancy are essential and the safest mode of delivery is low cesarean section, with careful control of blood loss through all stages. Transfusions must be ready for both mother and newborn. Three brief case reports; 3 Yugoslav and 7 Western references

1/1

BOCH, M.S.; YURKOVSKAYA, T.K.

Interesting type of Karelian swamp. Bot.zhur. 41 no.11:1631-1633 N '56. (MLRA 10:1)

1. Botanicheskiy institut imeni V.L. Komarova Akademii nauk SSSR, Leningrad.

(Karelia—Peat bogs)

BOCH, M.S.

Vegatation as an indicator of the structure of peat beds [with summary in English]. Vest. LGU 13 no.3:35-47 '58. (MIRA 11:5)
(Peat bogs)

BOOH, M.S.

Vegetation and its relation to peat beds in different bog types. Bot. zhur. 43 no.4:533-544 Ap '58. (MIRA 11:6)

1. Botanicheskiy institut im. V.L. Komarova Akademii nauk SSSR, Leningrad.

(Peat bogs)

BOCH, M. S.: Master Biol Sci (diss) -- "Plant cover as an indicator of the structure of a peat deposit". Leningrad, 1959. 20 pp (Acad Sci USSR, Botanical Inst im V. L. Komarov), 150 copies (KL, No 15, 1959, 115)

BOCH, M.S.

Structure of peat deposits in the bogs of central Karelia.
Trudy Kar. fil. AN SSSR no.15:94-107 '59.
(MIRA 12:12)

(Karelia--Peat bogs)

BOCH, M.S.; RUBTSOV, N.I.

Bog complexes in the western part of the Podolian Upland. Bot. zhur. 47 no.4:506-518 Ap '62. (MIRA 15:8)

1. Botanicheskiy institut imeni V.L.Komarova AN SSSR i Laboratoriya aerometodov AN SSSR, Leningrad.
(Podolia--Peat bogs)

BOCH, M.S.

"Peat deposits of White Russia; genesis, stratigraphy, and regionalization" by A.P. Pidoplichko. Reviewed by M.S. Boch. Bot. zhur. 47 no.6:875-878 Je '62. (MIRA 15:7)

1. Botanicheskiy institut imeni V.L. Komarova AN SSSR, Leningrad.
(White Russia—Peat)
(Pidoplichko, A.P.)

BOCH, M.S.

"Vegetation and ecology of sloping fens in eastern Finland": by P. Havas. Reviewed by M.S.Boch. Bot.zhur. 47 no.11:1690-1691 N '62, (MIRA 16:1)

1. Botanicheskiy institut imeni Komarova AN SSSR, Leningrad. (Finland—Swamps) (Havas, P.)

LUKICHEVA, A. M.; BOCH, M. S.

Activities of the Section of Flora and Vegetation of the All-Union Botanical Society in 1961-1962. Bot. zhur. 48 no.3: 467-469 Mr '63. (MIRA 16:4)

1. Botanicheskiy institut imeni V. L. Komarova AN SSSR, Leningrad.

(Botanical research)

NORIN, B.N.; SOLONEVICH, N.G.; BOCH, M.S.; RAKHMANINA, A.T.; KATENIN, A.Ye.

Tasks and basic trends of research at the Forest Tundra Station of the V.L. Komarov Botanical Institute of the Academy of Sciences of the U.S.S.R. Bot. zhur. 48 no.5: 773-777 My '63. (MIRA 17:1)

1. Botanicheskiy institut imeni V.L. Komarova AN SSSR, Leningrad.

BOCH, M.S.

"Aapa" bogs in the Northeast of the European part of the U.S.S.R. Bot. zhur. 48 no.12:1818-1822 D '63. (MIRA 17:4)

1. Botanicheskiy institut imeni Komarova AN SSSR, Leningrad.

BOCH, M.S.

Structure of peat deposits under tree-dominant and hydrophilic tree-and-moss associations in the bogs of central Karelia. Uch. zap. Petrozav. gos. un. 12 no.2:90-105 '64. (MIRA 18:7)

SOLONEVICH, N.G.; BOCH, M.S.

International Peat Congress in Leningrad, August 15-23, 1963. Bot. zhur. 49 no.3:464-469 Mr '64. (MIRA 17:3)

1. Botanicheskiy institut imeni Komarova AN SSSR, Leningrad.

BOCH, M.S.

"On the regional subdivision of swamps in southern Finland," by S. Eurola. Reviewed by M.S. Boch. Bot. zhur. 49 no.5:746-749 My '64. (MIRA 17:8)

1. Botanicheskiy institut imeni V.L. Komarova.

BOCH, M.S.; YURKOVSKAYA, T.K.

Comparison of the bog regions of Karelia, Kola Peninsula, and Finland. Bot. zhur. 49 no.7:980-988 Jl '64
(MIRA 17:8)

1. Botanicheskiy institut imeni V.L.Komarova AN SSSR, Leningrad i Institut biologii Petrozavodskogo gosudarstvennogo universiteta, Petrozavodsk.

BOCH, M.S.

Present state of the question concerning the use of the indicatory role of bog vegetation in studying the structure and properties of peat deposits. Trudy MOIP 8:72-76 '64.

(MIRA 17:12)

BOCH, M.S.

Work of the Section for Swamp Study of the All-Union Botanical Society during 1963-1964. Bot. zhur. 50 no.1:160-163 Ja '65. (MIRA 18:3)

1. Botanicheskiy institut imeni Komarova AN SSSR, Leningrad.

BOCH, M.S.

Basic problems and trends in the development of the study of swamps in the European countries during the period 1945-1963. Bot.zhur. 50 no.2:245-264 F '65.
(MIRA 18:12)

1. Botanicheskiy institut imeni V.L. Komarova AN SSSR, Leningrad. Submitted April 20, 1964.

BOCH, M.S.; SOLONEVICH, N.G.

Conference on the problem "Modern ways and methods of swamp studies." Bot.zhur. 50 no.7:1031-1056 Jl '65.
(MIRA 18:11)

1. Botanicheskiy institut imeni Komarova AN SSSR, Leningrad.

BOCH, S. G.

Quarternary Deposits of the Water Separating region of the pre-polar Urals. Trudy Sov. Sekts. Mezhd. Assots. Po Izvch. Chetverticher. Perioda #5, 1941.

SO: Trudy Arkitcheskogo Nauchno-Issledovatel'skogo Instituta, GUSMP, Council of Ministers, Vol 201, 1948

BOCH, S. G. and KRASNOV, I. I.

Mountainous Terraces and Ancient Weathered Surfaces in the Urals and related problems. Iz. Vses. Geogr. Obshch. Vol 75 #1, 1943

SO: Trudy Arkitcheskogo Nauchno-Issledovatel'skogo Instituta, GUSMP Council of Ministers, Vol 201, 1948

BOCH, S. G.

PA5/49T58

USSR/Hydrology May 48
Erosion

"The Geomorphological Work of River Ice," S. G. Boch, 1 p

"Priroda" No 5

In 1946, Boch made a trip up the Voykar River, left tributary of the Ob' River, whose source is on the eastern slopes of the Polar Urals (about 66° 30' N). Describes geomorphological action of ice on banks and shallows, which was exceptionally well defined.

[redacted] 5/49T58

BOCH, S.G.

Geomorphological profiles. Izv.Vses.geog.ob-va 85 no.5:502-505 S-O '53.
(MLRA 6:10)
(Geology, Structural)

BOCH, S.G.; GRUSHEVOY, V.G.; DZEVANOVSKIY, Yu.K.; ZORICHEVA, A.I., IVANOV, A.A.; KUREK, N.N.; LIBROVICH, L.S.; MOROZENKO, N.K.; NEKHOROSHEV, V.P.; RUSANOV, B.S.; SPIZHARSKIY, T.N.; SHABAROV, N.V.; SHATALOV, Ye.T., redaktor; DZEVANOVSKIY, Yu.K.; redaktor; KRASNIKOV, V.I., redaktor; MIRLIN, G.A., redaktor; RUSANOV, B.S., redaktor; SEMENOVA, M.V., redaktor; GUROVA, O.A., tekhnicheskiy redaktor.

[Instruction for compiling and preparing for publication the state geological map of the U.S.S.R., and the map of the mineral resources of the U.S.S.R.Scale 1:1000000] Instruktsiia po sostavleniiu i podgotovke k izdaniiu gosudarstvennoi geologicheskoi karty SSSR i karty poleznykh iskopaemykh SSSR. Masshtaba 1:1000000. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po geologii i okhrane nedr, 1955. 52 p., tables of symbols, maps [Microfilm] (MLRA 9:6)

1. Russia (1923- U.S.S.R.) Ministerstvo geologii i okhrany nedr. (Geology--Maps)

Boch, S G

YAKOVLEV, S.A.; APUKHTIN, N.I.; BOCH, S.G.; VOZNESENSKIY, D.V.; GROMOV, V.I.; ZHUKOV, M.M.; KRASNOV, I.I.; LUNGERSGAUZEN, G.F.; PERKONS, V.A.; POKROVSKAYA, I.M.; RUDOVITS, Yu.L. [deceased]; SEMENOVA, A.S.; SHARKOV, V.V.; EPSHTEYN, S.V.; YAKOVLEVA, S.V.; VERSTAK, G. V. redaktor; GUROV, O.A., tekhnicheskiy redaktor.

[Methodical aid for studying and geological surveying of quarternary deposits; description of methods] Metodicheskoe rukovodstvo po izucheniiu i geologicheskoi s"emke chetvertichnykh otiozhenii; opisanie metodov. Sost.S.A.Iakovlev. Moskva, Gos. nauchno-tekhn.izd-vo lit-ry po geologii i okhrane nedr, 1955. 485 p. [Microfilm] (MLRA 9:1)

1. Leningrad. Vsesoyuznyy geologicheskii institut.
(Geological surveys) (Geology, Stratigraphic--Quaternary--Study and teaching)

15-1957-12-16959

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 12, p 40 (USSR)

AUTHOR: Boch, S. G.

TITLE: Observations of the Forms of Micro-Mesorelief in Quaternary Deposits Caused by Permafrost Phenomena (Nablyudeniya nad formami mikro-mezorel'yefa v chetvertichnykh otlozheniyakh, svyazannymi s merzlotnymi protsessami)

PERIODICAL: V sb: Metod. rukovodstvo po izucheniyu i geol. s"yemke chetvertich. otlozheniy, ch 2, Moscow, Gosgeoltekhizdat, 1955, pp 298-345

ABSTRACT: Bibliographical entry

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Boch, S. G

14-1-393

Translation from: Referativnyy Zhurnal, Geografiya, 1957, Nr 1, p. 37 (USSR)

AUTHOR: Boch, S. G.

TITLE: Geomorphology of large Knolls (K geomorfologii krupno-bugristogo rel'yefa)

PERIODICAL: Materialy Vses. n.-i. geol. in-ta, 1955, Nr 9, pp. 19-34

ABSTRACT: Results of land and air observations (from a height of 50 to 300 m) of predominantly marshy terrain with large knolls, carried out by the author in the NE part of the European USSR and in the northern part of the region beyond the Urals, are given. Large knolls are encountered throughout the terrain studied and form on quaternary deposits of different origins. The knolls develop extensively in poorly drained, humid, level or slightly inclined surfaces of water-divides, lake hollows and valleys, and in the glacier troughs. The southern boundary of the mass development of knolls within the confines of the Urals corresponds more or less to the

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Geomorphology of large Knolls

southern boundary of permafrost. Knolls are divided into 3 groups: a) knolls formed entirely of mineral soil; b) knolls formed of mineral soil and covered by a layer of peat (not over 1 m deep); c) knolls of all-peat formation. Layers of ice several decimeters deep are encountered in these knolls during the summer at a depth of 0.3 to 0.8 m, especially in the knolls of the last 2 types. The knoll size varies from 3 - 5 to 25 - 40 m across, with a corresponding height of 0.7 to 1.5 m and up to 7 m. They have a cupola, flat cupola and truncated shape, often with a saucer-type depression at the top. Different forms of knolly terrain are described at some length. Bibliography: 30 references.

ASSOCIATION: All-Union Geological Scientific Research Institute (Vses. n.-i. geol. in-t.)

BOCH,S.G.

Contents of a general geomorphological map. Biul.Kom.chetv.per. no.20:5-15 '55. (MLRA 8:11)

(Maps)

15-57-8-11211

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 8, p 149 (USSR)

AUTHOR: Boch, S. G.

TITLE: Solifluction and Formation of Alluvial Streaks (Soliflyuktsiya i obrazovaniye rossypnykh shleyfov)

PERIODICAL: V sb: Materialy po chetvertich. geol. i geomorfol. SSSR, Moscow, Gosgeoltekhizdat, 1956, pp 185-193

ABSTRACT: The structure of solifluction alluvial streaks has been studied very slightly from the point of view of the demands of prospecting practice. The author proposes classification of these streaks. He distinguishes streaks connected with the original deposits, usually single-stage, on inclines of about 8°, and those which are displaced, multi-stage, on inclines up to 20°. He examines the process of formation and the structure of the multi-stage alluvial streaks, the

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Solifluction and Formation of Alluvial Streaks (Cont.)

dependence of their form on the steepness of the slope, and also the distribution of the mineral resources with relation to the mechanical composition of the material composing the streak in extent and in vertical cross section. For the moderately sloping streaks, a redistribution of the mineral resources is characteristic, associated with the development of the ground structures. (The ore concentrate is correlated with the soil bands and lenses). The streaks of average steepness are characterized by a loading of the alluvial deposits under the ground from the base to the top and an increase in the content of mineral resources in this direction. On steep slopes, the solifluction streaks have no industrial value. The author emphasizes the rapid destruction and displacement of the material of the original deposits under conditions of solifluction and the variation of the formation of alluvial deposits with the character of the solifluction. In prospecting of alluvial streaks, careful study of all phenomena of solifluction in relief (scale 1: 100 000) is recommended. This study makes it possible to locate

Solifluction and Formation of Alluvial Streaks (Cont.)

the prospecting trenches efficiently and to obtain a saving in the volume of mining operations of from 30 to 70 percent.

Card 3/3

A. V. Kozhevnikov

Boch, S.G.

BOCH, S.G.

Sergei Aleksandrovich IAkovlev. Mat.VSEGEI Chet.geol.i geomorf. no.1:7-11 '56. (MIRA 10:10)

(IAkovlev, Sergei Aleksandrovich, 1878-)

BOGH, S.G. [deceased].

Several types of microrelief connected with the melting action of firn's. Biul. Kom. chetv. per. no.21:131-135 '57. (MLRA 10:6)
(Erosion) (Glaciers)

Boch. S.G.

APUKHTIN, N.I.; BOGRETSOVA, T.B.; BOCH, S.G. [deceased]; GANESHIN, G.S.; GOLUBEVA, L.V.; GROMOV, V.I.; KRASNOV, I.I.; MIKHAYLOV, B.M.; NIKIFOROVA, K.V.; NIKOLAYEV, N.I.; POKROVSKAYA, I.M.; POPOV, V.V.; PRINTS, R.N.; RAVSKIY, E.I.; SHANTSER, Ye.V.; EPSHTEYN, S.V.; YAKOVLEVA, S.V.; FEODOT'YEV, K.M., redaktor izdatel'stva; KASHINA, P.S., tekhnicheskiy redaktor

[Concise field manual for a comprehensive geological survey of the Quaternary] Kratkoe polevoe rukovodstvo po kompleksnoi geologicheskoi s"emke chetvertichnykh otlozhenii. Sost. N.I.Apukhtin i dr. Moskva, 1957. 201 p. (MLRA 10:9)

1. Akademiya nauk SSSR. Geologicheskiy institut. 2. Moskovskiy geologo-razvedochnyy institut (for Shantser). 3. Geologicheskiy institut Akademii nauk SSSR (for Nikiforova, Ravskiy, Golubeva) 3. Vsesoyuznyy Nauchno-issledovatel'skiy geologicheskiy institut Ministerstva geologii i okhrany nedr SSSR (for Ganeshin, Bogretsova, Mikhaylov). 4. Voyenno-inzhenernaya akademiya im. Kuybysheva (for Popov). 5. Trest "Mosgeolnerud" (for Prints). 6. Severo-Zapadnoye geologicheskoye upravleniye (for Apukhtin)
(Geology, Stratigraphic)

SPIZHARSKIY, T.N., red.; TOLSTIKHINA, M.A., red.; BODYLEVSKIY, V.I., red.; BOCH, S.G., red.[deceased]; VASILENKO, V.K., red.; DODIN, A.L., red.; DOMRACHEV, S.M., red.; KRASNOV, I.I., red.; MELESHCHENKO, V.S, red.; MENNER, V.V., red.; NIKIFOROVA, O.I., red.; OBRUCHEV, S.V., red.; RZHONSNITSKAYA, M.A., red.; ROSTOVTSEV, N.N., red; SAKS, V.N., red.; SARYCHEVA, T.G., red.; FOMICHEV, V.L., red; CHERNYSHEVA, N.Ye., red.; YAKOVLEV, S.A., red.; RAGINA, G.M., vedushchiy red.; YASHCHURZHINSKAYA, A.B., tekhn.red.

[Proceeding of the Interdepartmental Conference on the Development of a Unified System for the Stratigraphy of Siberia; reports on the stratigraphy of Mesozoic and Cenozoic deposits] Trudy Mezhvedomstvennogo soveshchaniia po razrabotke unifitsirovannykh stratigraficheskikh skhem Sibiri; doklady po stratigrafii mezozoiskikh i kainozoiskikh otlozhenii. Leningrad, Gos.nauchno-tekhn.izd-vo neft. i gorno-toplivnoi lit-ry, Leningr. otd-nie, 1957. 575 p. (MIRA 11:6)

1. Mezhvedomstvennoye soveshchaniye po razrabotke unifitsirovannykh stratigraficheskikh skhem Sibiri. Leningrad, 1956. 2. Vsesoyuznyy geologicheskiy nauchno-issledovatel'skiy institut (for Spizharskiy, Tolstikhina, Boch, Dodin, Krasnov, Meleshchenio, Nikiforova, Rostovtsev, Fomichev, Chernysheva, Yakovlev). 3. Leningradskiy gornyy institut (for Bodylevskiy). 4. Vsesoyuznyy neftyanoy nauchno-issledovatel'skiy geologo-razvedochnyy institut (for Vasilenko, Domrachev). 5. Geologicheskiy institut Akademii nauk SSSR (for Menner). 6. Laboratoriya dokembriya Akademii nauk SSSR (for Obruchev). 7. Institut geologii Arktiki (for Saks). 8. Paleontologicheskiy institut Akademii nauk SSSR (for Sarycheva)

(Siberia--Geology, Stratigraphic)

BOGH, S.G. [deceased]; KRASNOV, I.I.

Classification of geomorphological mapping objects and contents of general geomorphological maps in establishing conventional signs for maps made on different scales [With summary in English]. Sov. geol. 1 no.2:27-50 '58. (MIRA 11:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy geologicheskiy institut.
(Geology, Structural--Maps)

SPIZHARSKIY, T.N., red.; BODYLEVSKIY, V.I., red.; BOCH, S.G., red.; VASILENKO, V.K., red.; DODIN, A.L., red.; DOMRACHEV, S.N., red.; KRASNOV, I.I., red.; MELESHCHENKO, V.S., red.; MENNER, V.V., red.; NIKIFOROVA, O.I., red.; OBRUCHEV, S.V., red.; RZHONSNITSKAYA, M.A., red.; ROSTOVTSEV, N.N., red.; SAKS, V.N., red.; SARYCHEVA, T.G., red.; FOMICHEV, V.D., red.; CHERNYSHEVA, N.Ye., red.; YAKOVLEV, S.A., red.; SKVORTSOV, V.P., red.izd-va; PEN'KOVA, S.A., tekhn.red.

[Decisions of the Interdepartmental Conference on Making Unified Stratigraphic Charts of Siberia] Reshenila Mezhvedomstvennogo soveshchaniia po razrabotke unifitsirovannykh stratigraficheskikh skhem Sibiri. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po geol. i okhrane nedr, 1959. 91 p. (MIRA 12:9)

1. Mezhvedomstvennoye soveshchaniye po razrabotke unifitsirovannykh stratigraficheskikh skhem Sibiri, Leningrad, 1956.

(Siberia--Geology, Stratigraphic)

BOCHACHER, M.

BOCHACHER, M. Moldaviia. 58 p. (Respubliki i oblasti SSSR)

So: LC, Soviet Geography, Part II, 1951/Unclassified

BOCHACZ, Edward

Some aspects of working hours in commercial enterprises. Praca zabesp spol 5 no.8/9:1-8 Ag-S 163.

BOCHAGOV A.M., aspirant.

Errors in methods in barometric altitude measurement. [Trudy] MVTU no.48:57-81 '55. (MLRA 9:8)
(Barometric hypsometry)

BOCHAGOV, B. A.

BOCHAGOV, B. A. : "A new method of studying the angular and energy distributions of heavy charged particles and fission particles, based on the use of the impulse ionization chamber." Acad Sci USSR. Leningrad Physicotechnical Inst. Leningrad, 1956 (Dissertation for the Degree of Candidate in Physicomathematical Science)

Source: Knizhnaya letopis' No. 28 1956 Moscow

Use of a pulse ionization chamber as an α-spectrometer. B. A. Bochagov, A. A. Vorob'ev, and A. P. Komar (Physico-Tech. Inst., Leningrad). *Izvest. Akad. Nauk S.S.S.R.*, *Ser. Fiz.* 20, 1455-60 (1956). The theory of an ionization chamber [illegible] high-voltage [illegible] grid, and a collector electrode is developed. [illegible] of errors is considered [illegible] [illegible] keV for 5 [illegible] particle [illegible] source. The total error [illegible] value of 25 keV. Nonmec[illegible] [illegible] 10-15% of all particles are registered [illegible] collimated and a noncollimated spectrum is given [illegible] natural mixt. of U isotopes [illegible] and [illegible]. The [illegible] can be used for measurement of α-γ correlations. S. P.

A2316 19

PULSE IONIZATION CHAMBER AS A DEVICE FOR SIMULTANEOUS STUDY OF THE ENERGY AND ANGULAR DISTRIBUTIONS OF CHARGED PARTICLES. B. A. Bochagov, A. A. Vorob'ev, and A. P. Komar (Kalinin Leningrad Polytechnic Inst.). Zhur. Tekh. Fiz. [illegible] July (In Russian)

BOCHAGOV, B.A.

AUTHOR BOCHAGOV, B.A., KOMAR, A.P., KOCHAROV, G.E. 56-5-51/55

TITLE The Fine Structure of the α-Spectra of U^{234} and of U^{238} (Ton'kaya struktura α-spektrov U^{234} i U^{238} -Russian)

PERIODICAL Zhurnal Eksperim.i.Teoret.Fiziki,1957,Vol 32,Nr 5,pp 1257-1259(USSR)

ABSTRACT It is of advantage to investigate the fine structure of the α-spectra of long-lived isotopes by means of impulse ionization-chambers, because their light intensity is by several orders of magnitude higher than that of magnetic spectrometers.However,the ionization chambers have a slightly lower dissolving power than the magnetic spectrometers.The authors of the paper under review were able to reduce the mean quadratic values of the radiotechnical noise to 6.8 MeV. Furthermore it was possible,by means of the electrical collimation method devised in the laboratory of the authors,to fully utilize the light intensity of the apparatus.On basis of these considerations, the authors of the paper under review constructed a device with a half width of the line of 30 keV and with good light intensity. By means of this apparatus,the energy spectrum of the α-particles of U^{234} and of U^{238} was investigated.A natural mixture of the uranium isotopes served as source of the α-particles. The results obtained are to be found in two diagrams contained in the paper under review.In addition to the main group of the α-particles with the energy of 4.77 MeV, a group of α-particles with the energy of 4.72MeV was very distinctly separated in U^{234}; this group corresponds to the transition to the first rotational level of Th^{230}.The instensities of these two lines amount to 72% and 28%. These data are in

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The Fine Structure of the α-Spectra of U^{234} and of U^{238}. 56-5-51/55

good agreement with the results obtained by other authors.The line of the fine structure is in a distance of 45 keV from the main line.The ratio of the intensity of the main line and of the intensity of the line of the fine structure equals 4 . The half width of the lines obtained amounts to ~ 30keV.The curves obtained are by no means the sum n of the two Gauss curves corresponding to the main group and to the group of the fine structure.It was necessary to assume the existence of a third group of α-particles with an energy somewhere between the main group and the group of the fine structure, as the nucleus emits with low energy a conversion electron after the emission of the α-particle.The conversion amounts to virtually 100%. (2 reproductions).

ASSOCIATION Leningrad Physical-Technological Institute,Academy of Science of the U.S.S.R.

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Card 2/2

Bochagov, B.A.

120-6-16/36

AUTHORS: Bochagov, B.A., Kocharov, G.Ye., and Kirshin, G.F.

TITLE: An Improvement in the Energy Resolution of the Ionisation Chamber with a Grid (Uluchsheniye razreshayushchey sposobnosti po energii impul'snoy ionizatsionnoy kamery s setkoy)

PERIODICAL: Pribory i Tekhnika Eksperimenta, 1957, No.6, pp. 72 - 74 (USSR)

ABSTRACT: The main factors are considered which have an effect on the energy resolution of an ionisation chamber containing a grid. As is known, the presence of even a small impurity of gases such as oxygen, water vapour, etc. considerably worsen the energy resolution. To clean up the gas a sodium "filter" was used. The clean-up took about 2 to 3 hours. By a suitable choice of the first valve of the amplifier, and by suitable matching, the RMS value of the noise was reduced to 6.8 keV, which is less by 3.2 keV than that quoted in Ref.4. It is shown that the Soviet valve 6Ж1П has better noise properties than the American valve 6AK5. The signal-to-noise ratio depends on the pass band of the amplifier as well as the characteristics of the first valve. To obtain a maximum signal-to-noise ratio, it is necessary to use valves having a small grid current as well as very curved characteristics. The energy spectrum of

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An Improvement in the Energy Resolution of the Ionisation Chamber with a Grid. 120-6-16/36

α-particles from U^{234} and U^{238} (Ref.6) was measured using the above improved circuitry. The half width of the α-lines was found to be about 30 keV. The following persons collaborated: A.P. Komar, A.A. Vorob'yev and S.N. Nikolayev.
There are 5 diagrams and 6 references, 3 of which are Slavic.

ASSOCIATION: Physico-Technical Institute Ac.Sc. USSR. (Fiziko-tekhnicheskiy Institut AN SSSR)

SUBMITTED: January 17, 1957.

AVAILABLE: Library of Congress.

Card 2/2

ВОСНАСОВ, В.А.

AUTHORS: Bochagov, B. A., Vorob'yev, A. A., Komar, A. P. 57-27-7-20/40

TITLE: An Impulse Ionization Chamber as a Device for the Simultaneous Investigation of the Energetic and Angular Distributions of Charged Particles (Impul'snaya ionizatsionnaya kamera kak pribor dlya odnovremennogo izucheniya energeticheskikh i uglovykh raspredeleniy zaryazhennykh chastits).

PERIODICAL: Zhurnal Tekhnicheskoy Fiziki, 1957, Vol. 27, Nr 7, pp. 1575-1577 (USSR)

ABSTRACT: It is shown that the energy E (half width of the lines of α-spectra) and the angle of flight φ (between the normal to the electrodes and the direction of flight of the charged particle) of the particle concerned can be determined beginning from the source, when the quantity of the impulse V_1 (the voltage at the collecting electrode) and the quantity of one of theimpulses V_2 (the voltage at the high-voltage electrode), V_3 (the voltage at the power supply or V_4 (the voltage at the moment where all electrons have reached the collecting electrode) is simultaneously measured. The accuracy of measurement of cos φ in this connection is about 3% and can be improved. At present a mechanical collimator is often used in measurements of the energy of α-particles may also be brought to collimation without a mechanical collimator due to the fact that the ionization chamber permits a simultaneous measurement of E and

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An Impulse Ionization Chamber as a Device for the Simultaneous Investigation of the Energetic and Angular Distributions of Charged Particles. 57-27-7-20/40

φ. The method suggested here can also be employed for the solution of problems of α-spectroscopy, for theinvestigation of the α- - correlation, the neutron-spectrum according to the protons given off and for the investigation of the angular distribution of heavy products of nuclear reactions. There are 3 figures.

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1. Ionization chambers-Applications 2. Particles-Energy-Measurement
3. Particles-Transmission-Analysis

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AUTHORS: Bochagov, B. A., Komar, A. P., Solyakin, G. Ye.

TITLE: The Kinetic Energy of the Photofission Fragments of U^{238} /19

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960, Vol. 38, No. 5, pp. 1374-1380

TEXT: The authors report on investigations of the photofission of heavy nuclei, particularly U^{238}, carried out with the help of two pulsed ionization chambers. A block diagram of the experimental arrangement is shown in Fig. 1. The synchrotron of the FTI AN SSSR (Institute of Physics and Technology of the AS USSR) supplied 70 Mev gamma radiation. Uranyl nitrate in the natural isotopic composition in the form of a deposit on a cellulose film served as the target. The film was covered on both sides by thin sheets of aluminum. The thickness of the film together with that of the aluminum was 30 $\mu g/cm^2$. The thickness and the homogeneity of the uranyl-nitrate film were determined from the alpha spectrum of the natural uranium. Fig. 2 shows this spectrum taken from the side of uranyl nitrate. The thickness of the uranyl-nitrate film was 320 $\mu g/cm^2$. According to

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The Kinetic Energy of the Photofission Fragments of U^{238}

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I. V. Chuvilo (Ref. 9), the fragment yield is due to U^{238} fission with an accuracy of 1% when uranium targets of natural isotopic mixture are used. In the experiments, every fission event is characterized by the energies E_1 and E_2 (corresponding to whether it was recorded in the first or in the second chamber). The distribution of the individual events in (E_1, E_2) is shown in Fig. 3 (contour diagram) as "horizontal" surfaces $W_{ik}(E_1,E_2)$, where $W_{ik} = n_{ik}/n_{ik\ max}$, and n is the number of events. The remarkable thing about the surfaces $W_{ik}(E_1,E_2)$ is their symmetry for reflection at the vertical plane containing the principal diagonal $(E_1=E_2)$. This symmetry shows the same emission probability of light and heavy fragments for a given direction. It follows from Fig. 3 that the most probable values of the energies of the fragments are 87 and 61 Mev. Fig. 4 which shows the fragment yield as a function of the masses $m_2/m_1 = E_1/E_2$, gives the value of the most probable mass ratio as 1.36. It is seen, therefore, that the ratio of the most probable masses (1.43) is not equal to the

most probable mass ratio. (The same is true also of the neutron-induced fission of U^{235} and U^{233}.) The W_{ik} surfaces are further characterized by the two symmetrically lying "hillocks" with "ridges" parallel to the coordinate axes. These diagrams have analogous forms for the neutron-induced fissions of other heavy nuclei. Fig. 5 shows the spectra of the total (kinetic) energy $\Sigma E = E_1 + E_2$ for different E_1/E_2; Fig. 6 shows the spectrum $\Sigma E = f(N)$. The peculiarities of the curves are discussed. Fig. 7 shows the fragment distribution $N = f(E_1)$; Fig. 8 shows the same for three different ranges of ΣE. These distributions have always two maxima of nearly the same height. The most probable value of ΣE is 150±2 Mev, the half widths of the high and low energy peaks are 17 and 19 Mev, respectively. The measured values and also those obtained after correction for the source thickness and ionization defects are collected in a table. Yu. Morozov and B. K. Gormin are thanked for technical assistance. There are 8 figures, 1 table, and 13 references: 6 Soviet, 4 US, 2 Canadian, and 1 German.

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The Kinetic Energy of the Photofission Fragments of U^{238}

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ASSOCIATION: Leningradskiy fiziko-tekhnicheskiy institut Akademii nauk SSSR
(Leningrad Institute of Physics and Technology of the Academy of Sciences, USSR)

SUBMITTED: August 26, 1959 (initially) and January 18, 1960 (after revision)

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AUTHORS: Bochagov, B. A., Komar, A. P., Solyakin, G. Ye., Fadeyev, V. I.

TITLE: Kinetic energy of Th^{232} photofission fragments

PERIODICAL: Atomnaya energiya, v. 11, no. 6, 1961, 540 - 543

TEXT: The kinetic energy distribution of Th^{232} photofission fragments was determined in order to find the most probable fragment mass ratio, and to compare the results with those from 14-Mev neutron-induced Th^{232} fission. The experimental method has been described by the authors in a previous paper (ZhETF, 38, 1374 (1960)). Only the recording apparatus was altered, to make the coordinates of any oscillographic point correspond to the kinetic energy of a fragment. 150 $\mu g/cm^2$ of thorium nitrate was used as a target, deposited on an aluminum-coated collodium foil of total thickness 30 $\mu g/cm^2$. The target was 2 m off the gamma source so that about 10 decay events could be recorded per minute. The results, which are graphically presented, were determined from 26,000 decay records.

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Kinetic energy of Th^{232}...

The contour diagram for the fragment energy distribution shows that asymmetric, as well as symmetric fragmentations occur, and that the mass ratio m_2/m_1 diminishes as the mass of the disintegrating nucleus increases. For Th^{232}, U^{238} and Cf^{252}, m_2/m_1 is 1.56, 1.36, and 1.31, respectively. The figure 1.56 was determined from the fragment mass distribution. From the total energy distribution it can be seen that the most probable total energy $E = E_1 + E_2$ is lower and the half-width of the peak (45 Mev) higher, than the respective values for U^{238} photofission. The following numerical values for most probable fragment energy (Mev) were determined:

Heavy fragments: $52 + 2 + 6.8 = 61 \pm 2$
Light fragments: $89 + 2 + 5.6 = 97 \pm 2$
heavy + light f.: $143 + 2 + 12 = 157 \pm 3$

The authors thank the proton-synchrotron team of the FTI AN SSSR, and G. N. Nikolayev and K. Shvets for assistance. There are 4 figures, 1 table, and 4 references: 2 Soviet and 2 non-Soviet. The two references to English-language publications read as follows: D. Hiller, D. Martin. Phys. Rev., 90, 581 (1953); R. Jensen, A. Fairhall. Phys. Rev., 109, 942 (1958).

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S/020/61/141/006/009/021
B104/B112

24.6400

AUTHORS: Komar, A. P., Academician AS UkrSSR, Bochagov, B. A., and Solyakin, G. Ye.

TITLE: Energy distribution of α-particles in argon photodisintegration

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 141, no. 6, 1961, 1339-1342

TEXT: The authors observed the energy distribution of α-particles by an ionization chamber with grids for a period of 30-40 hours. Fig. 1 shows the block diagram of the experimental arrangement. γ-rays (E_{max} = 70 Mev) were produced by the synchrotron of the Physicotechnical Institute AS USSR and possessed lengths up to 1500 μsec. The device was calibrated by means of the α-particle spectrum of natural uranium. Energy distributions of α-particles were determined at argon pressures of 1, 1.3, 2, and 3 atmospheres. The maxima of energy distributions at these pressures ly at 4.6, 4.87, 4.4, and 4.3 Mev, the corresponding half-widths amounted to 2.62, 2.76, 3.20, and 3.65 Mev. Since these spectra differ only slightly, the effect of protons, deuterons, and tritons on the taking of spectra may

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be considered low. Effectiveness of recording of charged particles with $R^* > d$ decreases with increasing R^*. In this case, R^* is a value which approximately equals the particle path d = 35 cm (distance between electrode 1 and grid 2). The natural energy spectrum of α-particles produced in argon photodisintegration is constructed from the spectra obtained. The spectrum is shown in Fig. 3. Its maximum lies at 4.8 Mev, its half-width is 3.3 Mev. By a comparison with the spectrum calculated by the statistical theory, the difference of maxima was found to be 2 Mev. The deviation of the experimental from the theoretical value may be explained by the occurrence of the reaction $A^{40}(\alpha\gamma n)S^{36}$ besides reaction $A^{40}(\gamma\alpha)S^{36}$ or by a Coulomb penetration factor higher than used in the calculation. The authors thank the team of the synchrotron of the Physicotechnical Institute AS USSR for work performed. There are 3 figures and 9 references: 3 Soviet and 6 non-Soviet. The three references to English-language publications read as follows: M. E. Toms, I. McElhinney, Phys. Rev., 111, 561, (1958); M. M. Shapiro, Phys. Rev., 90, 171 (1953); G. A. Ferguson, J. Halpern et al., Phys. Rev., 95, 776 (1954).

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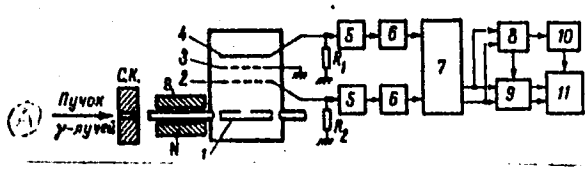
Energy distribution of ...

ASSOCIATION: Fiziko-tekhnicheskiy institut Akademii nauk SSSR (Physicotechnical Institute of the Academy of Sciences USSR)

SUBMITTED: September 22, 1961

Fig. 1. Block diagram of the experimental arrangement.
Legend: (A) Bundle of γ-rays; (C.K.) lead collimator; (1) electrode; (2) grid; (3) grid; (4) anode; (5) preamplifier; (6) amplifier; (7) selector; (8) coincidence circuit; (9) brightening circuit; (10) impulse shaper; (11) recording device (electron-beam tube).



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