UL'MAN, I.Ye., dots., kand. tekhn. nauk, otv. red.; KHARITONCHIK, Ye.M., prof., otv. za vyp.; Prinimali uchastiye: LEBEDEV, S.P., prof., doktor tekhn. nauk, red.; SERGEYEV, M.P., prof., red.; KUZNETSOVA, A.V., doktor sel'khoz. nauk, red.; MELAMED, V.I., dots., red.; DEULIN, N.P., dots., red.; SOKOLOV, B.F., dots., red.; ROMALIS, B.L., dots., red.; RASKATOVA, Ye.A., dots., red.; TONN, G.A., kand. tekhn. nauk, red.; PANUS, Yu.V., st. prepod., red.; KUBYSHEV, V.A., st. prepod., red.

[Materials of the Jubilee Scientific Conference of the Chelyabinsk Institute of the Mechanization and Electrification of Agriculture] Materialy IUbileinoi nauchnoi konferentsii. Cheliabinsk. Pt.1.[Investigation of the elements of design and the system of agricultural machinery] Issledovanie elementov konstruktsii i sistemy mashin v sel'skokhoziaistvennom proizvodstve. 1962. 122 p. Pt.2.[Improvement in the design of machinery and the means for prolonging their sevice life] Sovershenstvovanie konstruktsii mashin i puti uvelicheniia ikh dolgovechnosti. 1962. 118 p. Pt.3.[New methods for using electric power in mobile units and technological processes in agriculture] Novye sposoby ispol'zovaniia elektricheskoi energii v mobil'nykh agregatakh i tekhnologicheskikh protsessakh sel'skokhoziaistvennogo proizvodstva. 1962. 44 p. (MIRA 16:8)

1. Chelyabinsk. Institut mekhanizatsii i elektrifikatsii sel'skogo khozyaystva.
(Agricultural machinery) (Electricity in agriculture)

UL'MAN, I.Ye., kand. tekhn. nauk; GERSHTEYN, I.M., inzh.

Automatic alternating current build-up with a pulsation arc. Mekh. i elek. sots. sel'khoz. 21 no.1:27-29 '63. (MIRA 16:7)

1. Chelyabinskiy institut mekhanizatsii i elektrifikatsii sel'skogo khozyaystva.
(Agricultural machinery—Maintenance and repair)

VERTKINA, V.N.; DINABURG, M.S., kand. khim. nauk; MAZAL', R.F.; MAR'YANOVSKAYA, K.Yu.; PORAY-KOSHITS, B.A., prof.; UL'MAN, K.E.; EFROS, L.S., prof.

Developments in the synthesis of direct dyes. Khim. nauka i prom. 3 no.2:191-212 '58. (MIRA 11:6)

(Azo dyes)

UL'MAN, K. Ye.

AID P - 3746

Subject : USSR/Chemistry

Card 1/1 Pub. 152 - 10/22

Authors : Poray-Koshtis, A. Ye., B. A. Poray-Koshtis, L. S. Efros, M. I. Krylova, D. A. Luvshits, K. Yu. Mar'yanovskaya I. P. Aleksandrova, and K. Ye. Ul'man

Title : Synthesis of some aromatic amines with trifluoromethyl groups and study of them as products for ice dyeing

Periodical : Zhur. prikl. khim. 28, 9, 969-975, 1955

Abstract : The proparation of benzotrichloride and benzotrifluoride and the nitration of benzotridlurorides are described in detail. 16 references, 6 Russian (1863-1950)

Institution : None

Submitted : D 25, 1953

UL'MAN, V.

Constancy of values for conversion factors in the general case of motion equations related to seismographs, vibrographs and oscillation meters. Biul. Sov. po seism. no.6:127-129 '57. (MIRA 11:3)

1. Institut geodinamiki i seysmologii, Iyena.
(Seismometry)

UL'MAN, V.G.; TISHCHENKO, A.G.; BOREYKO, Ye.Ye.

Automatic control of coke weight charged into a blast furnace. Avtom. i prib. no. 1:7-9 Ja-Mr '64. (MIRA 17:5)

UL'MAN, Ye.Ye.

Anemia in diaphragmatic hernias in children; survey of the literature. Pediatriia 38 no. 3:81-85 Mr '60. (MIRA 14:1)
(DIAPHRAGM--HERNIA) (ANEMIA)

ACCESSION NR: AT4042292 S/0000/63/003/000/0153/0159

AUTHOR: Ulmanis, L. Ya.

TITLE: Measuring the induction components of the magnetic field in the clearance of an induction pump

SOURCE: Soveshchaniye po teoreticheskoy i prikladnoy magnitnoy gidrodinamike. 3d, Riga, 1962. Voprosy* magnitnoy gidrodinamiki (Problems in magnetic hydrodynamics); doklady* soveshchaniya, v. 3, Riga, Izd-vo AN LatSSR, 1963, 153-159

TOPIC TAGS: hydromagnetics, magnetic field, induction pump, magnetic field induction component

ABSTRACT: The author notes that the magnetic field in the inductor of an induction pump consists of a travelling and a pulsating component. An expression (derived elsewhere by G. I. Shturman) is given for the distribution of the induction B in the clearance of an induction motor with closed magnetic drive. The author points out that in a test coil, placed in the clearance of an induction pump, a voltage is induced from the travelling as well as from both pulsating components of the induction. This phenomenon is examined in detail in the article on the basis of the Faraday law. The author shows that the induction of a travelling magnetic field can be measured by separating the two components of

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ACCESSION NR: AT4042292

the pulsating field by means of three coils (See Fig. 1 of the Enclosure), with one of the coils placed in the center of the inductor and the other two placed symmetrically with respect to the first in the position $y_0 = (2k + 1)\frac{\tau}{2}$. The symmetrical coils are connected in series with one another and in opposition to the center coil. The coil parameters necessary for compensation of the pulsating component are indicated, and the limitations of this method of measuring the inductance of a travelling magnetic field are noted. For the measurement of the distribution of the travelling component of the inductance, two pairs of coils are required, each pair being placed symmetrically with respect to the center of the inductor and interconnected in a congruent manner. One coil pair is used to measure the travelling component and the second pair to compensate for the pulsating component of the induction, distributed according to the hyperbolic cosine law. Induction measurements by this method were made on the inductor of a linear induction pump, the technical specifications of which are given in the article. Orig. art. has: 2 figures and 28 formulas.

ASSOCIATION: none

SUBMITTED: 04Dec63 ENCL: 01 SUB CODE: ME, EM

NO REF SOV: 001 OTHER: 000

Card 2/3

ACCESSION NR: AT4042292 ENCLOSURE: 01

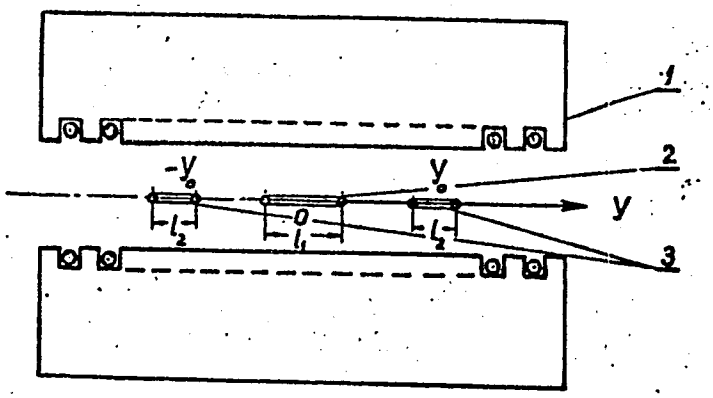

Fig. 1. Schematic diagram illustrating the arrangement of the test coils in the measurement of inductance components: 1 - inductor; 2 - center coil; 3 - symmetrically placed coils

Card 3/3

ACCESSION NR: AT4042293 S/0000/63/003/000/0161/0170

AUTHOR: Veze, A.K., Liyelausis, O.A., Petrovich, R.A., Ulmanis, L. Ya.

TITLE: The conductive layer in the travelling electromagnetic field of a one-way indicator

SOURCE: Soveshchaniye po teoreticheskoy i prikladnoy magnitnoy gidrodinamike. 3d, Riga, 1962. Voprosy* magnitnoy gidrodinamiki (Problems in magnetic hydrodynamics); doklady* soveshchaniya, v. 3. Riga, Izd-vo AN LatSSR, 1963, 161-170

TOPIC TAGS: electromagnetic field, inductance, one way inductor, travelling magnetic field, vector potential equation

ABSTRACT: The authors attempt a theoretical calculation of the electromagnetic forces acting on a conducting layer of infinite length. At a distance δ from an infinitely long and infinitely wide one-way inductor of a travelling magnetic field, there is an infinitely long and infinitely wide conducting layer, which moves with respect to the inductor at a velocity of $2\tau f(1 - 2)$ (See Figure 1 of the Enclosure), where τ is the polar division of the inductor, s is the slippage, and f is the frequency of the current supplying the inductor. The thickness of the conducting layer is b, the specific conductivity of layer II is σ, the

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ACCESSION NR: AT4042293

conductance of regions I and III equals zero. The non-conducting layer beyond the conductor is considered unlimited for the purposes of this investigation. Vector-potential equations for various conditions are derived, with integration constants determined on the basis of the boundary conditions. The inductance components for all three regions are obtained, as well as the density of the inducing currents. The density equation for force is presented in dimensionless form and analyzed. In the second part of the paper, the authors make an experimental determination of the electromagnetic force, primarily for the purpose of verifying the derived theoretical expressions. A measurement was made of the force acting on a thin hollow aluminum cylinder, coaxially suspended in a unilateral cylindrical inductor. It was assumed that the induction distribution throughout the thickness of the cylinder wall differed only slightly from the planar case. The tangential component of the induction on the cylinder surface was measured as a function of frequency. The inductor was fed with three-phase AC current having frequencies ranging from 50 to 600 cps. Of greatest interest to the authors were the forces acting on a layer of finite length. In order to determine the effect of layer width, a series of tests were run using solid metal disks as the conducting layer. Good agreement was found to exist

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ACCESSION NR: AT4042293

between the theoretical and experimental results. Orig. art. has: 2 tables, 5 figures and 17 formulas.

ASSOCIATION: none

SUBMITTED: 04Dec63 ENCL: 01 SUB CODE: EM

NO REF SOV: 002 OTHER: 000

ACCESSION NR: AT4042293

ENCLOSURE: 01

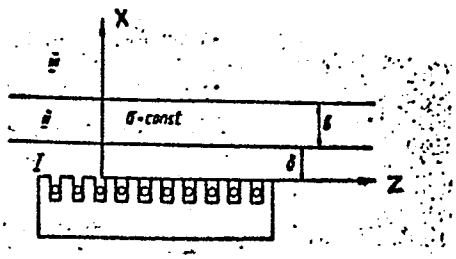


Fig. 1. Sketch for the theoretical calculation: I - region between inductor and conductor; II - conducting layer; III - space beyond conducting layer

Card 4/4

UL'MAN, I.A.

UL'MAN, I.A.

Strangulation of Meckel's diverticulum in an inguinal hernia on the left side. Khirurgiia no.7:76 Jl '55 (MLRA 8:12)

1. Iz Khirurgicheskogo otdeleniya Basseynovoy bol'nitsy Chernomorskogo vodsdravotdela.
(HERNIA) (ILEUM--DISEASES)

ZAKHAROV, S.R.; UL'MAN, I.M.

On the path of technical progress. Kozh.-obuv.prom. no.2: 4-6 F '59. (MIRA 12:6)
(Shoe industry)

UL'MAN, IRZHI

"Role of Historically Formed Central Squares in the Socialist Reconstruction of Small Cities of Czechoslovakia." Cand Arch Sci, Moscow Architectural Inst, Moscow, 1955. (KL, No 9, Feb 55)

SO: Sum. No. 631, 26 Aug 55-Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (14)

UL'MAN, I.E.

(The repair of tractors in Machine Tradtor Stations)

Sverdlovsk, Gos. Nauchno-Tekhn. Isd-vo Mashinostroitel(noi Lit-ry, 1947. 279 p.

UL'MAN, I. YE.

Agriculture

Centralized method for tracktor repair. Cheliabinsk, Cheliabinskoe obl. gos. izd-vo, 1951.

Monthly List of Russian Accessions, Library of Congress, June 1952. Unclassified.

UL'MAN, I Ye

Remont traktorov (Tractor repairing) izd. 2. Moskva, Mashgiz, 1952.
495 p. diagrs., tables.

AB-520499

UIMAN, I. ; TON, G.

Basic requirements for dismantling tractors, Tr. from the Russian. p.22.
First hero of socialist labor in Albania. Tr. from the Albanian. p. 24.

Vol. 6, no. 10, Oct. 1955
MASHINIZIRANO ZEMEDELIE
SOFIYA, BULGARIA

So: Eastern European Accession Vol. 5 No. 1 Jan. 1956

TONN, G.A., inzh.; ULMAN, I.Ye., kand.tekhn.nauk

Oil feeding system in KDM-46 and KDM-100 engines. Mekh.i elek.sots.sel'khoz. 17 no.5:14 '59. (MIRA 12:12)

1. Chelyabinskiy institut mekhanizatsii i elektrifikatsii sel'skogo khozyaystva.
(Diesel engines)

BITSADZE, D.A., inzh.; UL'MAN, I.Ye., kand. tekhn. nauk

Effect of the thickness of the deposited layer on the fatigue strength of specimens during pulsation-arc hard facing. Mekh. i elek. sots. sel'khoz. 21 no.5:57-58 '63. (MIRA 17:1)

1. Chelyabinskiy institut mekhanizatsii i elektrifikatsii sel'skogo khozyaystva.

ULMAN, J.
192

Neurol. oddeleni statni fak. nemocnice, odbocka v Praze. Leceni znecitlivenim hvezdicovite uzliny v neurologii Stellate ganglion novocainization in neurology Prak. lek. 1949, 8 (157-158)

Results in 205 patients are given. The Herget method was used and injections were made twice a week, 6 - 15 in all. The method was used in cervico-brachial syndromes, including Barres' posterior cervical sympathetic syndrome; in facial palsies, trigeminal neuralgias, vascular cerebral disturvances, intracranial arachnoiditis and neurovascular syndromes of the upper limbs. The best effects were observed in the VIIth nerve palsies, in which this method is considered to be the one of choice.

This method of treatment is of considerable promise in cerebellar vascular conditions (thrombosis, embolism) but this has not been elaborated. Authors

SO: EXCERPTA MEDICA, Vol. 5, No. 1, Sec. VIII, Jan. 1952

ULMAN, Jozefa HENISZ-ULMAN, Wincentyna

Intra-abdominal hemorrhage from rupture corpus luteum co-existing with contralateral tubal pregnancy. Pol. tyg. lek. 19 no.49:1902-1903 7 D '64

1. Z Oddzialu Poloznictwa i Chorob Kobiecych Szpitala Miejskiego w Tychach (ordynator: dr. med. Jan Stozynski).

LAKOMY, Tadeusz; ULMAN, Jozef.

A case of ovarian neoplasm in pregnancy. Ginek. pol. 34 no.6: 733-736 '63.

1. Z Oddzialu Poloznictwa i Chorob Kobiecych Szpitala Miejskiego w Tychach; p.o. ordynatora: dr. med. T.Lakomy.

*

LAKOMY, Tadeusz; SKORUS, Jerzy; ULMAN, Jozef

A case of liver rupture in labor in a full-term fetus. Ginek. pol. 35 no.1:125-129 Ja-F'64

1. Z Oddzialu Poloznictwa i Chorob Kobiecych Szpitala Miejskiego w Tychach, Katowice; dyrektor: dr. med. M.Szajna; p.o.ordynator Oddzialu Polozn. ginekol.: dr. med. T.Lakomy.

ULMAN, Jozef; HENISZ-ULMAN, Wincentyna

A case of interstitial pregnancy. Wiad. lek. 18 no.16:1339-1341 15 S '65.

1. Z Oddz. Polozn. i Chorob Kobiecych Szpitala Miejskiego w Tychach (Ordynator: dr. med. J. Stozynski).

UL'MAN, K.E.

PORAY-KOSHITS, A.Ye.; PORAY-KOSHITS, B.A.; MFROS, L.S.; KRYLOVA, M.I.; LIVSHITS, D.A.; MAR'YANOVSKAYA, K.Yu.; ALEKSANDROVA, I.P.; UL'MAN, K.E.

Synthesis of some aromatic amines containing trifluoromethyl groups, and investigation of their application as cold-dyeing agents. Zhur. prikl.khim. 28 no.9:969-975 S '55. (MLRA 9:1)
(Amines) (Fluorine organic compounds) (Dyes and dying--Chemistry)

ULMAN, K. Z.
G. M. GINODMAN, Tzentr. Nauch. Issledov. Inst. Kozh. Prom.,
Gosud Izdat. Legk. Prom., 1932, No. 2, 11-14,
25-28, 44-60, 67-72, 73-79, 88-103, 104-108

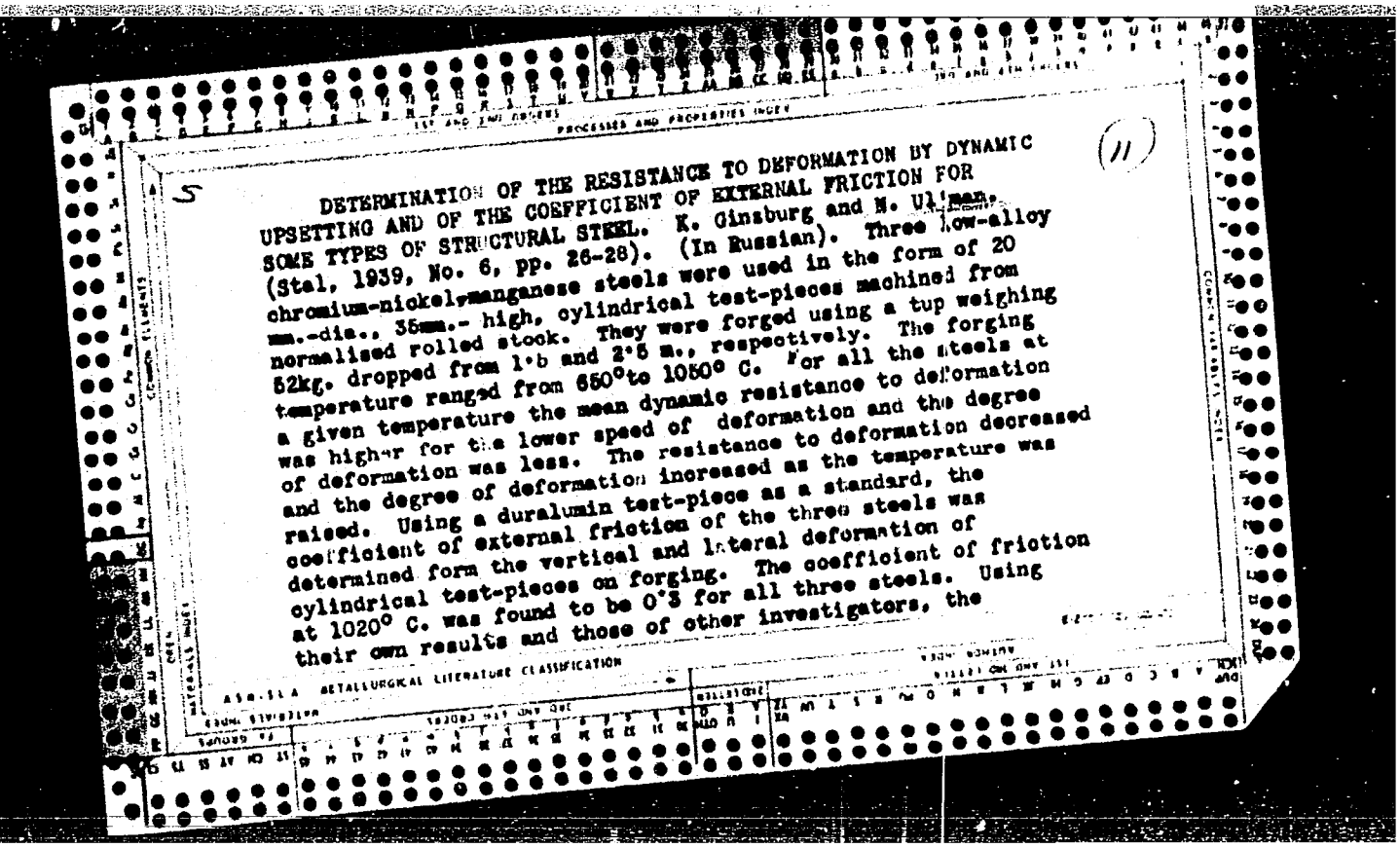
1. ULMAN, L. Z.

2. USSR (600)

4. Swine--Feeding and Feeding Stuffs

7. Fattening swine on the "Shushari" State Farm, Sots. zhiv., 15, No. 5, 1953.

9. Monthly List of Russian Accessions, Library of Congress, April, 1953, Uncl.



DETERMINATION OF THE RESISTANCE TO DEFORMATION BY DYNAMIC UPSETTING AND OF THE COEFFICIENT OF EXTERNAL FRICTION FOR SOME TYPES OF STRUCTURAL STEEL. K. Ginsburg and M. Ul'man. (Stal, 1939, No. 6, pp. 26-28). (In Russian). Three low-alloy chromium-nickel-manganese steels were used in the form of 20 mm.-dia., 35mm.- high, cylindrical test-pieces machined from normalised rolled stock. They were forged using a tup weighing 52kg. dropped from 1·6 and 2·5 m., respectively. The forging temperature ranged from 650°to 1050° C. For all the steels at a given temperature the mean dynamic resistance to deformation was higher for the lower speed of deformation and the degree of deformation was less. The resistance to deformation decreased and the degree of deformation increased as the temperature was raised. Using a duralumin test-piece as a standard, the coefficient of external friction of the three steels was determined form the vertical and lateral deformation of cylindrical test-pieces on forging. The coefficient of friction at 1020° C. was found to be 0·3 for all three steels. Using their own results and those of other investigators, the

authors show that the formulae suggested by Ludwig and Prandtl for the relation between resistance to deformation and velocity of deformation are not satisfactory.

1. UL'MAN, YE.

2. USSR (600)

4. Technology

7. Repairing tractors, Izd. 2-e. Sverdiovsk, Mashgiz, 1952

9. Monthly List of Russian Accessions, Library of Congress, February,1953.Unclassified.

UL'YAN, Z. V.

34028. MALETSKIY-MALEVICH, P. S. I. UL'YAN, Z. V. - O podgotovkye kholstikov k grebnechasaniyu tekstil prom-st' 1949 No. 10, S. 14-15

SO: Letopis' Zhurnal'nykh Statey, Vol. 42, Moskva, 1949

ULMAN, Z, inzhener [translator]

"Separator for roving machines with automatic stopping mechanism," by G. Fessman. (Translated by Z. Ul'man from "Textil Praxis", Feb. 1953) Tekst. prom. 17 no.4:61-63 Ap '57. (MLRA 10:4)
(Spinning machinery) (FESSMAN, G.)

SALA, Tedeusz, mgr.,inz.; ULMAN, Zbigniew, inz.

An example of replacing steel by wear resistant cast iron.
Przegl odlew 11 no.12:365-367 '61.

ACC NR: AT7001785 SOURCE CODE: UR/3119/66/000/004/0057/0069

AUTHOR: Shvarts, K. K.; Tiliks, Yu. Ye.; Tone, D. K.; Ulmane, I. M.

ORG: Institute of the Physics AN LatSSR (Institut fiziki AN LatSSR)

TITLE: Radiation-chemical processes in ionic crystals. 1. Radiolysis of alkali-halide crystals under the influence of gamma rays

SOURCE: AN LatSSR. Institut fiziki. Radiatsionnaya fizika, no. 4, 1966. Ionnyye kristally (Ionic crystals), 57-69

TOPIC TAGS: ionic crystal, alkali halide, gamma radiation, radiolysis, radiation chemistry, color center, physical diffusion

ABSTRACT: This is the first of a cycle of investigations of the radiation-chemical processes occurring in ionic crystals, aimed at determining the relation between radiolysis and radiation defects. The investigations were made on KCl, KBr, KI, and CaCl crystals grown by the Kiropoulos method from the raw material. The irradiation was in the RK-L radiation loop, which is described elsewhere (in: Radiatsionnaya fizika [Radiation Physics] v. 2, 35, Riga, 1964) at doses from 200 to 1400 rad/sec. The test procedures are briefly described. The results show that the stable products are the free halogen and electronic and colloidal centers. The radiation-chemical yields of the radiolysis products are of the order of 10^{-2} mole per absorbed 100 ev of

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ACC NR: AT7001785

energy. The radiolysis process depends to a great degree on the presence of impurity defects. Doubling of the impurity content increases the radiation-chemical yield of the radiolysis products by an average of 20%. The radiolysis products from the irradiated crystals change little with time. All that occurs is the diffusion of the gaseous products from the crystal to the gas phase. Optical and thermal discoloring causes an increase in the yield of the metallic product. The amount of transformed halogen does not change, but the diffusion processes are accelerated. Further research is necessary, especially on the temperature dependence of the yield of the metal and of the halogen, in order to determine the nature of the color centers produced by the irradiation. Orig. art. has: 5 figures, 3 formulas, and 3 tables.

SUB CODE: 20/ 07/ SUBM DATE: 00/ ORIG REF: 013/ OTH REF: 018

Card 2/2

ULMANIS, L.

5417. ... simultaneous ferromagnetic ... L. ULMANIS. ... ficular fi... L. Tallin ... 1954 No. 2, 125-8. In ...

... effect in ... ferromagnetic ... Moscow ... Leningrad ... 1948; S. D. Margolin, Zh. tekh. Fiz., 18, No. 10 (1948); ... Abstr. 2056B (1949)] experimental results were ... about the calculation ... under ...

... that mutual orientation of ... experimentally ... significance. It is here shown ... for determining the effective ... formulae for ... presence ...

ULMANIS, L. YA

F-1

Category : USSR/Magnetism - General problems

Abs Jour : Ref Zhur - Fizika, No 1, 1957 No 1386

Author : Tyutin, I.A., Ulmanis, L.Ya.
Inst : Inst. of Physics, Academy of Sciences Latvian SSR
Title : Surface Effect Produced by Magnetization with Perpendicular Constant Field

Orig Pub : Fiz. metallov i metallovedeniye, 1955, 1, No 3, 446-449

Abstract : An experimental determination is made of the intensity of the constant magnetizing field (H_x) at which the magnetic permeability μ_y becomes independent of the alternating field H_y; the value of μ_y is determined in the region where B_y is linear with H_y. Toroidal speciments 40 cm in diameter were made of S-3, S-5, S-45 and U-8 steels. The R and X components were measured with a circuit similar to the Neyman balanced circuit. It was established that increasing the permanent magnetizing field to a value on the order of $H_x \geqslant 10 H_{crit}$ and on the order of $H_x \geqslant H_y$, R and X become independent of the alternating field intensity, this being evidence that B_y is linear with H_y, i.e., that μ_y is independent of H_y. The results obtained do not agree with Gorelik's data, according to which B_y is linear with H_y only if $H_x \geqslant H_y$. It is shown that in the same range under study

Card : 1/2

UL'MANIS, L. Ya.

"Toward the Problem of Boundary Effects in Linear Induction Pumps," from the book-(Applied Magnetohydrodynamics), Works of the Institute of Physics, Vol 8, edited by I.A. Tyutin, Candidate of Technical Sciences; I.M. Kirko, Candidate of Physicomathematical Sciences; V.G. Vitol, Candidate of Physico-mathematical Sciences; and S.A. Varchenya; Riga, Publishing House of the Academy of Sciences Latvian SSR; 1956, 132 pp

Sum in 1467

UL'MANIS, Ya.L. [Ulmanis, J.L.]

Preliminary data on the study of effects of "full" blood in surgical practice. Probl.gemat. i perel.krovi 1 no.2:58-59 Mr-Ap '56. (MIRA 10:1)

1. Iz kliniki gospital'noy khirurgii (zav. - prof. A.F.Lepukaln) Rizhskogo meditsinskogo instituta.

(BLOOD TRANSFUSION
indic. for use of blood after meal of donor)

ULMANIS, Ya. L.

T

USSR/Human and Animal Physiology. Blood.

Abs Jour: Ref Zhur-Biol., No 8, 1958, 36325.

Author : ~~Ulmanis, Y.L.~~
Inst : Riga Medical Institute.
Title : Investigation of Certain Morphological and Biochemical Blood Indices in Fasting and Postprandial Donors.

Orig Pub: Nauchn. rabot. Rizhsk. med. in-t, 1956, vyp 5, 216-222.

Abstract: No essential differences in the erythrocyte count, Hb and thrombocytes were found before and after feeding in 60 men. In "postprandial" blood (taken 3 hours after an abundant and qualitatively well balanced meal) the erythrocyte count in 25 men was increased (1200-2000/1 mm^3) (1200-2000/1 mm^3). The total protein value in "fasting" blood (taken after

Card : 1/2

UL'MANIS, Ya. L. Cand Med Sci -- (diss) "Data from ~~Concerning the~~ Experimental and Clinical studies ~~Investigation~~ of ~~XX~~ 'Satiated' ~~XXX~~ Blood and Experience of Its Application in the Therapy of Surgery Patients." Riga, 1957. 14 pp 22 cm. (Min of Health Latvian SSR, Riga Medical Inst), 400 copies (KL, 17-57, 100)

KIRKO, I.M.; KLYAVIN', Ya.Ya.; TYUTIN, I.A. [deceased]; UL'MANIS, L.Ya.

Model of an infinitely long channel containing liquid metal exposed to a traveling magnetic field. Nauch.dokl.vys.shkoly; energ. no.3:203-210 '58. (MIRA 12:1)

1. Rekomendovano Institutom fiziki AN Latviyskoy SSR.
(Magnetohydrodynamics--Models)

ULMANIS, L. Ya.

PART I BOOK EXPLOITATION SOV/5753

Akademiya nauk Latviyskoy SSR. Institut fiziki

Elektromagnitnyye protsessy v metallakh (Electromagnetic Processes in Metals) Riga, Izd-vo AN Latviyskoy SSR, 1959. 200 p. (Series: Its: Trudy, No. 11) Errata slip inserted. 1,000 copies printed.

Ed.: A. Ya. Pozdnyakov; Tech. Ed.: A. Klyavin'; Editorial Board: V.G. Vitol, Ye.K. Kalnyn', I.M. Kirko (Resp. Ed.), and Ya. Ya. Klyavin'.

PURPOSE: This book is intended for physicists interested in electromagnetic processes in metals.

COVERAGE: This is a collection of fifteen articles by various authors on the investigation of electromagnetic processes in metals by modeling. Individual articles treat the following: conditions necessary for modeling particular phenomena; modeling the magnetization of ferromagnetic metals in a variable field on an iterated network consisting fields produced by ferromagnetic tubes which have constant resistance; external uniform field oriented along the axis; the possibility of using galvanic baths and other models for investigating fields with continuously distributed electromagnetic forces, particularly turbulent fields; determination the magnetization of a system of intersecting cylindrical particles; determination of the criterion relationship for the motions of an asynchronous engine rotor with similar mechanical characteristics (rotational moment, period of rotational oscillations around a point of equilibrium and alternating-force ratio) when the slip is close to unity; the problem of computing the ponderomotive field of a cylindrical conducting body placed in the traveling magnetic field; the reflection and refraction of hydromagnetic waves of arbitrary polarization on a unit of phenomena of two ideal incompressible liquids with infinite conductivity; a study of phenomena in the turbulent flow of liquid metal in induction pumps under the effect of a traveling magnetic field; the operating principle of d-c pumps and the computation of their electromagnetic and hydraulic characteristics; abbreviating computations in designing linear induction pumps as suggested by I.A. Tyutin; nomograph computation of functions $\varphi(k', h)$ and $\psi(k', h)$; and the construction of heaters producing thermal energy by an induced current. No personalities are mentioned. References accompany the articles.

(13)

UL'MANIS, L. Ya.

PHASE I BOOK EXPLOITATION SOV/3762

Konferentsiya po magnitnoy gidrodinamike. Riga, 1958.

Voprosy magnitnoy gidrodinamiki i dinamiki plazmy; trudy Konferentsii. (Problems in Magnetohydrodynamics and Plasma Dynamics; Transactions of a Conference) Riga, Izd-vo AN Latviyskoy SSR, 1959. 343 p. Errata slip inserted. 1,000 copies printed.

Sponsoring Agency: Akademiya nauk Latviyskoy SSR. Institut fiziki.

Editorial Board: D.A. Frank-Kamenetskiy, Doctor of Physics and Mathematics, Professor; A.I. Vol'dek, Doctor of Technical Sciences, Professor; I.M. Kirko, Doctor of Physics and Mathematics; V.Ya. Veldre, Candidate of Physics and Mathematics; V.G. Vitol, Candidate of Physics and Mathematics; Yu.M. Kruzin'; and V.Ya. Kravchenko.

Ed.: A. Teytel'baum; Tech. Ed.: A. Klyavinya

PURPOSE: This book is intended for physicists working in the field of magnetohydrodynamics and plasma dynamics.

COVERAGE: This volume contains the transactions of a conference held in Riga, June 1958, on problems in applied and theoretical magnetohydrodynamics. The objects of the conference were the investigation of the basic trends in theoretical and applied magnetohydrodynamics, establishing contact between the people doing research in different branches of magnetohydrodynamics, and promoting the participation of theoretical physicists in problems in applied magnetohydrodynamics. More than 160 persons from different parts of the Soviet Union took part in the conference, and 55 papers were read. Similar conferences are to be held regularly in the future; the next such conference is scheduled to be held in Riga in June 1960. In this present collection of the transactions of the conference, most of the papers and comments on papers are presented by the authors themselves in an abridged form. The book is divided into two parts: the first part deals with problems in theoretical magnetohydrodynamics and plasma dynamics, and consists of 35 articles on such aspects of the problem as the application of magnetohydrodynamics in astrophysics (D.A. Frank-Kamenetskiy), magnetohydrodynamics and the investigation of cosmic-ray variations (L.I. Dorman), acceleration of plasma in a magnetic field (O.V. Gordeyev and A.I. Oubanov), stability of shock waves and magnetohydrodynamics (A.I. Akhiyezer). The second part, consisting of 33 articles, deals with problems of experimental magnetohydrodynamics, including the application of physical simulation for investigation of electromagnetic processes in liquid metals (I.M. Kirko) and the development of electromagnetic pumps (P.G. Kirillov), at the Institute of Physics of the Academy of Sciences, Latvian SSR. Several articles are devoted to induction pumps, electromagnetic crucibles, electromagnetic stirrers for molten metals, and their application in the metallurgical industry including schematic diagrams of their power-supply systems. References are given at the end of most of the articles.

PROBLEMS IN EXPERIMENTAL MAGNETOHYDRODYNAMICS

Card 8/12

ACC NR: AT7001353 SOURCE CODE: UR/0000/66/000/000/0015/0042

AUTHOR: Veze, A. K.; Ulmanis, L. Ya.

ORG: none

TITLE: Electromagnetic processes in an ideal induction magnetohydrodynamic machine

SOURCE: AN LatSSR. Institut fiziki. Dvizheniye provodyashchikh tel v magnitnom pole (Movement of conducting bodies in a magnetic field). Riga, Izd-vo Zinatne, 1966, 15-42

TOPIC TAGS: mhd, electromagnetism, liquid metal pump, Maxwell equation

ABSTRACT: This is a review of various solutions of electromagnetic problems that arise in the construction and design of mhd generators, brakes, flow meters, electromagnetic mixers, liquid-metal conveyors and other devices. The problem is reduced to the determination of the electromagnetic processes occurring in a conducting strip placed in a traveling magnetic field of a flat inductor, under the assumption that the dimensions of the device in the direction of motion of the field and in the direction of the current flow are infinite (plane problem). The solution is based on a rigorous analysis of Maxwell's equations with references made to various approximations facilitating the solution. Specially treated are electromagnetic phenomena in a traveling magnetic field of a unilateral inductor and the electromagnetic processes in a traveling magnetic field of a bilateral inductor. It is mentioned in the conclusion that the theory of electromagnetic processes in an infinitely broad layer placed in a traveling magnetic field has been developed in greater detail than that

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ACC NR: AT7001353

for a finite strip, since the mathematical analysis is simpler for the former case. Orig. art. has: 18 figures and 82 formulas.

SUB CODE: 20, 09/ SUBM DATE: 22Jul66/ ORIG REF: 026/ OTH REF: 002

Card 2/2

WA-88
L 06190-67
ACC NR: AP6029083 SOURCE CODE: UR/0413/66/000/014/0158/0158

55
8

INVENTOR: Birzvalks, Yu. A.; Ul'manis, L. Ya.

ORG: none

TITLE: Device for contactless measuring of the flow rate of an electroconductive fluid. Class 42, No. 142783

SOURCE: Izobret prom obraz tov zn, no. 14, 1966, 158

TOPIC TAGS: flow measurement, flow meter, flow rate, electroconductive fluid, electronic circuit, servomechanism

ABSTRACT: The proposed device for contactless measuring of the flow rate of electroconductive fluids is pipelines is based on a zero method with the use of a travelling magnetic field, generated by a plane stator, and a phase-sensitive measuring circuit. In order to eliminate the dependence of the measuring device readings on the electrical conductivity of the fluid being measured, two measuring coils are used which are positioned under the plane stator at the opposite sides of the measured section of the pipeline; they are also connected to the input of the phase-sensitive circuit, and to a servomechanism controlled by the output signal of the circuit, thus ensuring the adjustment of the speed of the travelling magnetic field with the flow rate of the fluid being measured. [WA-88] [AV]

SUB CODE: 20,09,14/ SUBM DATE: 05Mar60

Card 1/1 afs

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Back-scattering of γ-radiation. [illegible] (in Russian). The intensity of back-scattering of γ-radiation was investigated as a function of the surface area and the thickness of the scattering materials. Al, Fe, Zn, Cd, Pb, brass, and paraffin were investigated. The scintillation γ-spectrometer employed contained a NaI(Tl) crystal of 30 × 15-mm. area. Cr^{51}, Cs^{137}, and Co^{60} were used as γ-radiation sources emitting quanta of energies of 320, 662, and 1250 e.kv., resp. The activity was of the order of μc. The back-scattering, q, was expressed by the ratio of the measurements of γ-radiation intensities with the scattering sample to that without it. The back-scattering q increases strongly with the area of the sample until it levels off, the abs. value of q increasing with the sample thickness. The value of q exhibits a max. near at. no. 25 of the scattering material and depends only little on the energy of the initial γ-radiation. A. K.

AUTHORS: Ulmanis, U.A., Dubinskaya, N.A. 89-7-17/32

TITLE: The Investigation of γ-Ray Backscattering (Issledovaniye obratnogo rasseyaniya γ-izlucheniya)

PERIODICAL: Atomnaya Energiya, 1957, Vol. 3, Nr 7, pp. 59-61 (USSR)

ABSTRACT: The present paper investigates the backscattering of γ-radiation by various substances. For this purpose a scintillation γ-spectrometer with a NaJ(Tl)-crystal 30 mm in diameter and 15 mm in height was used. The radioactive isotopes Cr^{51}, Cs^{137} and Co^{60} served as sources of γ-rays. The activity of the preparation amounted to ~ 1 microcurie. In the investigation of this backscattering the point source of the γ-rays was in contact with a disperser. Plates of aluminum, iron, zinc, cadmium, lead, brass and paraffin were used as scatterer. A diagram illustrates the dependence of the relative intensities of the scattered γ-radiation on the thickness of the scatterer. When the thickness of the scatterer is more than 7 g/cm^2, the quantity q slightly increases with an increase of the thickness of the scatterer. Here q signifies the ratio (height of the peak which corresponds to the backscattering of the γ-radiation in the presence of a scatterer - height of the peak without disperser). Plates with a thickness of 7 g/cm^2 were used for the determination of the dependence of the

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relative intensity of the scattered γ-radiation on the nuclear charge number Z of the scatterer. The experimental results are illustrated by a diagram. The intensity of the scattered γ-radiation has its maximum value for iron scatterer. Another diagram illustrates the dependence of the intensity of the scattered γ-radiation of Cs^{137} on the nuclear charge number Z of the scatterer. The corresponding curve has a maximum at Z = 26. With a change in the energy of the primary γ-radiation the position of the maximum only insignificantly changes. At small Z (up to 30) the intensity of the backward γ-radiation is smaller at small energies of the primary γ-radiation. From Z = 25 to Z = 35 a maximum of the scattered radiation is observed. At high nuclear charge numbers the intensity of the scattered γ-radiation decreases. There are 4 figures and 5 references, 1 of which is Slavic.

SUBMITTED: March 19, 1957

AVAILABLE: Library of Congress

Card 2/2 1. Gamma rays - Scattering 2. Isotopes (Radioactive) - Applications

ALKSNIS,YA.[Alksnis,J.](Riga); ULMANIS,U.(Riga)

Scattering of gamma rays Cs^{137} in lead. In Russian. Vestis Latv ak no.3:71-76 '60. (KEAI 10:7)

1. Akademiya nauk Latviyskoy SSR, Institut fiziki.
(Gamma rays) (Lead) (Cesium) (Radioisotopes)

DUBINSKAYA,N.(Riga); ULMANIS,U.(Riga)

Passage of gamma rays through the collimator. In Russian. Vestis Latv ak no.4:99-104 '60. (KEAI 10:7)

1. Akademiya nauk Latviyskoy SSR, Institut fiziki.
(Gamma rays) (Collimators)

DUBINSKAYA,N.(Riga); ULMANIS,U.(Riga)

Spectral distribution of scattered gamma rays. In Russian.
Vestis Latv ak no.5:61-66 '60. (KEAI 10:7)

1. Akademiya nauk Latviyskoy SSR, Institut fiziki.
(Gamma rays)

ULMANIS, U. (Riga)

Angular distribution of reflected gamma radiation. Vestis Latv ak no.9:67-72 '60. (KEAI 10:9)

1. Akademiya nauk Latviyskoy SSR, Institut fiziki.

(Gamma rays)

ULMANIS, U. A., Cand. Tech. Sci. (diss) "Experimental Investigations of Reflected Gamma Radiation," Leningrad, 1961, 8 pp. (All-Union Sci. Res. Inst. Metrology) 250 copies (KL Supp 12-61, 275).

S/798/61/000/000/001/012

AUTHORS: Rysenko, A.G., Ulmanis, U.A.

TITLE: Some investigations of γ-ray albedo.

SOURCE: Radioaktivnyye izlucheniya i metody ikh issledovaniya. Inst. fiz. AN LatvSSR. Riga, Izd-vo AN LatvSSR, 1961, 3-11.

TEXT: This is a report on a scintillation-spectrometer investigation of the empirical γ-ray-albedo expression $A_{E(d)} = A_{E(\infty)}(1 - \exp(-d/a))$ (Bulatov, B.P., Garusov, Ye.A., Atomnaya energiya, v.5, no.6, 1958, 631) in which $A_{E(\infty)}$ is the albedo of the scatterer with saturation thickness (ST), d is the given scatterer thickness, and a is a constant which, for substances with atomic number $Z \leq 26$, is 10 g/cm^2, a value which corresponds to approximately one-half the free-path length of Co^{60} γ-quanta in the scatterer. The purpose of the present tests was a determination of the constant a and an exploration of the usability of the Bulatov-Garusov formula for other γ-radiation sources. This was done by separating the single- and multiple-scatter components of the energy albedo of (Co^{60}, Cs^{137}), investigating the components of the energy albedo of Tm^{170}, and studying the dependence of A_E on the impingement angles of the primary γ-quanta. The experimental setup used was that of N. Dubinskiy and U. Ulmanis (Akad.n. LatvSSR, Izv. v.5, 1960, 61). The formulas employed to assess the energy albedo (A_E) and the γ-quantum-number albedo (A_N) are set forth. The energy flux of the primary γ-radiation incident on

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the scatterer is integrated graphically, since the relationship between the number and the energy of the γ-quanta is not known. Some simplification occurs in the case of monochromatic radiation with >200 kev energy, in which the mean energy of the reflected radiation depends but little on the properties of the scatterer and can be determined from a single angular energy distribution for the given source and some one scatterer. Test results: The saturation thickness (ST) of Fe (defined as that thickness beyond which A_E does not increase more than 5%) was tested with various γ-sources (graph). ST is smaller for lower-energy γ-sources. The absolute value of A_E increases with diminishing primary γ-ray energy. A_N is numerically greater than A_E; it, too, grows with growing scatterer thickness and attains a saturation value (graph). The saturation thicknesses are expressed in terms of the free path of the γ-rays in a given scatterer ($1/\mu$). From 0.2 to 1.25 mev the ST for Fe and Al equals appx. $1.5(1/\mu)$, for Pb 0.6 ($1/\mu$), consistent with the Bulatov-Garusov values and their empirical formula. The constant a decreases only slightly through that energy interval (0.64-0.52 for Al, 0.48-0.37 for Fe, 1.0± 0.2 for a Tm^{170}-Al scatterer combination, and 0.7± 0.1 for a Tm^{170}-Fe scatterer combination, all in $1/\mu$ units). The single- and multiple-scattering radiation-albedo components increase in different measure with increasing scatterer thickness. In an Al scatterer, for example, the single-scattering component (SSC) of Co^{60} energy albedo is greater than the multiple-scattering component (MSC) up to a thickness of 7 g/cm^2; at

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greater thickness the MSC prevails over the SSC. For Fe the SSC predominates for both Co^{60} and Cs^{137}, which is attributed to the strong self-absorption of the MSC in Fe. The curves of MSC/SSC for the Co^{60} energy albedo versus the thickness of Fe and Al cross over each other (that of Al starts lower, but rises more steeply); this is interpreted in Gubatova, D. Ya., Ulmanis, U. A., same compendium, p. 13, Abstract S/798/61/000/000/002/012. For Tm^{170} the energy-albedo component that corresponds to a primary soft radiation with a 53-kev energy, at small thicknesses to 2 g/cm^2, exceeds the energy albedo of the sum total of the other components (bremsstrahlen and 84-kev γ-rays). If an Al scatterer of greater thickness is employed, the sum of the intermediate and hard albedo components predominates over the soft albedo component. The energy-albedo curves versus angle of incidence of the primary γ-radiation for Al, Fe, and Plexiglas are shown to be analogous to those for backscatter (same authors, same compendium, p. 21, Abstract S/798/61/000/000/003/012), i.e., a $1/\cos\phi$ function. There are 9 figures and 6 references (5 Russian-language Soviet and 1 English-language: Perkins, J. F., J. Appl. Phys., v. 26, no. 6, 1955, 655).

ASSOCIATION: None given.

Card 3/3

S/798/61/000/000/002/012

AUTHORS: Gubatova, D.Ya., Ulmanis, U.A.

TITLE: The energy composition of reflected γ-radiation.

SOURCE: Radioaktivnyye izlucheniya i metody ikh issledovaniya. Inst. fiz. AN LatvSSR. Riga, Izd-vo AN LatvSSR, 1961, 13-19.

TEXT: This is a report on an experimental investigation, using a scintillation spectrometer with a NaI(Tl) crystal, intended to clarify the dependence of the energy composition of reflected γ-radiation on the energy and the incidence angle of the primary radiation, the angle of reflection (RA) of the reflected radiation, and the thickness and atomic number Z of the scatterer. The energy and intensity of the soft component (120-160 kev) was explored in especial detail. Reference is made to existing Soviet literature (primarily Kukhtevich, V.I., et al., Atomnaya energiya, v.4, no.2, 1958, 138) and Weiss, M.M., Bernstein, W., Phys.Rev., v.92, no.5, 1953, 1264, and Hine, G.J., McCall, R.C., Nucleonics, v.12, no.4, 1954, 27. Cs^{137} and Co^{60} γ-sources and scatter plates of Plexiglas, Al, Fe, Ni, Zn, and Pb of up to 60x60 cm were employed. A photograph of the oscilloscope of the single-channel AM -100 (AI-100) analyzer for an Fe scatterer under Cs^{137} γ-radiation at a 62° reflection angle shows 3 peaks, one for single (Compton) scattering, one for double (or higher) scattering, and one (ill-defined) probably for multiple scattering. The study of the dependence of the reflected γ-radiation spectrum on the reflection

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angle is of especial interest. This was investigated on the angular energy distributions of Cs^{137} γ-radiation reflected from an Fe scatterer having saturation thickness. The test data (tabulated) agree well with the theoretical calculations of N.A. Dubinskaya and U.A. Ulmanis (Akad. nauk LatvSSR, Izv., no. 5, 1960, 61). The single-scattering peak contains also an admixture of twice-scattered radiation which consists of a first scatter through an angle approximately equal to the angle of the single scatter and a second scatter through a small angle (less than 10^{o}). This assertion is based on a comparison of the midheight peak width obtained in the subject tests with the midheight peak width obtained from monochromatic γ-radiation of comparable energy in analogous geometric conditions. The second (double-scatter) peak constitutes the soft component of the spectrum. A third (70-80 kev) component was also identified. The hard-component energy is practically independent of scatterer thickness or Z. The soft-component energy depends on the properties of the scatterer, the reflection angle, and the energy of the primary γ-radiation. If the latter is very high and the scatterer is light (e.g., Plexiglas), the soft-component energy decreases from 150 kev at a 20^{o}RA to 130 kev at an 80^{o} RA. The effect is less pronounced with less energetic primary radiation and heavier scatterers. For Cs^{137} the mean energy of the soft component (MESC) is E= 140± 10 kev, regardless of Z. For Co^{60} the MESC is 150 kev for an Fe scatterer, 142 kev for Al, and 135 kev for Plexiglas (at 70^{o} RA). In Pb an 80-kev peak, attributed to the fluorescence of Pb, appears. With increasing RA the soft-component intensity increases,

that of the hard component decreases. For the light elements the intensities vary down to RA = 60°, whereupon "saturation" obtains. No such saturation is observed for elements with $Z \geq 26$. With increasing scatterer thickness the MESC decreases (e.g., in an Al scatterer, 145 kev for 10 mm thickness, 130 kev for 50 mm), and the multiple-scatter peak with an energy near 80 kev increases. At great thicknesses (50-60 mm for Al and 80-100 mm for Plexiglas) the energy of that peak decreases to 74 kev. With an Fe scatterer the hard and soft components alone are observed. With thicknesses from 5 to 50 mm, the MESC decreases from 155 to 145 kev, regardless of the angle of incidence of the primary γ-radiation. The relative intensity of the soft component grows with increasing incidence angle (with all γ-ray sources and scatterers). The ratio of the intensity of the soft component to the intensity of the hard component grows with increasing scatterer thickness, but attains a constant value at some thickness. This saturation thickness for Fe is 20 mm for a Cs^{137} source and 40 mm for a Co^{60} source. There are 7 figures, 1 table, and 8 references (6 Russian-language Soviet and the 2 English-language papers cited in the text of the abstract).

ASSOCIATION: None given.

S/798/61/000/000/003/012

AUTHORS: Rysenko, A.G., Ulmanis, U.A.

TITLE: On the angular distribution of the intensity of reflected γ-radiation.

SOURCE: Radioaktivnyye izlucheniya i metody ikh issledovaniya. Inst. fiz. AN LatvSSR. Riga, Izd-vo AN LatvSSR, 1961, 21-26.

TEXT: This is a report on a scintillation-spectrometer investigation of the dependence of the angular distribution of the intensity of reflected γ-radiation issuing from a Co^{60}, Cs^{137}, and Tm^{170} source and reflected by Plexiglas, Al, Fe, and Pb scatterers. The experimental setup is that described by N.A.Dubinskaya and U.A. Ulmanis, Akad.nauk LatvSSR, Izv., no.5, 1960, 62). Reference is made to the theory of Corner,J.H., and Liston,R. (Roy.Soc.,Proc., v.A 204, 1950, 323), and earlier tests by three groups of Soviet authors (all AN LatvSSR). Test results: Tests were made with a scatterer having a saturation thickness corresponding to a 0°incidence angle. With increasing incidence angle, the saturation thickness decreases (Berger, M.J., Doggett, J., NBS,J.Res., v.56, no.2, 1956, 89). At normal incidence, the highest count occurs at zero angle of reflection. With increasing incidence angle, the highest-count angle moves off zero and, at an incidence angle of appx. 60, a twin peak occurs; at still greater angles the outer peak grows faster than the inner peak, attains an absolute maximum near 75°, and drops to zero at 90°. Cartesian and polar-coordinate representations of this phenomenon are shown. The variation of the intensity of the reflected γ-radiation as a function

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of the incidence angle is shown for Tm^{170} radiation and the four scatterers tested. The steepest outer peak occurs with intermediate and elevated Z (Fe, Pb); scatterers with lower Z have a more isotropic distribution with a flatter hump. This finding agrees well with those obtained by B.P.Bulatov and Ye.A.Garusov by different methods (Atomnaya energiya, v.5, no.6, 1958, 631). With increasing incident energy the 75° angle of the outer peak remains unmoved, but the relative height of the peak increases; this finding agrees with that of Bulatov-Garusov (last cited reference) and the Corner-Liston theory (cited in Card 1/2). These characteristics are interpreted as follows: (1) With increasing incidence angle the irradiated area $S = S_o/\cos\phi$ increases, so that the number of reflected γ-quanta increases; (2) since the minimal path of the reflected γ-quanta in the scatterer obtains in a direction normal to the plane of the scatterer, the self-absorption minimum moves toward smaller scattering angles as the incidence angle increases; (3) the mean scattering angle decreases with increasing incidence angle. With primary γ-γ-radiation energy > 500 kev the intensity of the reflected γ-radiation increases with decreasing scattering angle. For smaller energies the angular distribution of the intensity of singly-scattered radiation has a minimum at scatter angle of 90-110°. At any energy of the primary radiation the intensity of the reflected radiation increases with increasing incidence angle, regardless of Z. There are 5 figures and 7 references (5 Russian-language Soviet and the 2 English-language US papers cited in the text).

ASSOCIATION: None given.

S/798/61/000/000/004/012

AUTHORS: Dubinskaya, N.A., Ulmanis, U.A.

TITLE: On the intensity of backscattered γ-radiation.

SOURCE: Radioaktivnyye izlucheniya i metody ikh issledovaniya. Inst. fiz. AN LatvSSR. Riga, Izd-vo AN LatvSSR, 1961, 27-33.

TEXT: This is a report on a scintillation-spectrometer investigation, using a NaI(Tl) crystal Ø30x20 mm, of the effect of the test geometry on the measured intensity (I) of the backscattered Cs^{137} γ-radiation. The I of backscattered γ-radiation (BGR) is a function of many factors, including the energy of the primary radiation, the atomic number (Z), and the dimensions of the scatterers. Past tests (including the authors' tests described in Akad. nauk LatvSSR, Izv., no. 7, 1957, 147; those of Hine, G.J., McCall, R.C., Nucleonics, v. 12, no. 4, 1954, 27; and others) produced contradictory data on the effect of Z on the backscatter intensity which suggest the possibility of an overriding effect of test geometry. Scatterers in the present tests were Al, Plexiglas, Fe, Zn, Cd, and Pb plates of various thickness. The source, in contact with the scatterer, was displaced along the axis of the photomultiplier (PhM) to distances up to 50 cm therefrom. The scatterer surface was perpendicular to the PhM axis. The scatterer-Z dependence of the BGR I, q, was determined at various distances by using scatterers with saturation thickness

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(thickness beyond which the backscatter coefficient does not increase more than 5%). The q(Z) was found to have a sharp peak at Z = 26-30 at small distances (5 - 20 cm); at greater distances (35-50 cm) the peak was reduced to a gentle hump at the same Z, but with higher q values at the lower values of Z. The q drop at below-peak Z with small scatterer-detector distances (SDD) is attributed primarily to the change in solid angle and in the effective SDD. At small SDD's the saturation thickness of the scatterer (especially for low-Z scatterers) is comparable to the SDD. The great thickness, in the case of low Z, enhances the contribution to the measured BGR, whereas in the case of high Z the high photoabsorption permits only those quanta to strike the detector which have been scattered by the scatterer layers closest to the detector. This is equivalent to an enlargement of the effective detector-source distance for lighter-Z materials. For greater BGR's the SDD may be assumed to be the same for low and high Z's. In the test geometry of the authors' 1957 publication (cited in Card 1/3), in which the source was in contact with the scatterer and close ($\leq$ 2 cm) to the detector, the saturation areas are small, since they are limited by the solid angle of the instrument. With greater SDD the γ - quanta scattered by a larger surface are picked up. This is not so noticeable for high-Z materials, but is appreciable for low-Z materials. This qualitative interpretation agrees well with Stephenson's results of the calculations of the intensity of backscattered radiation according to the thick-plate formula with consideration of the absorption of

On the intensity of backscattered γ - radiation. S/798/61/000/000/004/012

singly-scattered γ - quanta (Stephenson, R. Introduction to nuclear engineering. Russian translation. Moscow. Gostekhizdat, 1955). Since the function q characterizes basically the singly-scattered radiation only, a fuller assessment of the magnitude of the scattered γ - radiation requires consideration of the multiple scatter as well. This consideration broadens the peak of the relative intensity of the backscattered γ - radiation versus Z and moves it toward lower values of scatterer Z. Thus, the results of the present investigation show that the magnitude of the registered scattered radiation (which is the essential element in a number of practical problems) is significantly affected by the geometry of the experiment. There are 5 figures and 5 references (3 Russian-language Soviet and 2 English-language U.S. references, of which the Stephenson book is cited in its Russian-language translation).

ASSOCIATION: None given.

Card 3/3

S/798/61/000/000/005/012

AUTHORS: Gubatova, D. Ya., Ulmanis, U.A.

TITLE: The radioactive radiation of Tm^{170} preparations.

SOURCE: Radioaktivnyye izlucheniya i metody ikh issledovaniya. Inst. fiz. AN LatvSSR. Riga, Izd-vo AN LatvSSR, 1961, 35-47.

TEXT: This paper reports investigations of the spectral composition and the absorption coefficient in steel of the radiation of various Tm^{170} sources and also of the reflection of Tm^{170} radiation from various other substances. The object of the investigation is the known dependence of the relative radiation-intensity spectrum of Tm^{170} on the size and specific activity of the source. It is known (cf. Dzhelepov, B.S., Peker, L.K., Skhema raspad radioaktivnykh yader- The decay mode of radioactive nuclei. Moscow-Leningrad, 1960) that the Tm^{170} isotope emits 84.1-kev γ-rays, 0.97 and 0.88-mev β-rays, 53.3-kev (mean-energy) X-rays, and bremsstrahlen with a continuous spectrum with a maximal energy of up to 970 kev. Four differing Tm^{170} sources (0.5 g-equ.Ra, 300 mcurie, 30 mcurie, and 1 mcurie point source) were tested. The details of the 4 preparations are described. The Tm^{170} radiation spectra were observed with a scintillation spectrometer using a NaI(Tl) crystal and a multi-channel amplitude analyzer. The β-radiation was absorbed with an Al filter. The spectral distributions of the four Tm^{170} sources, normalized to the intensity of the 84-kev γ-line, indicate that with increasing active mass the relative intensity of the fluorescence and of the bremsstrahlen is increased (curves and

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tabulation), the latter as a result of β-ray absorption in the source material (which is atomic-number dependent), the former as a result of 84-kev γ-ray absorption in the source material. From the difference in spectral composition of the radiation of sources having different active-mass size it follows that the absorption coefficients must depend both on the type of source and on the thickness of the absorber (Lidén, K., Starfelt, N., Arkiv för Fysik, v. 7, no. 9, 1953, 109). The dependence of the absorption coefficient on the thickness of steel relative to the radiation of Tm^{170}, W^{185}, Tl^{204}, Se^{75}, $Sn^{113, 123}$, Cs^{137}, and $Eu^{152, 154}$ is shown graphically. For γ-radiation with >200 kev, the absorption coefficient μ of steel plate >2 mm thick remains constant. For softer radiation (e.g., the 60-75-kev β and X-ray emitters W^{185} and Tl^{204}) μ varies greatly with absorber thickness. A sharp change in spectral composition occurs during passage through steel plates (Fig. 2 in Ulmanis, U.A., Dubinskaya, N.A., Akad. n. LatvSSR, Izv., v. 4, 1958, 89); the soft part of Tm^{170} radiation is absorbed almost totally in 3 mm of steel, whereas the 84-kev γ-radiation is reduced by 80% thereby. Extremely intense bremsstrahlen penetrate up to 10 mm of steel. The soft radiation incident from a Tm^{170} source onto a scatterer consists of 3 components: The characteristic "soft" 53.3-kev X radiation (44%), an "intermediate" 84.1-kev γ-radiation (8%), and a continuous "hard" bremsstrahlen spectrum with an effective energy of appx. 200 kev (48%). The reflected Tm^{170} radiation depends on many factors, including the atomic number Z and thickness of the scatterer, the primary-radiation incidence, and the reflection angle. The radiation reflected

The radioactive radiation of Tm^{170} preparations. S/798/61/000/000/005/012

by various substances has a continuous bremsstrahlen distribution, plus a 45-kev peak and a 68-kev peak. In an Fe scatterer the continuous distribution has a 180-kev maximum. The energy of these peaks agrees well with Compton's formula for the components of primary radiation at a 120° scatter angle. The 80-kev Pb-fluorescence peak is fundamentally attributable to primary bremsstrahlen. With decreasing Z the soft part of the spectrum increases. In the reflection from Fe the hard component prevails. In Al the reflected-radiation spectrum undergoes an energy shift and a change in intensity as predicted by the Compton formula. The resolution of the spectrometer was not adequate to assess the magnitude of the coherent scattering of the γ-quanta. An increase in scatterer thickness does not alter the composition of the reflected radiation, but increases its intensity. The angle of incidence does not affect the spectral composition of the reflected radiation for a given scattering angle. The changes in the spectra of reflected γ-radiation are greatly conditioned by the different coefficients of photoabsorption for the various components of the primary and the reflected γ-radiation in the reflector. The effects of the magnitude of the absorption coefficient on the reflected-radiation spectrum are discussed in qualitative terms for Al and Fe and for scatterers of different thickness. Thanks are expressed to N.A.Dubinskaya and I.V.Mednis for their participation in the experiments. There are 11 figures, 1 table, and 6 references (4 Russian-language Soviet and 2 English-language: Day, P.P., Phys.Rev., v. 102, no. 6, 1956, 1572; Lidén, K. et al., cited in Card 2/3).

ASSOCIATION: None given.

Card 3/3

22340
S/197/61/000/003/003/003
B101/B206

24,6410
26.2246

AUTHOR: Ulmanis, U.

TITLE: The albedo of gamma rays of some radioactive isotopes

PERIODICAL: Izvestiya Akademii nauk Latviyskoy SSR, no. 3, 1961, 61-66

TEXT: The albedo of the continuous spectrum of a primary gamma radiation is determined by the energy albedo $A_E = \int E_r(E)N_r(E)dE / \int EN(E)dE$ (1) and the albedo of the gamma quanta $A_N = \int N_r(E)dE / \int N(E)dE$ (2). E is the energy of the gamma quanta, N(E) the number of gamma quanta, E_r the energy, and $N_r(E)$ the number of reflected quanta. E_r and N_r depend on the properties of the scatterer, on the angle of incidence and reflex angle, as well as on the radiation energy, and must be determined experimentally. In this study, the albedo of the energy and number of gamma quanta was experimentally determined for Tu^{170}, Sc^{75}, Sn^{113}, Sn^{123}, Cs^{137} and Co^{60}, at perpendicular incidence of a narrow beam of the

Card 1/6-3

primary radiation on scatterers from Al, Fe, Zn, Ni und Pb. The surface of the scatterers was 60 X 60 cm, the thickness corresponded to the "thickness of saturation" (for Fe 50 mm). A scintillation spectrometer with NaI(Tl) crystals served as detector. The experimental apparatus is described in Ref. 1 (N. A. Dubinskaya, U. A. Ulmanis, Izv. AN Latv. SSR, 1960, no. 5, 61). Fig. 1 shows the energy albedo as a function of the incident gamma radiation for Al, Fe and Pb. For a radiation energy greater than 400 kev, the empiric equation $A_E = 3.2\rho/EZ^2$ (10) is derived, where ρ is the density and Z the atomic number of the scatterer. Below 400 kev, the factor $1 - \exp(-bE)$ must be introduced. The experiments showed that b equals 6 (maximum error 20%), so that the empiric equation $A_E = (3.2\rho/EZ^2)\left[1 - \exp(-6E)\right]$ (11) was obtained. Eq. 11 was experimentally checked for gamma radiation of from 50-1250 kev and scatterers of Z = 6 - 48. For heavier elements such as lead, the reflected radiation contains a characteristic X-radiation besides gamma radiation. Therefore, Eq. 11 is not applicable in this case, but Eq. 10 may be used for approximation calculations. Fig. 2 shows the albedos of the number

The albedo of gamma...

of gamma quanta. For light and medium elements (up to Z = 50), a maximum sets in at E~400 kev. It is explained that several competitive processes must be considered for Fe and Al. With decreasing energy of the primary radiation, 1) the probability of reflection is increased, 2) the saturation thickness and number of reflected gamma quanta is reduced and 3) the role of the self-absorption of the reflected gamma quanta in the scatterer is increased. The maximum of the A_N follows therefrom. No maximum is observed for A_E, since with reduction of the energy, the ratio between energy of the reflected radiation and energy of the initial radiation strongly increases. Fig. 3 shows A_E as a function of the atomic number. A. G. Rysenko, degree student of the Latviyskiy gosudarstvennyy universitet im. P. Stuchki (Latvian State University imeni P. Stuchka) participated in this study. There are 3 figures and 7 references: 5 Soviet-bloc and 2 non-Soviet-bloc. The 2 references to English-language publications read as follows: E. Hayward, J. Hubbel, Phys. Rev., 1954, 93, 955; J. Perkins, Journ. Appl. Phys., 1955, 26, 655.

Card 3/6 Institute of Physics, AN Latviyskaya SSR

S/058/62/000/008/010/134
A061/A101

AUTHORS: Gubatova, D. Ya., Ulmanis, U. A.

TITLE: Radioactive radiation of Tu^{170} preparations

PERIODICAL: Referativnyy zhurnal, Fizika, no. 8, 1962, 16 - 17, abstract 8B107 (In collection: "Radioakt. izlucheniya i metody ikh issled.", Riga, AN LatvSSR, 1961, 35 - 47)

TEXT: The direct and scattered radiation of Tu^{170} preparations has been investigated. Tu^{170} preparations emit 84.1-kev gamma rays, a characteristic 53.3-kev X-radiation, and a bremsstrahlung with a maximum energy of 970 kev. Primary radiation spectra are given for four Tu^{170} sources (one point source and the others with dimensions up to 12 mm). The intensity ratio of bremsstrahlung to gamma radiation varies from 0.175 to 3.32 for the various sources. Data, obtained with a NaI(Tl) crystal scintillation spectrometer for the spectrum of Tu^{170} radiation reflected from Al, Plexiglas, Fe, and Pb, are given. The angle of reflection reads $\Theta = 30^{\circ}$, the angle of incidence $\varphi = 0^{\circ}$, and the thickness of the scatterers corresponds to that of saturation. Spectra of radiation reflected

Card 1/2

S/058/62/000/008/010/134
A061/A101

Radioactive radiation of Tu^{170} preparations

from Al at different angles of incidence and reflection are obtained. The dependence of the intensity of Tu^{170} radiation, reflected from Al, on the scatterer thickness is shown.

K. Aglintsev

[Abstracter's note: Complete translation]

Card 2/2

41048

S/058/62/000/008/026/134
A061/A101

2.1.6000

AUTHORS: Dubinskaya, N. A., Ulmanis, U. A.

TITLE: On the gamma radiation backscattering intensity

PERIODICAL: Referativnyy zhurnal, Fizika, no. 8, 1962, 58, abstract 8B421 (In collection: Radioakt. izlucheniya i metody ikh issled., Riga, AN LatvSSR, 1961, 27 - 33)

TEXT: The effect of the geometrical conditions of an experiment on the Cs^{137} gamma radiation backscattering intensity was examined. The Cs^{137} source was placed on Al, Plexiglas, Fe, Zn, Cd, and Pd scatterers. The thickness of the latter was chosen near that of saturation. A NaI(Tl) crystal (d=30x20 mm) scintillation gamma-ray spectrometer was used to take the relevant Cs^{137} spectra. The distance between detector and scatterer was varied from 5 to 50 cm. At small distances (5 and 10 cm) there was a distinct maximum of radiation backscattering in tensity for scatterer Z values of 26 - 30. With increasing distance this peak smoothed out, then vanished. For materials with lower Z the backscattering intensity was maximum at distances greater than 30 cm. The contribution of multiply scattered radiation was significant in the case of light scatterers.

K. Aglintsev

[Abstracter's note: Complete translation]

Card 1/1

47652

S/058/62/000/008/029/134
A061/A101

21 6000

AUTHORS: Rysenko, A. G., Ulmanis, U. A.

TITLE: Investigations into the albedo of gamma rays

PERIODICAL: Referativnyy zhurnal, Fizika, no. 8, 1962, 59, abstract 8B424 (In collection: Radioakt. izlucheniya i metody ikh issled., Riga, AN LatvSSR, 1961, 3 - 11)

TEXT: The albedo of energy (A_E) and gamma quantum number (A_N) for Co^{60}, $Eu^{152;154}$, Tu^{170}, Cs^{137}, and Se^{75} gamma radiation was studied as a function of the scatterer thickness. The empirical relation $A_E(d) = A_E(\infty)(1 - \exp(d/a))$ obtained earlier (see RZhFiz, 1959, no. 8, 17428) was examined. d denotes the scatterer thicknes, $A_E(\infty)$ the albedo for infinitely thick scatterer, and a is a constant. The saturation thickness for Al and Fe was obtained as a function of the primary gamma radiation energy, and the values of constant a are given for different gamma quantum energies. Data of albedo for singly and multiply scattered radiation are given.

[Abstracter's note: Complete translation]

Card 1/1

K. Aglintsev

41049

S/058/62/000/008/027/134
A061/A101

21,6000

AUTHORS: Gubatova, D. Ya., Ulmanis, U. A.

TITLE: Energy composition of reflected gamma radiation

PERIODICAL: Referativnyy zhurnal, Fizika, no. 8, 1962, 58 - 59, abstract 8B422 (In collection: Radioakt. izlucheniya i metody ikh issled., Riga, AN LatvSSR, 1961, 13 - 19)

TEXT: The energy composition of reflected gamma radiation was studied as a function of the energy and angle of incidence of primary radiation, of the angle of reflection of reflected radiation, and also of the thickness and the atomic number of the scatterer. The gamma-ray spectrum was determined using a NaI(Tl) crystal scintillation spectrometer and the АИ-100 (AI-100) and БМА-50 (BMA-50) multichannel pulse analyzers. Cs^{137} and Co^{60} gamma-ray sources and Plexiglas, Al, Fe, Ni, Zn, and Pb scatterers were used. Three components were observed in the reflected gamma-radiation spectrum: a hard component essentially corresponding to single scattering; a soft component corresponding to double and multiple scattering, and the softest component of multiply scattered radiation. The energy of the hard component (180 - 260 kev), calculated by the Compton formula, practically does not

Card 1/2

S/058/62/000/008/027/134
A061/A101

Energy composition of reflected gamma radiation

depend on the thickness and the atomic number of the scatterers. The energy of the soft component depends on the type of scatterer and lies in the 150 - 130 kev range for the emitters investigated. The energy of multiply scattered gamma radiation lies within 70 - 80 kev. The intensity ratio of soft and hard components rises with the reflector thickness. The investigation results are presented in a table and in the form of curves.

A. Mosharov

[Abstracter's note: Complete translation]

X

Card 2/2

41050

S/058/62/000/008/028/134
A061/A101

21.6000

AUTHORS: Rysenko, A. G., Ulmanis, U. A.

TITLE: Angular distribution of the reflected gamma radiation intensity

PERIODICAL: Referativnyy zhurnal, Fizika, no. 8, 1962, 59, abstract 8B423 (In collection: Radioakt. izlucheniya i metody ikh issled., Riga, AN LatvSSR, 1961, 21 - 26)

TEXT: A scintillation spectrometer was used to study the angular distribution of the reflected gamma radiation intensity as a function of the angle of incidence of primary gamma radiation. Co^{60}, Cs^{137}, and Tu^{170} gamma-ray sources were used along with Plexiglas, Al, Fe, and Pb scatterers. The scatterer thickness corresponded to that of saturation, measured at the angle of incidence $\varphi = 0^{\circ}$. The anisotropy of the angular distribution of the reflected radiation intensity was observed to increase with the angle of incidence. The intensity rose with a drop of the scatterer Z value and an increase of the angle of incidence of primary radiation. It attained a maximum at an angle of incidence of 75° and with a Plexiglas scatterer. The most anisotropic intensity distribution as a function of the angle of incidence was obtained for scatterers with average and high Z values and a primary gamma-radiation energy $E\gamma > 500$ kev. The investigation results are presented

Card 1/1

S/058/62/000/008/028/134
A061/A101

Angular distribution of the...

in the form of curves.

A. Mosharov

[Abstracter's note: Complete translation]

X

Card 2/2

L 42440-65 EWT(d)/EWT(l)/EWT(m)/EPF(c)/EEC(k)-2/EPF(n)-2/ENG(m)/EEC-4/EPR/T/ IJP(c) GG/JT

ACCESSION NR: AR5009735

SOURCE: Ref. zh. Fizika, Abs. 2E674

AUTHORS: Bilenskiy, V. P.; Rezanov, Yu. M.; Ulmanis, U. A.

TITLE: Instrument for galvanometric [illegible] of semiconductors irradiated in a nuclear reactor

CITED SOURCE: Izv. AN LatvSSR. Ser. fiz. i tekhn. n., no. 4, 1964, 3-5

TOPIC TAGS: galvanometric measurement, semiconductor, reactor irradiation, Hall effect, electric resistivity, magnetic semiconductor

TRANSLATION: The authors describe apparatus with an electromagnet for the investigation of the Hall effect and the electric resistivity in magnetic semiconductors. The magnetic field in a 1 mm gap reaches 10^4 Oe. The sample temperature can be varied [illegible]. The instrument is housed in a cadmium container and can be inserted in a vertical experimental [illegible] container (container diameter 50 mm). The operating procedure and some results of the measurements are described briefly.

SUB CODE: NP, EM ENCL: 00

Card 1/1

USSR/Human and Animal Physiology - Blood. T-4

Abs Jour : Ref Zhur - Biol., No 7, 1958, 31622

Author : Ul'manis, Ya.L.
Inst :
Title : Test of the Organization of the Blood Transfusion Service in the First Riga City Clinical Hospital.

Orig Pub : V sb.: Tr. 1-y Rizhsh. gor. klinich. bol'nitsy. Riga, 1957, 195-200.

Abstract : No abstract.

Card 1/1

USSR/Human and Animal Physiology - (Normal and Pathological). T
Blood. Blood Transfusion and Blood Substitutes.

Abs Jour : Ref Zhur Biol., No 4, 1959, 17322

blood preserved sterility for 30 days. Persusion of SB through isolated heart (H) of rabbit increased cardiac contractions. FB decreased the amplitude of H contractions. After perfusion of SB, the increase of cardiac contractions was preserved longer than after FB. In the blood of donors, those who fasted for 12 hours as well as those who were fed, the changes of amount of Hb, E, and thrombocytes were insignificant. In 25 of 60 donors, 3 hours after eating the amount of leucocytes increased somewhat and phagocytosis rose; in a number of cases, a tendency toward increase of total amount of serum protein, albumin fraction and protein coefficient was noted. Transfusions of SB and FB induced an improvement of blood composition in surgical patients. After transfusion of SB, an increase of the amount of leucocytes and phagocytosis was more frequently observed than after FB

Card 2/3

USSR/Human and Animal Physiology - (Normal and Pathological). T
Blood. Blood Transfusion and Blood Substitutes.

Abs Jour : Ref Zhur Biol., No 4, 1959, 17322

transfusion. SB has the tendency to normalize the total serum protein and protein coefficient in recipients. The frequency of post-transfusion reactions after SB and FB is the same as after transfusion of ordinary preserved blood. The transfusion of SB is an effective method in the complex therapy of surgical patients. It is recommended to change the practice of rejection of blood due to its being "chylous". M.B. Gol'dberg

Card 3/3

BLYUGER, A.F.; UL'MANIS, Ya.L. [Ulmanis, J.]

Result of the use of nystatin in the treatment and prevention of Candida infections. Antibiotiki 5 no.3:98-102 My-Je '60. (MIRA 14:6)

1. Rizhskiy meditsinskiy institut, Institut organicheskogo sinteza AN Latviyskoy SSR.
(MYCOSTATIN) (MONILIASIS)

UL'MANIS, Ya.L. [Ulmanis, J.], kand.med.nauk

Candidiasis as a complication of antibiotic therapy in surgical diseases. Sov.med. 24 no.11:39-43 N '60. (MIRA 14:3)

1. Iz kliniki gospital'noy khirurgii (zav. - prof. A.F.Lepukaln [Liepukalns, A.]) Rizhskogo meditsinskogo instituta (dir. - prof. V.A. Kal'berg [Kalbergs, V.]).
(MONILIASIS) (ANTIBIOTICS)

VELIKOVSKY, Vlastimil, inz.; ULMANN, Lubomir, inz.

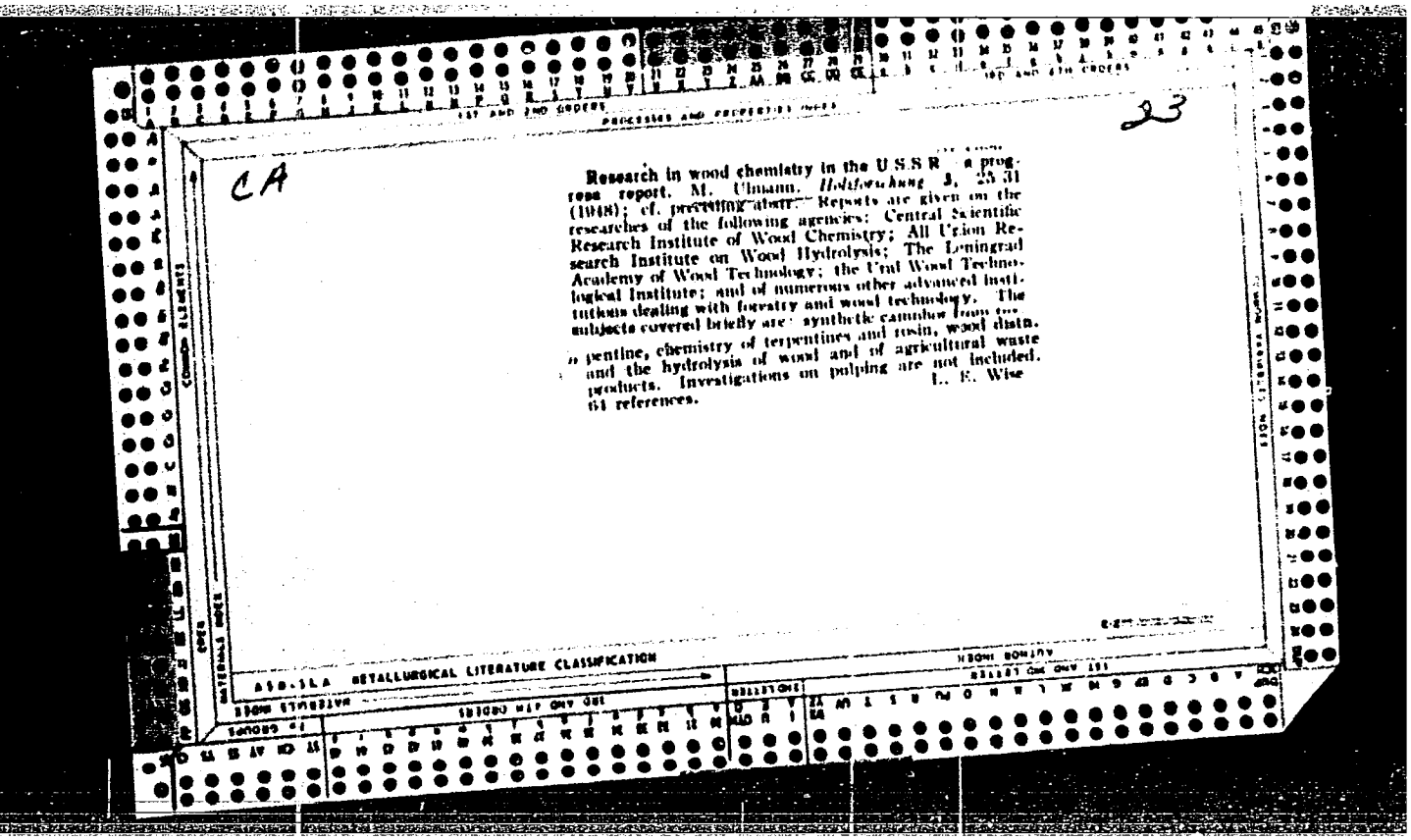
Information from a trip to Poland. Vestnik vyzk zemedel 10 no.1:18-26 '63.

1. Vyzkumny ustav obilnarsky, Kromeriz.

ULMANN, Lubomir, inz.

Requirements on the preceding crop of winter rye in mountain areas. Rost vyroba 10 no.8:777-784 Jl '64

1. Research Institute of Grain, Kromeriz.

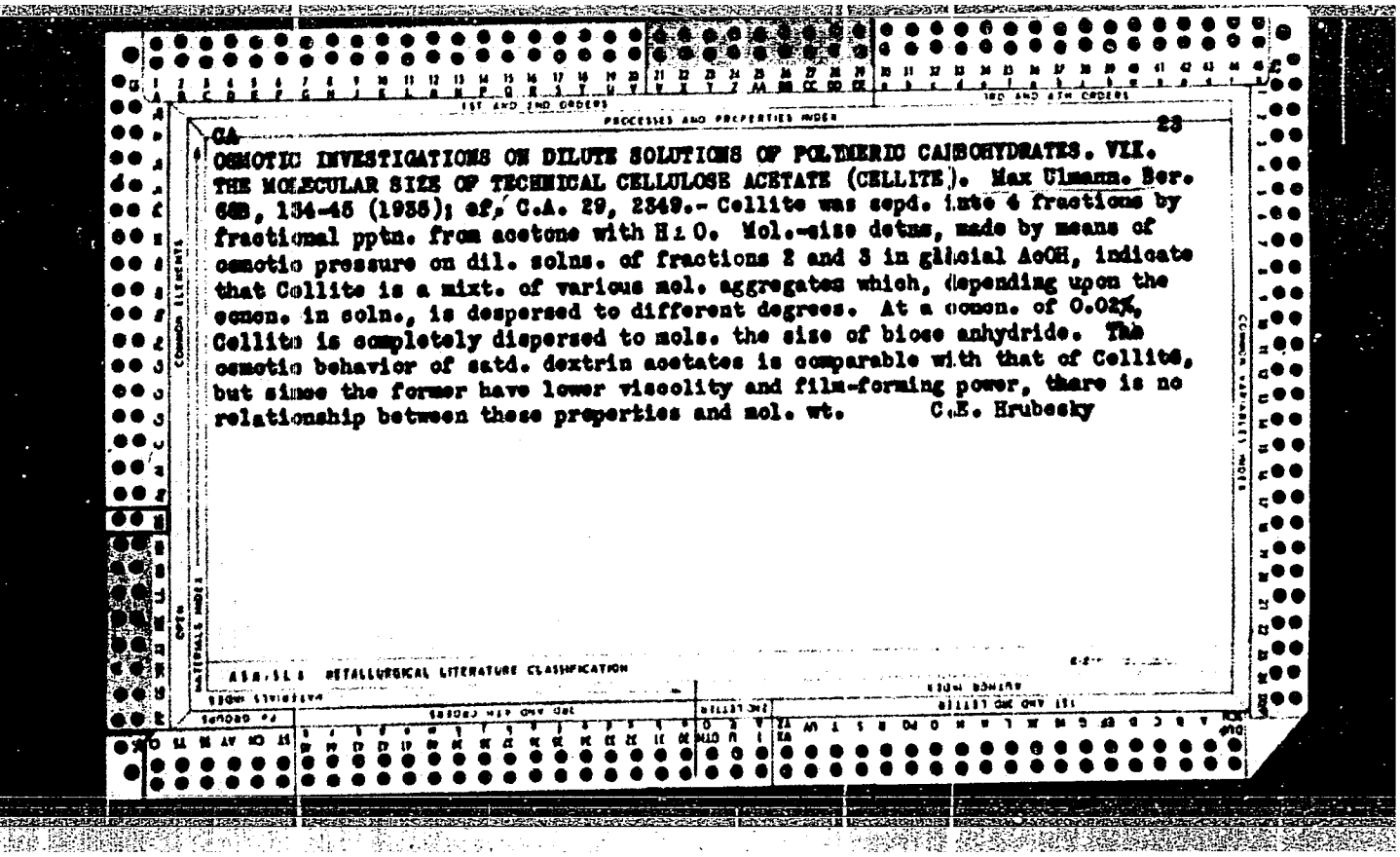


CA

23

Research in wood chemistry in the U S S R ; a progress report. M. Ulmann. *Holzforschung* 3, 25-31 (1948); cf. preceding abstr. Reports are given on the researches of the following agencies: Central Scientific Research Institute of Wood Chemistry; All Union Research Institute on Wood Hydrolysis; The Leningrad Academy of Wood Technology; the Ural Wood Technological Institute; and of numerous other advanced institutions dealing with forestry and wood technology. The subjects covered briefly are: synthetic camphor from turpentine, chemistry of terpentines and rosin, wood distn. and the hydrolysis of wood and of agricultural waste products. Investigations on pulping are not included. 61 references.

L. E. Wise



PROCESSES AND PROPERTIES INDEX

23

GA

OSMOTIC INVESTIGATIONS ON DILUTE SOLUTIONS OF POLYMERIC CARBOHYDRATES. VII. THE MOLECULAR SIZE OF TECHNICAL CELLULOSE ACETATE (CELLITE). Max Ulmann. Ber. 68B, 134-45 (1935); cf. C.A. 29, 2349.- Cellite was sepd. into 4 fractions by fractional pptn. from acetone with H_2O. Mol.-size detns. made by means of osmotic pressure on dil. solns. of fractions 2 and 3 in glacial AcOH, indicate that Cellite is a mixt. of various mol. aggregates which, depending upon the concn. in soln., is dispersed to different degrees. At a concn. of 0.02%, Cellite is completely dispersed to mols. the size of biose anhydride. The osmotic behavior of satd. dextrin acetates is comparable with that of Cellite, but since the former have lower viscosity and film-forming power, there is no relationship between these properties and mol. wt. C.E. Hrubesky

ASM/SLA METALLURGICAL LITERATURE CLASSIFICATION

11257 **Wertvolle Kautschukpflanzen des gemässigten Klimas Dargestellt auf Grund Sowjetischer Forschungsarbeiten.** (Valuable Rubber Plants of the Temperate Zone Based on Soviet Research.) Max Ulmann. 562 pages. 1951. Akademie-Verlag, Berlin, Germany. (SB290 UL5w)

Discusses Russian and foreign attempts at raising rubber-plants within the temperate zone; conditions under which rubber-bearing plants can grow; research on the morphology, anatomy, and culture of the various species; methods of determining rubber content; chemistry and physics of vegetable rubber; and industrial methods of extraction. Illustrations, tables, graphs, and numerous references.

COUNTRY	: Czechoslovakia	H-28
CATEGORY	:	
ABS. JOUR.	: RZKhim., No. 16 1959, No.	58942
AUTHOR	: Ulmann, R.	
INST.	: Not given	
TITLE	: The Veterinary and Sanitary Control of the Production and Processing of Eggs	
ORIG. PUB.	: Veterinarstvi, 8, No 2, 60-62 (1958)	

ABSTRACT : The author gives a detailed description and discussion of current sanitation regulations and processing methods used in the collection, storage, and processing of eggs and poultry products. Questions pertaining to the veterinary control of various operations are discussed.

T. Zvarova

CARD: 1/1

ULMANN, R.

Wax substances used for plucking and their effect on the quality of poultry. p. 291.

PRUMYSL POTRAVIN. (Ministerstvo potravinarskeho prumyslu) Praha, Czechoslovakia, Vol. 10, no. 6, June 1959.

Monthly list of East European Accessions (EEAI) LC, Vol. 8, No. 11, November 1959.

uncl.

ULMANN, R.

SURNAME, Given Names

Country: Czechoslovakia

Academic Degrees: Doctor of Veterinary Medicine

Affiliation: Liberec

Source: Prague, Veterinarstvi, Vol XI, No 5, 1961, pages 181-183.

Data: "Veterinary Care in the Production of Eggs and Poultry."

GPO 981643

SURNAME, Given Names: ULMANN, Rudolf

Country: Czechoslovakia

Academic Degrees: DVM

Affiliation: /Prisovice

Source: Prague, Veterinarstvi, Vol 11, No 8, Aug 1961; pp 289-292

Data: "Veterinary Inspection of Poultry Meat"

GPO 981643

ULMANN R.

(14)

Prague, Veterinarstvi, Vol XII, No 4, April 62
Copyright: None

1. "Law on the Veterinary Care," Vaclav KOUBA, MVDr/Doctor of Veterinary Medicine/, C.Sc. /Candidate of Scien-
ces/. Prague; pp97-100.

2. "Immunization of Calves With a Modified Virus of Aujezsky
Disease," Rastislav SKODA, Med. vet. /Veterinarian/.
Bratislava; pp 101-102.

3. "Prevention of Diseases in Fish in the Large-Scale Pro-
duction Plans for Fisheries," Prof. Vaclav DYK, MVDr.
Dr. Sc. /Doctor of Sciences/, Brno; pp 102-105.

4. "Methemoglobinemia of Farm Animals," Michal BARTIK, C.
Sc., Dr, Docent, Kosice; pp 106-107.

5. "Semen Collection from Boars, Practical Remarks," Jiri
VRANKA, MVDr, Vyskov; pp 108-111.

6. "Irregularity in Umbilical Cord as a Reason for Abortus
or Obstetric Complications," Z. VLCEK, MVDr, Brno;
pp 112-113.

7. "Importance of Biological Control of Incubation," Zde-
nek DUBEN, MVDr, Havlickuv Brod; pp 114-117.

8. "Novelties in Farm Technology," Ales WERTHEIMER, MVDr,
Pelhrimov, p 117.

9. "Air-Conditioning in Delivery Rooms for Sows in the
Pelhrimov Okres," Ales WERTHEIMER, MVDr, Pelhrimov;
pp 117-118.

10. "Bleeding Device in Poultry Slaughterhouses," Rudolf
ULMANN, MVDr, Frisovice; pp 118-119.

11. "Insurance Contract No 0707," Vaclav HUDSCEK, MVDR, Pra-
gue; pp 119-122.

12. "Veterinary Requirements for Meat Export from South
America," Jaroslav CERVENKA, MVDr, Jihlava; pp 122-124.

13. "Kitchen-Salt Poisoning in Cattle," Jozef ILLES, MVDr,
and ZOLTAN RACZ, MVDr, Nitra; pp 124-126.

14. "Competition in the Veterinary Service to Celebrate the
Twelve Congress of the Communist Party of Czechoslovakia,"
pp 2 and 3 of cover.

15. "Awarding the Title of the Brigade of Socialist Labor
in the Veterinary Research Institute CSAZV /Ceskoslo-
venska akademie zemedelskych ved; Czechoslovak academy
of Agricultural Sciences/ (Vyzkumny ustav veterinarni,
CSAZV), Brno-Medlanky; pp 2 and 3 of cover.

1/1

ULMANN, Rudolf, MVDr.

Bleeding equipment for water fowl processing plants. Prum potravin 13 no.5:228-230 My '62.

1. Veterinarni hygienicke stredisko, Prisovce.