"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2

The Kinetic-energy-of-flow Coefficient (cont.)

The quantity k has a value of 0.1 in the case of smooth pipes, a value of 0.15 - 0.20 in the case of pipes with moderate roughness, and 0.25 - 0.3 in the case of pipes with substantial roughness.

Yu. M. Savvin

1. Fluid flow--Theory 2. Pipes--Hydrodynamic characteristics

Card 2/2

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2

LATYSHENKOV, A.M.

Calculating velocity increase and specific consumption in the compressed cross sections of narrow channels. Nauch.dokl. vys.shkoly; energ. no.2:167-178 '59. (MIRA 13:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut vodosnabzheniya, kanalizatsii, gidrotekhnicheskikh sooruzheniy i inzhenernoy gidrogeologii.
(Hydraulics)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2

LATYSHENKOV, A.M., kand.tekhn.nauk

Problems of steam hydraulics in artificially compressed channels. Trudy Gidrav.lab.VODGEO no.7:125-182 '59. (MIRA 13:8)
(Hydraulics)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2

LATYSHENKOV, A.M., kand.tekhn.nauk

Studying two types of chute spillways of the Mozhaysk hydroelectric power dam. Trudy Gidrav.lab.VODGEO no.7:183-199 '59.
(MIRA 13:8)
(Mozhaysk Hydroelectric Power Station--Spillways)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2

LATYSHENKOV, A.M.; MUROMOV, V.S., dotsent, kand.tekhn.nauk, nauchnyy red.; SMIRNOVA, A.P., red.izd-va; SHERSTNEVA, N.V., tekhn.red.

[Problems in the hydraulics of artificially contracted channels] Voprosy gidravliki iskusstvenno szhatykh rusel. Moskva, Gos.izd-vo lit-ry po stroit., arkhit. i stroit. materialam, 1960. 214 p. (MIRA 14:1)

(Hydraulics)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2

NEDRIGA, V.P., kand.tekhn.nauk. Prinimala uchastiye SMAGINA, A.Ye., starshiy tekhnik. LATYSHENKOV, A.M., kand.tekhn.nauk, nauchnyy red.; SAPONOV, P.V., red.izd-va; TEMKINA, Ye.L., tekhn.red.

[Conjugating sections of concrete dams] Sopriagaiushchie ustroistva betonnykh plotin. Moskva, Gos.izd-vo lit-ry po stroit., arkhit. i stroit.materialam, 1960. 278 p. (MIRA 13:10)
(Dams)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2

PLEVAKO, Nikolay Alekseyevich; MAYZEL', M.M., prof., doktor tekhn.nauk, retsenzent; LATYSHENKOV, A.M., dotsent, kand.tekhn.nauk; MINAYEVA, T.M., red.; KHAKHIN, M.T., tekhn.red.

[Fundamentals of hydraulics and hydraulic machinery] Osnovy gidravliki i gidravlicheskie mashiny. Moskva, Izd-vo nauchno-tekhn. lit-ry RSFSR, 1960. 427 p. (MIRA 14:1)
(Hydraulics) (Hydraulic machinery)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2

LATYSHENKOV, A.M., kand. tekhn. nauk; YAROTSKIY, V.A., inzh.

Laboratory hydraulic studies of a hydraulic complex. Trudy Gidrav. lab. VODGEO no.10:237-246 '63. (MIRA 17:8)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2

LATYSHENKOV, A.M., kand. tekhn. nauk

Results of full-scale hydraulic studies of water supply channels. Trudy Gidrav. lab. VODGEO no.10:247-254 '63.
(MIRA 17:8)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2

LATYSHEV, A.

LATYSHEV, A.

Reliable support of trade-union organizations. Sov.profsoiuzy 3 no.8:34-36 Ag'55. (MLRA 8:10)

1. Sekretar' Stavropol'skogo kraevogo komiteta profsoyuza rabochikh i shuzhashchikh sel'skogo khozyaystva i zagotovok (Stavropol'--Trade unions)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2

LATYSHEV, A.

Work experience of "Mosmoloko" enterprise. Sov. torg. no.4:31-35 Ap '58. (MIRA 11:4)

1. Direktor torga Mosmoloko.
(Dairy products--Marketing)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2

LATYSHEV, A.

Improving the specialized milk trade. Sov. torg. no.7:14-17 Jl '56. (MLRA 9:10)

1. Direktor torga "Mosmoloko."
(Milk trade)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2

LATYSHEV, A.; LOVACHEV, L.

Useful manual for a salesman("Milk, butter, and egg products and animal fats" by V.G.Krutov and others. Reviewed by A. Latyshev, L. Lovachev). Sov. torg. no. 7:50-51 Jl '58. (MIRA 11:7)

1. Direktor torga Mosmoloko(for Latyshev). 2. Starshiy prepodavatel' Moskovskogo instituta narodnogo khozyaystva im. G.V.Plekhanova(for Lovachev).

(Animal products--Marketing)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2

LATYSHEV, A. A.

"A Typical Diesel-Electric Power Station for MTS Workshops" (Tipovaya dizel'naya elektrostantsiya dlya masterskikh pri MTS), Sel'khozproyekt, Ministry of Agriculture USSR, 1949, 29 pp. of text and 4 pp of sketches.

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2

LATYSHEV, A. A.

"An Aluminum Asphalt-Bitumen Paint" (Alyuminiyeveya Asfal'to-bitumnaya Kraska), A. A. Latyshev and A. D. Starkova, edited by B. R. Mirenskiy, Goskhimizdat, Moscow/Leningrad, 1949, 40 pages, 2 rubles.

Description of the paint Al- 277.

SO: Uspekhi Khimii, Vol 18, #6, 1949; Vol 19, #1, 1950 (W-10083)

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2

LATYSHEV, A.F.

Scraper hoists with remote control. Gor. zhur. 122 no.2:34-35 F '48. (MLRA 8:9)

(Mine hoisting) (Remote control)

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2

LATYSHEV, A. F., Eng.

Mine Haulage

Present-day shunting devices at loading points. Ugol' 28, No. 4, 1953.

Monthly List of Russian Accessions, Library of Congress, June 1953. Unclassified.

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2

DOBRICH, Adal'bert [Dobrić, Adalbert]; ALIKHODZHICH, Asim [translator]; PISAREV, I.Yu., prof., red.; KABACHNIK, Ya.I., red.; LATYSHEV, A.I., red.; VINOGRADOVA, V.A., tekhn.red.

[Industrial statistics] Promyshlennaia statistika. Pod red. I.IU.Pisareva. Moskva, Gos.stat.izd-vo, 1959. 291 p. (MIRA 13:3)

(Industrial statistics)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2

MIKHALI, Y [Mihalik, Jozef]; SONIN, M.Ya., doktor ekon. nauk, red.; ZAYTSEV, N.F., red.; LATYSHEV, A.I., red.

[Planning the reproduction of trained labor force; problems of theory and practice] Planirovanie vosproizvodstva kvalifikatsirovannoi rabochei sily; voprosy teorii i praktiki. Moskva, Progress, 1964. 358 p. Translated from the Slovak. (MIRA 17:8)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2

TROFIMOVA, V.I.; SHAPIRO, M.S.; SHORIN, G.P., redaktor; LOBANOV, D.I., redaktor; MOLCHANOVA, O.P., redaktor; SUKOLENOV, P.G., redaktor; VEBER, V.A., redaktor; LATYSHEV, A.N., redaktor; KAGANOVA, A.A., vedushchiy redaktor; BERNIKOV, Yu.K., redaktor; SUDAK, D.M., tekhnicheskiy redaktor

[A collection of recipes for labor reserve student dining rooms] Sbornik retseptur bliud dlia pitaniia uchashchikhsia uchebnykh zavedenii trudovykh rezervov. Moskva, Gos. izd-vo torgovoi lit-ry, 1956. 358 p. (MLRA 10:1)

1. Russia (1923- U.S.S.R.) Ministerstvo torgovli. (Cookery)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2

LATYSHEV, A.N.

Effect of some factors on the fine structure centers in the absorption spectra of thin metallic layers. Sbor.nauch.rab. asp. VGU no.2:23-28 '62.

(MIRA 18:11)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2

S/137/62/000/011/016/045
A052/A101

AUTHOR: Latyshev, A. N.

TITLE: Effect of cerain factors on fine structure centers in absorption spectra of thin metal layers

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 11, 1962, 15, abstract 11I115 ("Sb. nauch. rabot aspirantov Voronezhsk. un-ta", no. 2, 1962, 23 - 28)

TEXT: The fine structure of absorption spectra of thin Ag layers (10^{-7} g/cm^2) in the visible spectrum range (450 - 700 mμ) was studied. Ag layers were produced in a vacuum of 10^{-4} mm mercury column. It is found that absorption spectra on mica do not differ noticeably from Ag absorption spectra on quartz. Layers produced by spraying Ag on an oxide layer have higher fine structure maxima. Mechanical processing of the backing does not affect absorption spectra. When the backing is heated the height of maxima increases. Atmospheric oxygen does not affect noticeably the fine structure centers.

N. Penkina

[Abstracter's note: Complete translation]

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2

LATYSHEV, A.N.

Some problems concerning the formation of fine structure silver layers in the absorption spectrum. Zhur. nauch. i prikl. fot. i kin. 8 no.6:454-459 N-D '63. (MIRA 17:1)

1. Gosudarstvennyy universitet, Voronezh.

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2

ACCESSION NO: AP4013972 S/0077/64/009/001/0018/0021

AUTHOR: Laty*shev, A. N.

TITLE: The effect of aging of silver layers on the fine structure of absorption spectrum

SOURCE: Zhurnal nauchnoy i prikladnoy fotografii i kinematografii, v. 9, no. 1, 1964, 18-21

TOPIC TAGS: silver halide, aging silver halide, absorption spectra, fine structure, maximums of fine structure, wave length, absorption curve, optical density, center fading

ABSTRACT: The effect of prolonged exposure to air of silver layers on the fine structure of their absorption spectra has been investigated. These effects are believed to be similar to those described by Ye. A. Kirillov and Ye. A. Nesterovskaya (Zh. nauchn. i prikl. fotogr. i kinematogr., 1958, 3, 4) on the destructive effect of monochromatic light on centers in silver halide layers (responsible for the spectral peaks). The methods of preparing the samples and the description of the registering apparatus are given in an earlier publication by the author (Zh. nauchn. i. prikl. fotogr. i kinematogr., 1963, 8, 454). The thickness

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ACCESSION NO: AP4013972

of the silver layers in the films varied between 3×10^{-8} and 10^{-7} gm/cm^2. Measurements of absorption spectra were made within the 400-670 millimicron range at various time intervals following exposure of the samples to air for periods up to 60 hours. As can be seen from the absorption spectra shown on Fig. 1 of the Enclosure, during the first hours of exposure to air all of the maximums of the fine structure above the 600 millimicron region began to disappear at once. This was extended within one day to the maximums of the 600-510 millimicron region, and within several more days the same phenomenon was observed in the region of a wave length less than 510 millimicrons. The period of complete disappearance of the maximums varied with various samples. The author assumes that the maximums of each group belong to the same type of centers, representing its spectrum. On exposure to air these centers disappear with various speeds. Orig. art. has: 2 charts.

ASSOCIATION: Voronezhskiy gosudarstvenny*y universitet (Voronezh State University)

SUBMITTED: 22Sep62 DATE ACQ: 14Feb64 ENCL: 02

SUB CODE: PG NO REF SOV: 003 OTHER: 000

Card 2/2

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2

LATYSHEV, A.N.

Structure of the absorption spectra of the thin metallic layers of thallium. Zhur.nauch. i prikl.fot. i kin. 9 no.2:81-83 Mr-Ap '64. (MIRA 17:4)

1. Voronezhskiy gosudarstvennyy universitet.

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2

LATYSHEV, A.N.

Photochemical destruction of the centers responsible for the thin structure of the admixed absorption spectrum of silver halide. Zhur. nauch. i prikl.fot. i kin. 9 no.4:263-266 Jl-Ag '64.
(MIRA 17:10)

1. Voronezhskiy gosudarstvennyy universitet.

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2

LATYSHEV, A.N.

Methodology for measuring the absorption spectra of the thin structure of some objects and the mechanism of thin structure formation. Zhur. nauch. i prikl. fot. i kin. 10 no.2:149-151 Mr-Ap '65. (MIRA 18:5)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2

NECHAYEVA, T.A.; LATYSHEV, A.N.; GONCHAROVA, I.F.

Spectra of light attenuation by small colloidal particles of silver and gold. Zhur. nauch. i prikl. fot. i kin. 9 no.3:203-205 My-Je '64. (MIRA 18:11)

1. Nauchno-issledovatel'skiy institut fiziki Odesskogo gosudarstvennogo universiteta i Voronezhskiy gosudarstvennyy universitet. Submitted November 18, 1963.

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2

S/151/60/000/006/001/001
B012/B060

AUTHOR: Latyshev, D. G.

TITLE: Role of Disturbances in Northwestern Direction in the Distribution of Mineralization in the Khrustal'nyy Tin Ore Deposit

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Geologiya i razvedka, 1960, No. 6, pp. 58 - 63

TEXT: On the basis of findings from 1959 (Ref. 2), the mineral veins of the Khrustal'nyy tin ore deposit, lying in highly dislocated sedimentary strata, have been ascribed to the Norian stage of the Upper Triassic. This deposit communicates with the west side of the anticlinal fold, whose axis has a submeridional course. Findings by V. N. Dubrovskiy (Ref. 1) are confirmed by the author's own data. It may be assumed on their basis that within the anticlinal fold there is a series of folds of higher orders, and that the principal veins of the deposit communicate with their axial region (Volkovskaya vein, Glavnaya vein, Tret'ya DTsMR

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2

vein, Khloritovaya vein, et al.). The disturbances containing these veins are characterized by an almost meridional course (0 - 20°) and a drop toward north-west at an angle of 60 - 75°. Apart from the above-mentioned disturbances there are still such with a north-west course. According to V. N. Dubrovskiy and V. P. Polokhov (Ref. 2) these disturbances are cracks of a fracture communicating with the submeridional disturbances. In 1957, V. N. Dubrovskiy established in the Khrustal'nyy deposit four stages of mineralization with a regular decrease of tin in the direction of the stages coming next. A further northwestern fracture with a rich quartz-cassiterite vein, which later was named Diagonal'naya vein, was uncovered late in 1957. This called for a review of traditional notions on the genesis and the opportunity of an exploitation of the northwestern disturbances. The following results were established with a new exploration: 1) Together with a crumpling of rocks into the anticlinal folds, shear disturbances of the submeridional (0 - 20°) direction have appeared in the Khrustal'nyy deposit. These disturbances coincide with the spread

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2

Role of Disturbances in Northwestern Direction in the Distribution of Mineralization in the Khrustal'nyy Tin Ore Deposit

S/151/60/000/006/001/001
B012/B060

of foldings and the discontinuous northwest disturbances (320 - 340°). They are related to the formation of the fold structure. 2) The northwestern disturbances were renewed during the post-mineralization period and acquired a "shear-like" character. Several submeridional veins were dislocated in the process. 3) The northwestern disturbances were filled up by submeridional disturbances. For this reason the latter exhibit no quartz-cassiterite mineralization at the northern flanks. The richest tin-containing ores are found in the northwest veins which cut the principal submeridional veins in their central parts. The poor ores are found in the northwestern veins which cut the submeridional veins at the flanks. There are 2 figures and 2 Soviet references.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut mineral'nogo syr'ya (All-Union Scientific Research Institute of Mineral Raw Materials)

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2

LATYSHEV, D.G.

Role of the northwestern dislocations in the mineral distribution in the Khrustal'nyy tin deposit. Izv. vys. ucheb. zav.; geol. i razv. 3 no.6:58-63 Je '61. (MIRA 14:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut mineral'nogo syr'ya.

(Khrustal'nyy--Tin ores)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2

KISLYAKOV, Ya.M.; LATYSHEV, D.G.

Practice in using a camera for recording mining data. Geol. rud.mestorozh. 5 no.4:101-102 Jl-Ag '63. (MIRA 16:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut mineral'nogo syr'ya.
(Photographic surveying) (Mining geology)

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2

LATYSHEV, D.I.; GURLEV, A.S., agronom po zashchite rasteniy.

On the "Teplichnyi" State Farm. Zashch. rast. ot vred. i bol. 3 no.1:38-40 Ja-F '58. (MIRA 11:3)

1. Glavnyy agronom sovkhoza "Teplichnyy" (for Latyshev).
(Greenhouse management)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2

LATYSHEV, F., assistent; BUNAKOV, A., assistent; MCHEDLOV-PETROSYAN, O., prof.; DUDNIK, F., nauchnyy sotrudnik; GORDON, S., kand. tekhn. nauk.

Using substandard sand in making concretes. Stroi. mat. 2 no.10: 25-28 O '56. (MIRA 12:3)

1.Yuzhnyy nauchno-issledovatel'skiy institut, Dnepropetrovsk (for Dudnik).

(Sand) (Concrete)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2

MCHEDLOV-PETROSYAN, O. P.; LATYSHEV, F. A; BUNAKOV, A. G.; LEVCHUK, N. A.

"The Thermodynamic Investigation of Cement Vibro-Activation."

report presented at the Section on Colloid Chemistry, VIII Mendeleyev Conference of General and Applied Chemistry, Moscow, 16-23 March 1959.
(Koll. Zhur. v. 21, No. 4, pp. 509-511)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2

MCHEDLOV-PETROSYAN, O.P.; LEVCHUK, N.A.; BUNAKOV, A.G.; LATYSHEV, F.A.; STRELKOVA, I.S.

Thermographical investigations of the effect of vibrating on cement mixes. Silikaty no.2:67-69 '59. (MIRA 13:6)
(Cement) (Vibration)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2

MCHEDLOV-PETROSYAN, O.P.; BUNAKOV, A.G.; LATYSHEV, F.A.; CHESNOK-SMOTRICH, G.V.

Choosing automated manufacturing techniques for large structural articles. Stroi.mat. 7 no.8:16-18 Ag '61. (MIRA 14:8)
(Precast concrete)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2

LATYSHEV, F.F., mashinist-instruktor

Locomotive engineer-instructor F.F. Latyshev shares his experience. Elek. i tepl. tiaga 2 no.5:36-37 '58. (MIRA 12:4)

1. Depo Verkhniy Baskunchak, Privolzhskaya doroga.
(Diesel locomotives--Electric equipment)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2

OSHEROVSKIY, Kh.M.; LATYSHEV, G.D.

Solar therapy during the cold season on the southern shore of the Crimea. Vop. kur. fizioter. i lech. fiz. kul't. 25 no. 3:208-211 My-Je '60. (MIRA 14:4)

1. Iz Yaltinskogo santoriya Ministerstva oborony SSSR (nach. Ye.I. Fedorov).

(CRIMEA—SUN BATHS)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2

LATYSHEV, G.D. (Yalta)

Calculation and measurement of the heat flow passing through the skin in sudden cooling. Vop. kur., fizioter. i lech. fiz. kul't. 26 no.1:64-67 '61. (MIRA 14:5)
(BODY TEMPERATURE--REGULATION) (HYPOTHERMIA)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2

LATYSHEV, G.D.

Controlled cold bathing. Vop.kur., fizioter.i lech.fiz.kul't. 27 no.2:117-123 Mr-Ap '62. (MIRA 15:11)

1. Iz Yaltinskogo sanatoriya Ministerstva oborony SSSR.
(BATHS, COLD)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2

LATYSHEV, G.D.

Methodology of dosimetry and dosage in heliotherapy. Vop.kur., fizioter.i lech.fiz.kul't. 28 no.1:79-80 '63. (MIRA 16:4)

1. Iz Yaltinskogo sanatoriya Ministerstva oborony SSSR.
(SUN BATHS)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2

L 27204-66 EWT(1)/EWT(m)/ETC(m)-6 IJP(c) WW

ACC NR: AP6017444 SOURCE CODE: UR/0361/65/000/002/0035/0040

52
B

AUTHOR: Andreyev, Yu. A.; Beskrovnyy, I. M.; Latyshev, G. D.

ORG: none

TITLE: Methods for automation of physical measurements in magnetic beta-spectrometers

SOURCE: AN KazSSR. Izvestiya. Seriya fiziko-matematicheskikh nauk, no. 2, 1965, 35-40

TOPIC TAGS: spectrometer, automation, magnetic circuit, automation equipment, electronic rectifier

ABSTRACT: A brief review of the advantages of automation in spectrometers and inadequacies in currently proposed methods of implementing such automation make up a large portion of this article. A general diagram of an automated spectrometer is presented, along with some suggestions for the construction of various elements. The article concludes with the suggestion that an automated spectrometer have two basic components - a universal control block containing the timing, program, and recording blocks; and a block specially constructed for each type of spectrometer consisting of a regulator, a magnetic field stabilizer, and a high voltage rectifier or a high voltage bias rectifier. Undoubtedly, of greatest value is the bibliography of current works in this area.

Orig. art. has: 1 figure. [JPRS]

SUB CODE: 09, 13 / SUBM DATE: 090ct64 / ORIG REF: 014 / OTH REF: 005

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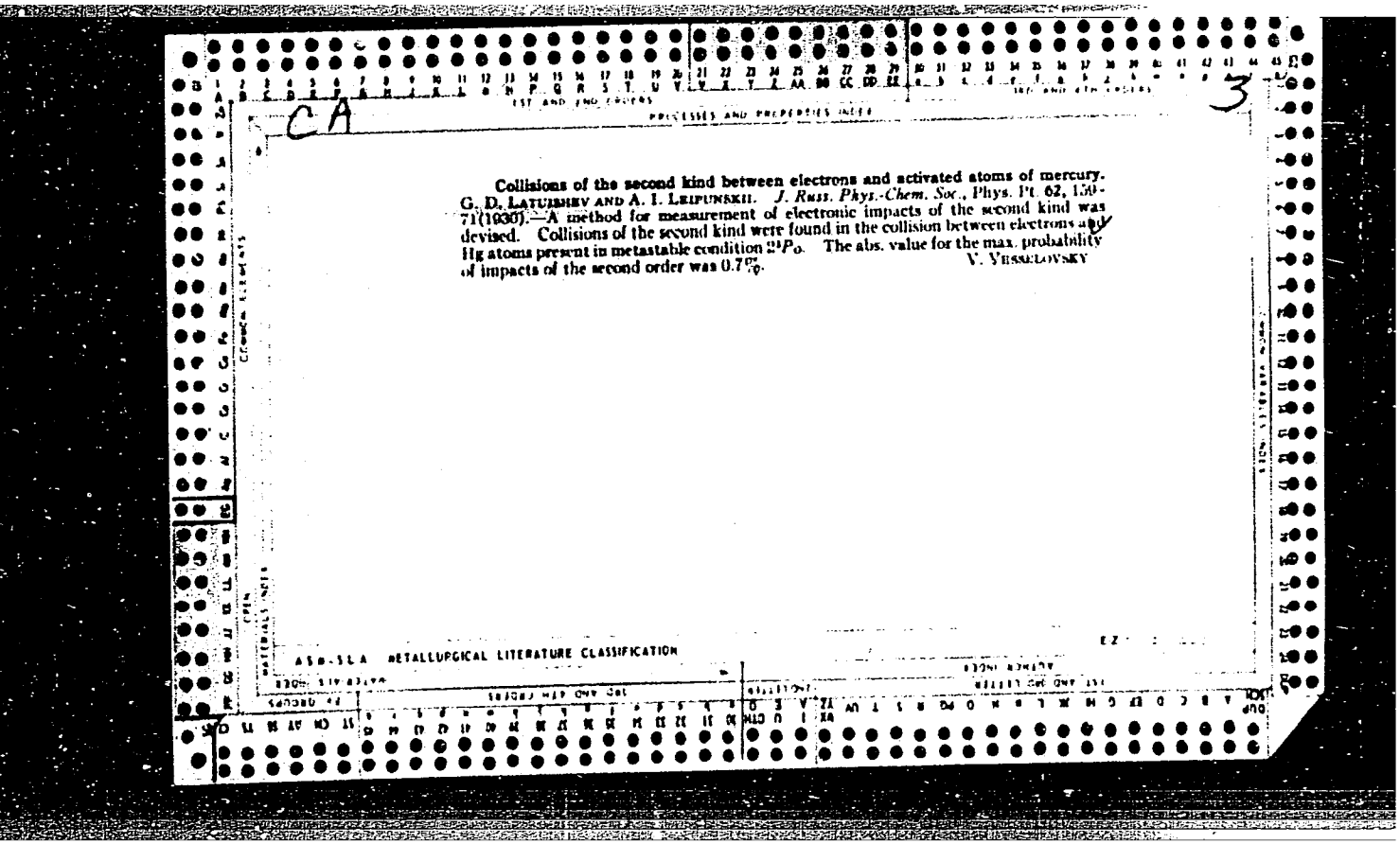

CA

3

Collisions of the second kind between electrons and activated atoms of mercury. G. D. Latyshev and A. I. Leipunskii. *J. Russ. Phys.-Chem. Soc.*, Phys. Pt. 62, 159-71(1930).—A method for measurement of electronic impacts of the second kind was devised. Collisions of the second kind were found in the collision between electrons and Hg atoms present in metastable condition 2^3P_0. The abs. value for the max. probability of impacts of the second order was 0.7%. V. Veselovsky

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2

A New Method of Measuring the Spin-Spin Relaxation Time of Liquids

If $T_2 < 0,01$ sec and if too small a volume V is required, T_2 can be determined from the dependence of the amplitude of the nutation signal on the consumption of liquid (as in Ref 5). In this case only one of the oscillating fields is used. There are 5 references, 1 of which is Soviet.

ASSOCIATION: Leningradskiy institut inzhenerov zheleznodorozhnogo transporta im. V. N. Obraztsova (Leningrad Institute of Railroad Transport Engineers imeni V. N. Obraztsov)

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2

21 (7)

AUTHORS: Sergeyev, A. G., Vorob'yev, V. D., Remennyy, A. S., Kol'chinskaya, T. I., Latyshev, G. D., Yegorov, Yu. S.

SOV/56-35-2-6/60

TITLE: The Influence Exercised by Finite Dimensions of Nuclei Upon the Relative Coefficients of Internal Conversion in L-Subshells (Vliyaniye konechnykh razmerov yadra na otnositel'nyye koeffitsiyenty vnutrenney konversii v L-podobolochkakh)

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1958, Vol 35, Nr 2, pp 348-354 (USSR)

ABSTRACT: As the experimental and theoretical values of conversion coefficients agree only very badly (Refs 1 - 10), the authors undertook the task of finding out to what extent the finite dimensions of nuclei influence these values. The present paper contains a report on the experimental investigations concerning this influence which is exercised on the relative conversion coefficients in L-subshells for pure M1-transitions. The following transitions were investigated:

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2

The Influence Exercised by Finite Dimensions of Nuclei Upon the Relative Coefficients of Internal Conversion in L-Subshells

46,5 keV - decay: RaD $\xrightarrow{\beta}$ RaE (Bi_{83}^{210})
115,1 keV ThB $\xrightarrow{\beta}$ ThC (Bi_{83}^{212})
238,6 keV ThB $\xrightarrow{\beta}$ ThC (Bi_{83}^{212})

The following was found for the ratio $L_I : L_{II} : L_{III}$

100 : (10,6 ± 0,2) : (0,93 ± 0,05)
100 : (10,4 ± 0,2) : (0,88 ± 0,10)
100 : (10,4 ± 0,2) : (0,74 ± 0,05)

For the first and for the 3. transition results obtained by Bashilov, Dzhelepov, Chervinskaya, and those of references 10, 11, 16, 17 have already been published; they are compared in this paper with the results obtained by the authors. Furthermore, the relative conversion coefficient for the 277,3 keV - γ -transition (M1) between two excited levels in Pb^{208} was investigated, viz. for the levels 3474,8 keV (4^-) and 3197,5 keV (5^-). Here a E2-admixture

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The Influence Exercised by Finite Dimensions of Nuclei Upon the Relative Coefficients of Internal Conversion in L-Subshells

SOV/56-35-2-6/60

is possible. Result:

$K:L_I = 6,15\pm0,3$; $L_I:L_{II}:L_{III} = 100:(12,5\pm0,6):(1,9\pm0,3)$

There are 4 figures, 3 tables, and 26 references, 11 of which are Soviet.

ASSOCIATION: Leningradskiy institut inzhenerov zheleznodorozhnogo transporta (Leningrad Railroad Engineers Institute)

SUBMITTED: March 6, 1958 (initially) and July 9, 1958 (after revision)

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2

S/194/62/000/005/058/157
D256/D308

AUTHORS: Arkhangel'skiy, A.A., Vorob'yev, I.V., and Latyshev, G.D.

TITLE: Experience of industrial application of photoresistors for gamma-ray registration

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika, no. 5, 1962, abstract 5-3-61 sh (Fotoelektr. i optich. yavleniya v poluprovodnikakh, Kiev, AN UkrSSR, 1959, 398-400)

TEXT: Preliminary experiments on gamma-ray detection by photoresistors are described, conducted in order to determine the possibilities of applications in defectoscopy, thickness control etc. Co^{60} gamma-rays were directed upon a thallium activated sodium or cesium iodide crystal and the emitted light was focussed onto the photoresistor. The photocurrent was recorded using a single-valve amplifier. The dependence of the sensitivity of the method upon the thickness of the absorbing material was investigated. Best results were obtained using monocrystalline photoresistors type ФСК-МІ (FSK-MI)

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2

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66195

SOV/31-59-5-10/16

AUTHORS: Zhernovoy, A.I. and Latyshev, G.D.

TITLE: The Application of Nuclear Magnetic Resonance for the Determination of the Actual Liquid Jet Volume in the Part of a Piping System With Variable Section

PERIODICAL: Vestnik Akademii nauk Kazakhskoy SSR, 1959, Nr 5, pp 74 - 76 (USSR)

ABSTRACT: The article deals with the determination of the volume of a polarized liquid by means of nuclear magnetic resonance. If a liquid passes through a tube with a small section into another tube with a large section at great velocity, the jet volume only occupies a part of the volume of the wider tube. Let the length of the wider tube be ℓ, and the section and average velocity of the jet at a distance x be congruent from its basis, the liquid is polarized and the magnetic moment of the volume unit at a distance x from the jet bases is M(x). The specific magnetic moment in the liquid flowing out of

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2

The Application of Nuclear Magnetic Resonance for the Determination of the Actual Liquid Jet Volume in the Part of a Piping System With Variable Section

the wider tube is M(e). It results from nuclear magnetic relaxation that disregarding the variation of velocity at the jet section, the variation of the polarization of nuclei is

$$\frac{dM(x)}{dx} = -\frac{M(x)}{T_1 v(x)} ,$$

where T_1 is the relaxation period of the liquid, whence it follows that

$$M(e) = M(0)e^{-\frac{e}{T_1}\int_0^e \frac{dx}{v(x)}}$$

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2

The Application of Nuclear Magnetic Resonance for the Determination of the Actual Liquid Jet Volume in the Part of a Piping System With Variable Section

where M(O) is the specific magnetic moment of the liquid flowing into the wider tube. Obviously,

$$v(x).S(x) = Q,$$

where Q is the discharge of liquid in the system. Hence it follows that

$$M(l) = M(0)e^{-\frac{l}{T_1 Q}\int_0^l S(x)\,dx} = M(0)e^{-\frac{v_c}{T_1 Q}}$$

where v_c is the volume of the liquid jet. The ratio $\frac{M(e)}{M(O)}$ is equal to the ratio of amplitudes of the nuclear resonance signals $\frac{A}{A_0}$ given by the liquid

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2

The Application of Nuclear Magnetic Resonance for the Determination of the Actual Liquid Jet Volume in thePart of a Piping System With Variable Section

entering the nuclear resonance transmitter. Thus,

$$v_c = Q T_1 \cdot \ln \frac{A_0}{A}$$

The method is applied to guarantee an equal distribution of the liquid velocity in a section of any volume. The scheme of the apparatus is given in the diagram. There are 1 diagram and 12 references, 8 of which are Soviet and 4 unidentified.

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LATYSHEV, G. D.

A. G. Sergeyev, V. D. Vorobyev, A. S. Remenny, T. I. Kolchinskaya, G. D. Latyshev and Yu. S. Yegorov

"Influence of the Finite Dimensions of the Nucleus on the Relative Conversion Coefficients in the L-Subshells*
Nuclear Physics, 9, No. 3, Jan. 1959, 498-508 (North Holland Publishing Co., Amsterdam)
*Paper read at the Eighth Annual Symposium on Nuclear Spectroscopy of the USSR Academy of Sciences, January 1958, Leningrad.

Abstract: Measurements have been made of the relative internal conversion coefficients in the L-subshells for three pure M1 transitions: 46.5 keV in Bi^{210}, and 115.1 and 238.6 keV in Bi^{214}. It is shown that in order to obtain agreement with the experimental data, it is necessary to take into consideration the finite dimensions of the nucleus in the theoretical calculations of the L internal conversion coefficients.
Measurements have also been made of L_I: L_{II}: L_{III} for the 277.3 keV M1 transition in Pb^{203}.

V. N. Obraztsov Institute of Railway Engineering, Department of Physics, Leningrad

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2

21(3) SOV/48-23-2-16/20

AUTHORS: Yegorov, Yu. S., Seliverstov, D. M., Latyshev, G. D., Zhernovoy, A. I.

TITLE: Instrument for Measurement and Stabilization of the Magnetic Field in Spectrometers (Ustanovka dlya izmereniya i stabilizatsii magnitnogo polya v spektrometrakh)

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1959, Vol 23, Nr 2, pp 244-250 (USSR)

ABSTRACT: In this paper a universal measuring instrument and a stabilizer of the magnetic field for spectrometers is designed. The instrument is based on the principle of measurement and stabilization of the magnetic field by magnetic nuclear resonance. It permits the measurement of magnetic fields within the range 3 - 2500 Oe and stabilization within the range 10-2500 Oe. For good resolution of the lower limit the authors applied the method of previous magnetization of water. (Fig 2, block scheme of the instrument in figure 1), whereby the lower limit of the field strength to be measured can be reduced to 3 Oe. Due to the ratio of signal noise obtained by this method it is possible to use the signal of nuclear resonance for stabiliz-

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2

Instrument for Measurement and Stabilization of the Magnetic Field in Spectrometers

ing the field of the spectrometer also at a field strength of 10 Oe. For the purpose of obtaining the signals of nuclear resonance the scheme of the Franklin generator was applied, as suggested by Pound (Ref 8). Reactive tubes of the type 6Zh5P were used for frequency stabilization, whereby a frequency stability of the generator of 8.10^{-6} was obtained within a wide range of frequency. There are 6 figures and 10 references, 7 of which are Soviet.

ASSOCIATION: Leningradskiy institut inzhenerov zheleznodorozhnogo transporta im. V. N. Obraztsova
(Leningrad Institute for Railroad Engineers imeni V. N. Obraztsov)

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2

SOV/48-23-2-17/20

21(3)
AUTHORS: Yegorov, Yu. S., Seliverstov, D. M., Latyshev, G. D.

TITLE: Frequency Meter for Nuclear Resonance (Izmeritel' chastoty dlya yadernogo rezonansa)

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1959, Vol 23, Nr 2, pp 251-254 (USSR)

ABSTRACT: For the use of nuclear resonance for the measurement and stabilization of magnetic fields the accuracy of measurement is of special importance. On the other hand, the accuracy of the measurement of magnetic fields is determined by the accuracy of the measurement of high-voltage frequencies. The frequencies are measured by comparison with quartz frequencies. A block scheme of the frequency meter MK-3 is given in figure 1, and the accurate scheme is contained in figure 2. A precise description of the apparatus is given. With subdivision of the quartz-generator frequency into 10 kc each the difference of the frequency to be measured between two neighboring harmonics of the multivibrator is found within the limits of 0 and 5 kc. The error caused in the measurements amounts to $\pm$(7-10) c. For the purpose of reducing the error an oscillograph is applied whereby the frequencies can be measured

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according to Lissajous figures. The error is then reduced to ± 2 cycles. In the case of frequency measurements above 4950 cycles the multivibrator is divided into 20 kc each. There are 4 figures and 2 Soviet references.

ASSOCIATION: Leningradskiy institut inzhenerov zheleznodorozhnogo transporta im. V. N. Obraztsova
(Leningrad Institute for Railroad Engineers imeni V. N. Obraztsov)

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LATYSHEV, G.D.

PHASE I BOOK EXPLOITATION SOV/4725

Krisyuk, Eduard Mechislavovich, Aleksandr Sergeyevich Sergeyev, and Georgiy Dmitriyevich Latyshev

Aktivnyy osadok radiotoriya (Thorium Active Deposit) Alma-Ata, Izd-vo AN Kazakhskoy SSR, 1960. 2,450 copies printed.

Sponsoring Agency: Akademiya nauk Kazakhskoy SSR. Institut yadernoy fiziki.

Ed.: D. M. Glazyrina; Tech. Ed.: V. P. Prokhorov.

PURPOSE: This booklet is intended for nuclear physicists.

COVERAGE: The authors review the literature on radioactive radiations and decay for transition schemes of $^{212}_{Pb}$, $^{212}_{Bi}$, $^{208}_{Tl}$, and $^{212}_{Po}$ isotopes in the "thorium active deposit" and present quantum characteristics and conclusions on the nature of levels. They recommend the use of alpha and conversion spectra for calibration and verification of the operation of spectroscopic equipment. Data on the half-lives of the isotopes, the conversion

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spectrum of the thorium active deposit, etc., are presented in tabular form. No personalities are mentioned. There are 191 references: 111 English, 28 Soviet, 18 German, 8 Swedish, 13 French, 10 Italian, and 3 Polish.

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2

S/263/62/000/002/004/009
I004/I204

AUTHOR: Zhernovoy, A. I. and Latyshev, G. D.

TITLE: Magnetic rate-of-flow meter for liquids

PERIODICAL: Referativnyy zhurnal, otdel'nyy vypusk. Izmeritel'naya tekhnika, no. 2, 1962, 39–40, abstract 32.2.273. "Tr. Tashkentsk. konferentsii po mirn. ispol'zovaniyu atomn. energii. v. 2". Tashkent, AS UzSSR, 1960, 17–19

TEXT: A flow-meter was developed in the Institute of Nuclear Physics of the AS of KazSSR based on nuclear magnetic resonance (NMR). This device is intended for measuring the rate of flow of liquids containing hydrogen, fluorine, lithium and other substances with a high gyromagnetic ratio (water, alcohol, gasoline, petroleum and others). The device possesses the advantages of low inertia and absence of any elements within the pipe line. The flow meter is in the form of a branch-pipe made of nonmagnetic and non-conducting material. The branch pipe is located in a strong magnetic field. At the outlet of the branch pipe a coil is wound which is connected by means of a cable with the NMR detector circuit. The liquid which passes through the branch pipe after polarization is under action of a resonance H. F. field. An analytic expression of the dependence of the NMR signal upon the rate-of-flow of the liquid is given together with a formula for the determination of the theoretical upper measurement limit at which the characteristic is still linear.

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A graph of an experimentally obtained dependence of the amplitude of the NMR signal upon the rate of flow of water in a 15 cm^3 branch tube is given; this dependence being linear for the rate-of-flow range between 0 and 70 cm^3/sec. The measurement range in these experiments was 20 to 1. The sensitivity of the device may be increased at the price of reduced measurement range by moving away the NMR transducer from the magnetizing field and placing it between poles of an additional magnet. The device has the capacity to record jumps in the rate of flow of 0.1 sec. duration. There are 3 figures and 10 references.

[Abstracter's note: Complete translation.]

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2

ZHERNOVOY, A.I.; LATYSHEV, G.D.

Use of nuclear resonance for measurements in science and technology. Vest.AN Kazakh.SSR 16 no.5:33-41 My '60. (MIRA 13:7)
(Nuclear magnetic resonance)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2

OSTRETSOV, L.A.; KOVRIGIN, O.D.; LATYSHEV, G.D.; LEONOV, V.D., V.D.; SHIRSHOV, N.M.

Measuring the lifetime of the 279 Kev level of Tl^{203} by the delayed coincidence method. Vest. AN Kazakh. SSR 16 no.9:72-78 S '60. (MIRA 13:9)

(Thallium--Isotopes) (Scintillation counters)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2

22852
S/031/61/000/001/002/003
A161/A129

9,2590

AUTHORS: Ostretsov, L.A., Kovrigin, O.D., Latyshev, G.D., Academician of the Academy of Sciences KazSSR; Leonov, V.D., Shirshov, N.M.

TITLE: Practical measurements of delay line parameters

PERIODICAL: Vestnik Akademii nauk Kazakhskoy SSR, no. 1, 1961, 29-33

TEXT: Delay lines are coming into extensive use in modern radio engineering. The authors used an alternating delay line for operation in a quick-slow coincidence circuit that was employed for measurement of time intervals in the range of $10^{-7} \div 10^{-10}$ sec. A brief description of the design and methods of measuring the wave resistance, delay and attenuation in the line is presented in this article. The design is illustrated (Fig. 1). Its main element is a hollow mobile brass drum with a surface in the form of a square-section spiral of the type suggested by Bell (Ref.1). The square is 18 x 18 mm. A copper conductor 4 mm in diameter is laid along this spiral axis on rings from fluoroplastic. This conductor is the inner conductor of a high-frequency cable. The spiral diameter is 220 mm, the turns number 22. The drum rotates on plain journal bearings on posts.

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Practical measurements of ...

Minimum and constant contact resistance of the mobile part with the stationary part is important. In this case it was 0.05 ohm. The transition from the mobile part to the immobile part is also a coaxial line with the same wave resistance. A slip collector takes the signal from the open cylinder surface. The collector is a cathode follower circuit with a diode. The drum may be rotated by hand or by motor (a drive pulley is provided). The wave resistance was determined in two ways (Fig. 2). Voltage from the output of a 102 — И (102-I) sweep generator is transmitted to the delay line, the other end of which is loaded with alternating resistance (R). A reverse reflected wave which can occur in the case of load mismatch is transmitted to the generator input. As seen in the diagram, the direct wave from the output arrives simultaneously. The carrier frequency is to be selected on the most even portion of the frequency characteristic of the generator. A maximum approach of the frequency characteristic watched on the screen to the natural frequency of the generator is to be achieved gradually by changing the resistance. The absence of reflections from the line end shows that the line is loaded with wave resistance that can be determined by measuring the resistance R. In our case it was 95±10 ohms. Wave resistance

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can be measured in the same way with the use of an ИПХ-1 (IPKh-1) transition characteristic meter. The front of the П- pulse will be seen on the screen. It grows in $(1.5 \pm 0.2) \cdot 10^{-8}$ sec (Fig. 3,a). This oscillogram appears at full match of the load and wave resistance. In the case of disconnected line, the oscillogram will be as in Fig. 3 b , and in the case of short-circuit as in Fig. 3c. The second method is more accurate, the measured resistance was 100 ± 5 ohms. The double delay time may be determined by oscillograms (Fig. 3) using the time division marks on the IPKh-1. In Fig. 3 it is indicated by 2τ, and it is in our case $(10 \pm 2) \cdot 10^{-8}$ sec. More accurate measurement is possible with the circuit in Fig. 4. A signal from a ГСС-1 (GSS-1) sinusoidal oscillator is modulated in amplitude with 400 cycles frequency and fed to the line. The line is connected to a high-ohmic measurement circuit and works nearly as in the case of a line opened at the end. An Э0-7 (E0-7) oscillograph is used as an indicator. The work frequencies are reaching far beyond the pass band of the E0-7 and a crystal diode amplitude detector must be used, then the senusoidal oscillations of 400 cycles frequency will be seen on the E0-7 screen. Measurements consist in the smooth variation of the generator carrier frequency. When the generator frequency is such that an uneven number of

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Practical measurements of ...

wave quarters can be placed on the line length, the voltage on the line end will bulge. Obviously, there will be a maximum sinusoid amplitude on the screen. This case is described by the formula

$$\ell = \frac{2n - 1}{4}\lambda \quad \text{or,} \quad v = \frac{4\ell}{2n - 1} f,$$

where v is the wave propagation velocity in the line; ℓ - the line length; λ - the generator wave length; f - generator frequency. Substituting n = 3; 23.1 megacycle frequency, and 14.2 m line length:

$$v = 2.63 \cdot 10^{-10} \text{ m/sec.}$$

Knowing the line length and the signal propagation velocity the delay time is found:

$$T_{del} = \frac{\ell}{v} = (5.40 \pm 0.15) \cdot 10^{-8} \text{ sec.}$$

Measurement can also be carried out when the line is short-circuited at the end. The oscillograph must then be connected through the detector to the line input. Attenuation was determined by the following procedure:

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Practical measurements of ...

The Q-factor of the circuit with the line is measured by a Q-meter at parallel and series resonance. The calculation formula is (Ref. 2)

$$\alpha l = \sqrt{\left(\frac{1}{Q_1} - \frac{1}{Q_o}\right)\left(\frac{1}{Q_2} - \frac{1}{Q_o}\right)}$$

where α is the attenuation factor; Q_1 - the circuit quality at parallel resonance, Q_2 - at series resonance, Q_o - of circuit proper, l - line length. The measured attenuation was ± 0.004 decibel. A different method can also be used. First, the resonance frequency in the line is calculated using the formula (Ref. 3)

$$f_{(\text{megacycle})} = \frac{144\beta}{l}$$

where $\beta = \frac{v}{c}$ - relative signal velocity in the line; l - line length in ft. Then the Q-factor and capacitance are determined with the Q-meter. The $\frac{M}{2\pi}$ value is determined by the formula

$$\frac{M}{2\pi} = 10^{-6} f_{(\text{megacycle})} C_{(\text{pf})} \rho_{(\text{ohm})}$$

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The S value is found from the graph in Ref. 3 and the line attenuation will be found by the formula

$$N = \frac{S}{Q\,l} \text{ decibel/100 ft.}$$

In our case it was 0.037 ± 0.004 decibel. The design of the delay line proved convenient in use, and the accuracy of measurements proved sufficient, for the error in the determination of the excitation life time was not exceeded. There are 4 figures and 3 references (2 in English language and 1 a translation into Russian). The references are reading: (Ref.1) Bell, Graham, Petch. Canadian J. of Physics, 1952, 30, 35; (Ref. 2) Termen and Pettit (Russian spelling); "Measurement in electronics". Izdatel'stvo inostrannoy literatury, Moscow, 1955; (Ref. 3) Stewart, C.Z., Trans. AIEE, 1945, 64, 616, 938.

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33109

S/638/61/001/000/035/056
B108/B138

24.2300 (1144, 1158, 1160)

AUTHORS: Zhernovoy, A. I., Latyshev, G. D.

TITLE: Use of nuclear resonance for measurement and stabilization of non-uniform weak magnetic fields

SOURCE: Tashkentskaya konferentsiya po mirnomy ispol'zovaniyu atomnoy energii. Tashkent, 1959. Trudy. v. 1. Tashkent, 1961, 236 - 240

TEXT: The nuclear magnetic resonance amplitude in a uniform magnetic field is proportional to the volume of the pickup and to the square of the magnetic field strength. In a non-uniform field, the effective volume of the resonance pickup is that fraction of the true geometric volume in which the non-uniformity is less than the amplitude of the h.f.-field. The pickup must be small, otherwise only very slight non-uniformity will be permissible (grad $H_{max} < \frac{H_1}{d}$, d - pickup length). The overall error is also proportional to d. In previous work (PTE, 1958, 5, 73) the authors devised a pickup to satisfy these requirements. The dependence

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Use of nuclear resonance for...

of the signal amplitude on the parameters of the pickup was determined by solving Bloch's equation for exact resonance. The results were checked by measurements with pickups of various sizes. They showed that the theoretical formula for the maximum signal amplitude for $\gamma H_1 T_x > 1$,

$$A_e = B \cdot q \left\{ 1 - e^{-\frac{V_g}{qT}} \left[\cos \cdot \frac{V_g}{qT_x} \sqrt{1 - \gamma^2 H_1^2 T_x^2} + \right. \right.$$

$$\left. \left. + \frac{\mathrm{Sh} \frac{V_g}{qT_x} \sqrt{\gamma^2 H_1^2 T_x^2 - 1}}{\sqrt{\gamma^2 H_1^2 T_x^2 + 1}} \right] \right\}, \qquad (3)$$

$$\frac{1}{T_x} = \left| \frac{1}{T_1} - \frac{1}{T_2} \right|, \quad \frac{1}{T} = \frac{1}{T_1} + \frac{1}{T_2}.$$

is a satisfactory rendition of the experimental facts. B is a coefficient which in first approximation is independent of the pickup parameters, γ-nuclear g-factor; T_1 and T_2, respectively, are the longitudinal and

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Use of nuclear resonance for...

transverse relaxation times, V_g - working volume of pickup. The theoretical considerations show that the maximum amplitude of the nuclear resonance amplitude in a pickup with a flowing polarized medium should not decrease with the volume of the pickup. Therefore the amplitude of the oscillating field must be increased when volume of the pickup is reduced. A signal-to-noise ratio of more than 10 had to be achieved with a pickup of only 0.03 cm^3. In practice, pickups with a flowing medium can be used up to field strengths of 500 - 1000 oersteds. There are 2 figures, 1 table, and 4 references: 2 Soviet and 2 non-Soviet. The reference to the English-language publication reads as follows: Brown R. M. Phys. Rev., 78, 530, 1950.

4

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33110
S/638/61/001/000/036/056
B108/B138

24.2300 (1144, 1158, 1160)

AUTHORS: Zhernovoy, A. I., Latyshev, G. D.

TITLE: Nutation method of measuring direct current by nuclear magnetic resonance

SOURCE: Tashkentskaya konferentsiya po mirnomy ispol'zovaniyu atomnoy energii. Tashkent, 1959. Trudy. v. 1. Tashkent, 1961, 240 - 242

TEXT: A new method of measuring magnetic fields by nuclear magnetic resonance has been developed, using a single-channel converter. It is free from the common errors since it provides for direct measurement of the dependence of field on current, and exact measurement of parasitic magnetic fields, which figure can then be subtracted from the total field. With this method, which uses only one pickup currents can be measured 1000 times weaker than was hitherto possible. They do not have to be modulated. Passing through the measuring channel of the converter is a thin tube through which flows the water polarized by a strong magnetic field (10,000 oe). The nutation pickup is at one end. Farther on, the water

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Nutation method of measuring...

passes into the nuclear resonance pickup (single frequency) which is in a permanent uniform magnetic field of 20 - 30 oe. When the r.f. magnetic field generated in the nutation pickup coil equals the proton precession frequency, polarization of the flowing water will vanish or change its sign, and so will the nuclear resonance signal in the detector. The current in the converter is determined by $I = K(f - f_o)$, $I = Kf \cdot f_o$ is the nutation frequency at which the resonance signal vanishes when no current flows through the converter, f the signal when a current flows. The converter constant K usually causes the principal error in the measurements. This can be reduced by exact current measurement at a current of about 10 a. The result of this measurement can be used to determine the K value which may then be employed in the entire range of measurements. Details about the optimum parameters of the arrangement can be found in earlier papers by the authors (Inzh. fiz. zhurnal, 1958, 9, 123). There are 1 figure and 6 references: 5 Soviet and 1 non-Soviet.

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Card 2/2

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2

33111
S/638/61/001/000/037/056
B108/B138

9.2574 (1055, 1158, 1163)

AUTHORS: Zhernovoy, A. I., Latyshev, G. D.

TITLE: Dependence of the frequency of a nuclear resonance maser on the parameters of the arrangement

SOURCE: Tashkentskaya konferentsiya po mirnomy ispol'zovaniyu atomnoy energii. Tashkent, 1959. Trudy. v. 1. Tashkent, 1961, 242-248

TEXT: The authors calculated the effect of the parameters of an r.f. oscillatory circuit and of non-unifirmities of the magnetic field on oscillations under radiative relaxation. The latter is due to magnetic interaction between polarized nuclei and the resonance circuit oscillating at a frequency which is near the Larmor precession of the nuclei. The radiative relaxation signal can be used in measuring and stabilizing a magnetic field. K. V. Vladimirskiy (ZhETF, 33, 532, 1957) established the condition $-2\pi M_0 | \gamma | \eta Q > 1/T_2$ for radiative relaxation for the longitudinal component of magnetization. M_0 is the longitudinal component of the overall nuclear magnetic moment of the specimen, η the space factor of the

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Dependence of the frequency ...

pickup coil, Q - quality factor, γ - nuclear g-factor, T_2 - transverse relaxation time. The oscillation frequency in this kind of circuit is

$$\omega = \frac{\omega_0}{\sqrt{1-2\pi|\gamma|\eta M_0 T_2^2 \frac{\Delta\omega_n}{1+\Delta\omega_n T_2^2}}}, \qquad (12)$$

where $\Delta\omega_n$ is the difference between frequency of the oscillating field and ω_n the resonance frequency of the nuclei, ω_0 is the resonance frequency of the circuit. Where $\Delta\omega_r \ll \omega_0$ the shift from resonance frequency ω_0, of the circuit oscillations,

$$\Delta\omega_r = -\frac{\omega_0 T_2}{2Q}\Delta\omega_n.$$

The magnetic field strength in the pickup of a Larmor frequency circuit is $H = \frac{\omega}{\gamma}\cdot T_2$ depends on field non-uniformity δH as $T_2^* \simeq \frac{2}{\gamma\delta H}$. Experimental checking yielded good agreement between theory and experiment. The calculations can be used to estimate the systematic error in measuring a magnetic field through the oscillation frequency of a maser. The error

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Dependence of the frequency ...

decreases with Q of the circuit, and with increasing T_2^* and $|M_0|$. The volume of the pickup must therefore be increased when the degree of polarization of the nuclei is increased. There are 9 references: 4 Soviet and 5 non-Soviet. The reference to the English-language publication reads as follows: Blombergen N., Pound R. V. Phys. Rev., 95, 8, 1954.

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2

22369

S/031/61/000/003/001/001
A161/A133

24.7900

AUTHORS: Shernovcy, A. I.; Arkhangel'skiy, A. A.; Latyshev, G. D., Member of the Academy of Sciences KazSSR

TITLE: The practice of using nuclear resonance in magnetic flaw detection

PERIODICAL: Akademiya nauk Kazakhskoy SSR. Vestnik, no. 3, 1961, 105 - 107

TEXT: Brief information is given on preliminary experiments with a new magnetic flaw detection method developed at the authors' laboratory. The method's principle is measurement by nutation. It is said to be the only method rendering possible the measurement of weak and nonuniform magnetic fields, which cannot be done by two other existing methods - "nuclear induction" (G. Bloch, W. W. Hansen, M. E. Packard, 1946) and "adsorption method" (E. M. Purkell, N. C. Gorrey, R. U. Round, 1946). There are several different types of magnetic probes used for magnetic flaw detection. The sensitive element in the described method is a nuclear magnetic resonance pickup. The experiment unit is illustrated in a block diagram. Water from the mains is driven through a container placed in a strong magnetic field produced by a magnet and flows through a pipe. The coil of the nuclear resonance pickup is set on the pipe end and connected to a detector. It is desir-

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The practice of using nuclear resonance ....

able that the magnetic field surrounding the coil be 30 oe with not more than 0.5 oe/cm nonuniformity. A miniature radio-frequency coil can be placed at any spot on the pipe. The force lines of the coil must penetrate the entire cross section area of the pipe. The water volume under the simultaneous effect of a radio-frequency field produced by the coil presents the effective volume in which the mean field intensity is measured, i.e., it is the work volume of the magnetic probe. This volume can practically be reduced to only 0.01 cm^3. The radio-frequency field in the coil is produced by a generator. The water passing the container obtains a polarization vector that depends on the time during which the water was in the magnetizing field (τ) and the field intensity ($H_{подм}$).

$$M = X_0 H_{подм} \left(1 - e^{-\frac{\tau}{T_1}}\right),$$

where $X_0 = 3 \cdot 10^{-10}$; T - longitudinal relaxation time (for nonpurified water $T_1 \simeq 2.3$ sec). The polarized water flows over a pickup, and the nuclear resonance signal produced in it has an amplitude proportional to M. If the intensity of any nonuniform field is required the field pickup is placed into it. When the frequency of the field of the coil (i.e., the frequency from the generator) becomes equal to the frequency of nuclear precession in the mean field of the nutation

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pickup, the polarization vector of water flowing through this volume will change. It can disappear, or change the pole. The nuclear resonance signal in the circuit will correspondingly disappear or change the pole. The intensity of field being measured can be determined by reading the generator frequency (ω) on the scale: $H = \frac{\omega}{\gamma}$, where $\gamma = 4250 \cdot 2\pi \frac{1}{oe - sec}$. In the test unit the measurement accuracy was determined by the frequency measurement accuracy and amounted to 0.004 oersted. The major advantage of the method is that the sensitive element always shows the mean field intensity, regardless of how it is directed. The small size of the sensitive element and absolute measurement units are the other advantage. Measurements are possible at a very small distance from the workpiece surface (below 1 mm), which is impossible with the existing permalloy pickups even of best designs. In experiments the probe was clamped in a special holder and moved along the surface of the test specimens. The probe displacement is shown in millimeters on the horizontal axis in three included graphs, and the field intensity in oersted on the vertical. Data are presented obtained on a specimen with one simulated crack under a 3-mm thick steel plate and from a specimen with two simulated cracks at close distance. The specimens were ground steel bars and plates connected in the circuit of a small electromagnet. The field intensity at 5 mm from the specimen was about 1oe. Cracks were imitated by putting the plates together. There are 4 figures.

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2

21393

S/120/61/000/002/003/042
E032/E114

24.6810

AUTHORS: Kovrigin, O.D., Kolesnikov, N.V., and Latyshev, G.D.

TITLE: A large beta-spectrometer with double focussing

PERIODICAL: Pribory i tekhnika eksperimenta, 1961, No.2, pp. 19-25

TEXT: (First read at the 10th Annual Conference on Nuclear Spectroscopy, Moscow, January 19-27 1960). A description is given of a double-focussing spectrometer having an equilibrium orbit radius of 500 mm. The momentum resolution varies between 0.5 and 0.08% when the relative solid angle is varied between 0.65 and 0.15%. The design of the magnet is illustrated in Fig.1. The magnet is made of "steel-10". In Fig.1, 1 is the electromagnet, 2 is the vacuum chamber, 3 is the receiving slit, 4 is the diffusion-pump inlet, 5 is a stilbene crystal, 6 is a light pipe, 7 is a photomultiplier, 8 is a magnetic field meter, 9 is a lead screen, 10 is the source, 11 is a vacuum gauge, 12 is a slit and 13 are auxiliary coils. The diameter of the pole pieces is 1300 mm and the gap at r = 650 mm is 246.3 mm. The profile of the pole pieces and the corresponding radial magnetic field distribution are shown in Fig.2. The Pavinskiy

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21393

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E032/E114

A large beta-spectrometer with double focussing

field (P.P. Pavinskiy, Izv.AN SSSR, seriya fiz., 1954, 18, No.2, 175; Ref.2) is reproduced to an accuracy of 5 x 10^{-4} (curve 2). The final pole profile is given by Table 1. The source and the detector slit can be replaced without releasing the vacuum. The magnetic field can be varied between 10 and 200 oe which corresponds to the focussing of electrons with energies between 20 kv and 2.5 Mev. The magnetic field is stabilized to within $\pm$ 10^{-4}. Fig.6 shows the conversion spectrum of Ba^{137} obtained with the spectrometer: a - solid angle 0.36%; б - solid angle 0.51% (K line). The main experimental results obtained with this spectrometer are compared with those obtained by other workers in Table 2.
There are 6 figures, 2 tables and 17 references: 9 Soviet and 8 non-Soviet. Acknowledgements are expressed to L.N. Fedulov, A.V. Zolotavin and Ye.P. Grigor'yev for collaboration and technical assistance.
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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2

KOVRIGIN, Orest Dmitriyevich; LATYSHEV, Georgiy Dmitriyevich; SEMENOV, M.N., red.; RORORKINA, Z.P., tekhn. red.

[Double-focusing spectrometer]Spektrometr s dvoinoi fokusirovkoi. Alma-Ata, Izd-vo Akad. nauk Kazakhskoi SSR, 1962. 45 p. (MIRA 16:2)

(Spectrometer)

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2

KOVRIGIN, O.D.; LATYSHEV, G.D.

Use of a type FEU-12 photoelectric multiplier in a scintillation spectrometer and for the purposes of gamma-radioscopy. Trudy Inst. iad. fiz. AN Kazakh. SSR 5:102-106 '62. (MIRA 15:4)
(Photoelectric multipliers) (Scintillation spectrometry)
(Gamma-ray spectrometry)

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2

S/707/62/005/000/008/014
D290/D308

AUTHORS: Kovrigin, O.D., Kolesnikov, N.V. and Latyshev, G.D.

TITLE: The preservation of the topography of the magnetic field in a β-spectrometer

SOURCE: Akademiya nauk Kazakhskoy SSR.. Institut.yadernoy fiziki. Trudy, v. 5. Alma-Ata, 1962. Fizika chastits vysokikh energiy. Struktura yadra, 107-110

TEXT: The authors give a method of preserving the theoretically required topography of the magnetic field in a double-focusing β-spectrometer while H_o (the magnetic field in the equilibrium orbit) changes from 10 to 200 oersted (equivalent to β-particle energies of 20-2, 500 kev). The quantity $D = 1 - H_e(300)/H_t(300)$ was measured over the working range of H_o ($H_t(300)$ and $H_e(300)$ are respectively the theoretical and experimental magnetic fields at a radius of 300 mm; (the equilibrium orbit has a radius of 500 mm), and was found to be about 2×10^{-2}; such values of D would cause considerable instrumental broadening of the lines in β-ray spectra. D

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The preservation of the topography ...

was reduced to $\pm$ 3 x 10^{-4} by placing additional coils at the internal surfaces of the magnet shoes; the current needed to keep D at this value was measured over the working range of H_o. Hysteresis in the material of the magnet may require the current in the additional coils to be altered slightly. The instrument was used to measure the natural line-widths in the conversion spectra of Th-B and ^{137}Ba. There are 6 figures.

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2

9.2574

39308
S/707/62/005/000/009/014
D290/D308

AUTHORS: Zhernovoy, A.I. and Latyshev, G.D.

TITLE: The relation between the frequency of a nuclear resonance maser and the parameters of the apparatus

SOURCE: Akademiya nauk Kazakhskoy SSR. Institut yadernoy fiziki. Trudy, v. 5. Alma-Ata, 1962. Fizika chastits vysokikh energiy. Struktura yadra, 112-116

TEXT: The authors studied a system consisting of a tuned circuit linked with a coil containing a specimen that is in a magnetic field of H oersted; they found a relation between ω_o the resonant frequency of the circuit, ω_n the resonant frequency of the nuclei in the specimen in a magnetic field of H oersted, and ω the frequency of the signal induced in the tuned circuit by the relaxation of the nuclei of the specimen. The authors assumed that the effect of the polarized nuclei on the circuit was equivalent to a complex magnetic susceptibility; they related this susceptibility to the properties of the nuclei and the impedance of the circuit

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The relation between the frequency ...

and obtained this final equation:

$$\Delta\omega_n = \frac{\delta H}{H} \times Q \times \Delta\omega$$

in which $\Delta\omega_n = \omega - \omega_n$, δH is the inhomogeneity of the magnetic field over the specimen, Q is the Q-factor of the circuit, and $\Delta\omega = \omega_n - \omega_o$. Experimental measurements agree with the equations within limits of error of 20%. Since many assumptions were used in deriving the equations, it is better to use the equations as a means of selecting optimum parameters for the measuring apparatus rather than to calculate detailed corrections. The errors decrease as Q decreases, and as the longitudinal component of the magnetic moment of the nuclei and the relaxation time increase; therefore the volume of the specimen should be decreased so that the polarization of the nuclei increases.

Card 2/2

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2

ARKHANGEL'SKIY, A.A.; LATYSHEV, G.D.

Using a scintillation gamma-ray flow detector. Trudy Inst. iad. fiz. AN Kazakh. SSR 5:117-127 '62. (MIRA 15:4)
(Gamma-ray spectrometry)

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2

S/048/62/026/008/011/028
B104/B102

AUTHORS: Kovrigin, O. D., Andreyev, Yu. A., Kartashov, V. M., Latyshev, G. D., Sychikov, G. I., and Troitskaya, A. G.

TITLE: Multiplicities of the Er^{167} nuclear γ-transitions with energies of 208 and 532 kev i

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya, v. 26, no. 8, 1962, 1028 - 1030

TEXT: A Ta target was irradiated with 680-Mev protons and the Tu fraction separated chromatographically. A β-spectrometer with double focusing was used to study the Tu^{167} conversion electron spectrum of the Tu fraction. The lines L_{II} and L_{III} (Fig. 1) were separated by the spectrometer, the line L_I was separated graphically. The ratios of the internal conversion coefficients were determined for Z = 68 and E = 208.3 kev (Table). The 208-kev transition is assumed to be of the isomeric type. The L_{II} and L_{III} lines of the 532-kev transition are very weak. Type E1 or E2 is ascribed to the 532-kev transition. There are 2 figures and 1 table.
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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2

40104

S/048/62/026/008/020/028
B104/B102

24.6600

AUTHORS: Val'ter, A. K., Gonchar, V. Yu., Zalyubovskiy, I. I., Latyshev, G. D., and Chursin, G. P.

TITLE: Study of the (np) and (n,np) reactions on heavy nickel isotopes

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya, v. 26, no. 8, 1962, 1079-1084

TEXT: The object of this study was to find possibilities for further investigations of spectra and angular distributions of the products of (np) and (n,np) reactions on nickel, and to check the rules governing the reaction cross sections as found by V. N. Levkovskiy (ZhETF, 31, 360, 1956; 33, 1520, 1957). A tritium target (T being adsorbed to zirconium) was bombarded by 100-kev deuterons and sufficiently fast neutrons were produced in the $T(d,n)He^3$ reaction. A recoil proton telescope was used as neutron monitor and the β-activity induced was measured with a scintillation counter. The half-lives were determined by a multi-channel analyzer. The reaction cross sections obtained (Table) agree with pub-

Card 1/2

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928810010-2

S/048/62/026/008/022/028
B104/B102

AUTHORS: Firsov, Ye. P., Pivovarov, S. P., and Latyshev, G. D.

TITLE: Gradient meter based on a supergenerator controlled by nuclear precession

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya, v. 26, no. 8, 1962, 1088-1090

TEXT: An apparatus for determining deviations of magnetic field strengths within the range 10^{-3} - 10^{-6} from the theoretical value is described. The apparatus (Fig. 1) works with a supergenerator (Fig. 2). The circuit of one supergenerator is attached to the magnetic surface, that of the other one is moved from point to point in the field. The difference of the supergenerator frequencies characterizes the homogeneity of the field, and is determined from the Lissajous figures on the oscilloscope. The distance between the pickups is ~10 mm, the maximum inhomogeneity is $\leq 5 \cdot 10^{-3}$. There are 3 figures.

ASSOCIATION: Institut yadernoy fiziki Akademii nauk KazSSR (Institute of Nuclear Physics of the Academy of Sciences KazSSR)

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KOVRIGIN, O.D.; KARTASHOV, V.M.; LATYSHEV, G.D.; LONDARENKO, G.A.; NOVGORODOV, A.F.; SYCHIKOV, G.I.; SHAPOVALENKO, V.V.

Study of the internal conversion electron spectrum of Eu^{147}.
Izv.AN SSSR.Ser.fiz. 27 no.2:263-266 F '63. (MIRA 16:2)
(Internal conversion (Nuclear physics))
(Europium isotopes--Spectra)

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PIVOVAROV, S.P.; FIRSOV, Ye.P.; YASNILO, O.N.; LATYSHEV, G.D.

Comparison of circuits for paramagnetic resonance detection.
Trudy Inst. iad. fiz. AN Kazakh. SSR 6:119-123 '63.
(MIRA 16:10)

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LATYSHEV, G.D., akademik; ZHERNOVOY, A. I., kand. fiziko-matemat. nauk

Nonresonance methods for the demagnetization and magnetic reversal of nuclei in a flowing liquid. Vest. AN Kazakh. SSR. 19 no.8: 32-35 Ag '63. (MIRA 17:7)

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L 19576-63 EPF(c)/EWP(j)/EWT(l)/EWT(m)/BDS/EEC(b)-2 AFFTC/ASD/
IJP(C) Pc-4/Pr-4/Pi-4 GG/RM/WW/MAY/JFW

ACCESSION NR: AT3007856 S/2707/63/006/000/0124/0128

AUTHOR: Firsov, Ye. P.; Pivovarov, S. P.; Laty*shev, G. D.

TITLE: Simple magnetometer based on the principle of electron paramagnetic resonance

SOURCE: AN KazSSR. Institut yadernoy fiziki. Trudy, v. 6, 1963. Issledovaniya po fizike vysokikh energiy i elementarnykh chastits, 124-128

TOPIC TAGS: electron paramagnetic resonance magnetometer, magnetometer, diphenylpicrylhydrazyl, sodium ammonia solution, electron paramagnetic resonance, electron paramagnetic resonance signal, magnetic field measurement, electron paramagnetic resonance crystal, free radical paramagnetic resonance, free radical cyrstal, precision field meter, magnetic field meter

ABSTRACT: An instrument based on the EPR of free radicals for making precise measurements of magnetic fields of 70—800 oe with an accuracy of 0.1% is described in detail, and its performance

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is investigated analytically. The device comprises a magnetic resonance pickup, a high-frequency generator, a modulator, a magnet, and an indicator. Diphenylpicrylhydrazyl crystals (line width of 2.7 oe) or a solution of sodium in ammonia (line width of 0.05 oe) are used as working substances. Analytical evaluations indicate that the output signal does not depend significantly on frequency within a wide frequency band. This makes the device particularly simple to operate. Orig. art. has: 4 figures, 10 formulas, and 1 table.

ASSOCIATION: none

SUBMITTED: 00 DATE ACQ: 08Aug63 ENCL: 00

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Card 2/2

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