GRUSHEVSKIY, I.I.; MEDVEDEV, L.N.

Preliminary data on the use of the coleopterological analysis in studying Quaternary sediments of northern Yakutia. Sbor.st.po paleont. i bistrat.no.28:38-42 '62. (MIRA 16:9)
(Yakutia—Beetles,Fossil)
(Yakutia—Geology,Stratigraphic)

48104-65 EWT(d)/EWT(1)/EWP(1) Po-4/Pq-4/Pg-4/Pk-4/Pl-4 IJP(c) BC

CCESSION NR: AT5006354 S/3141/63/123/012/0109/0111

54
51
BH

THOR: Medvedev, L. N.; Peta, L. B.

TLE: A servo-system for magnetic suspension of a spinning rotor

URCE: Kazan. Universitet. Uchenyye zapiski, v. 123, no. 12, 1963. Gravitatsiya i oriya otnositel'nosti; tematicheskiy sbornik. (Gravitation and the theory of lativity), 109-111

21

PIC TAGS: magnetism, magnetic field, servomechanism, centrifuge, gravity

STRACT: The article deals with a system designed to maintain steady rotation of a pidly spinning rotor suspended in a magnetic field and driven by rotation of the eld. The authors describe it as a modification of a system described by Beams in 54 (Beams, *Electronics*, March, 152, 1951 [sic]). The amplitude of a compensating cillator is modulated by vertical oscillations of the rotor through detection and cuum tube amplifier circuits. Similar compensation for horizontal oscillations y be required, but is said to be unnecessary for small rotors. Several problems ensuring stability are discussed, including relative location of solenoids and gnal strengths. Some specifications are given on such matters as number and dia-

rd 1/2

48104-65

CCESSION NR: AT5006354

3

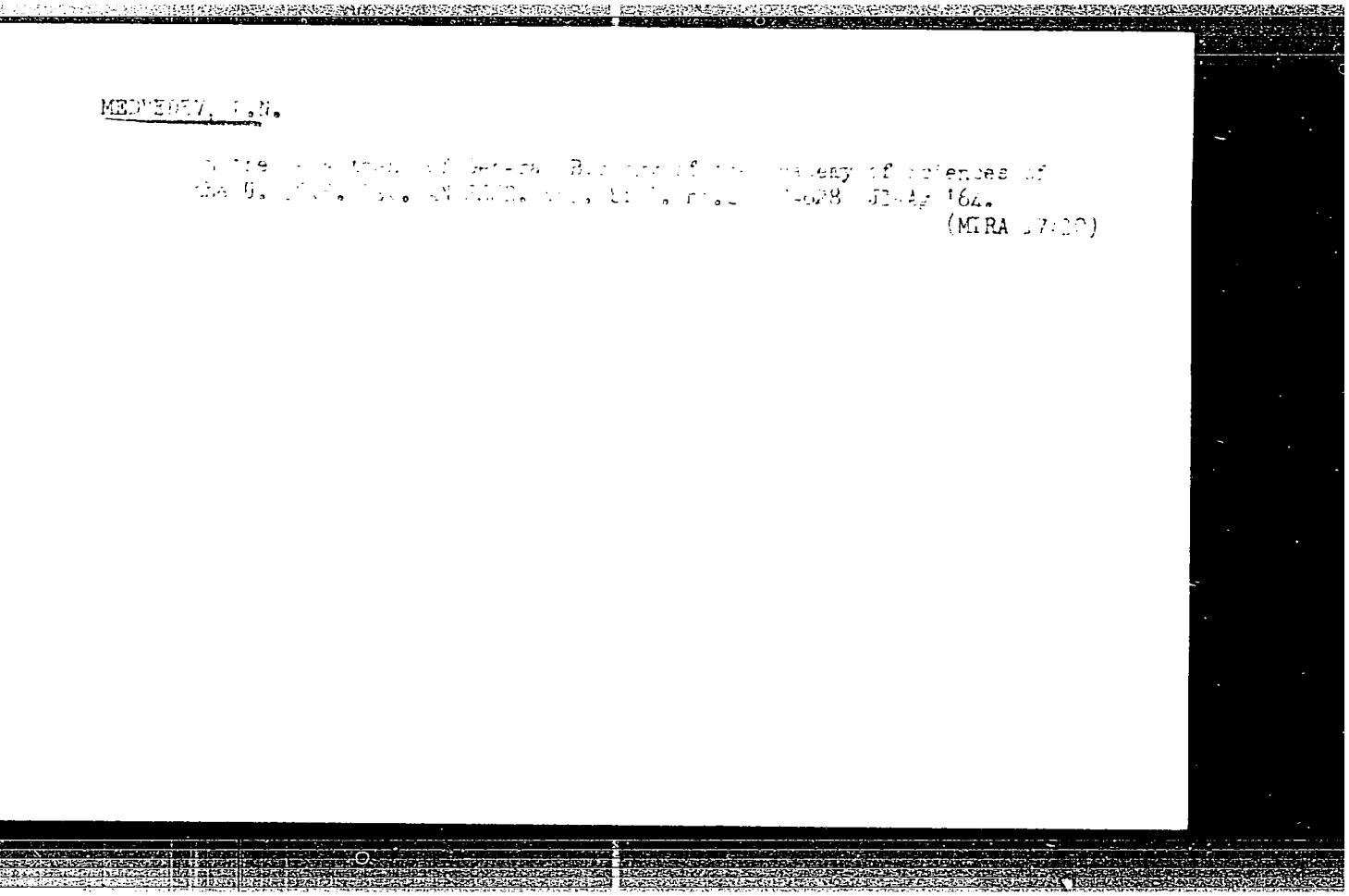
eter of windings, wire sizes and frequencies. Circuits are described, with one omprehensive schematic. Applications noted include use as an ultra-high-speed centrifuge (acceleration to several million g is claimed), elimination of seismic disurbances in a device for registry of gravitation waves and precise measurement of ltra-low gas pressures. The authors propose to use it to measure energy losses in rotating sphere or cylinder due to gravitational effects, taking advantage of the lmost complete absence of other energy losses by the rotor when rotating in a vacum. "In conclusion the authors consider it their duty to express gratitude to achinists M. Kuzovkin and F. Al'bekov for help with the work, and also to A. G. hagidullin for valuable comments." Orig. art. has: 1 figure, 1 formula.

SSOCIATION: none

UBMITTED: 00 ENCL: 00 SUB CODE: EM, ME

O REF SOV: 002 OTHER: 003

Card 2/2



MEDVEDEV, I.N.

[illegible] Medal of Soviet Border Troops of the Ministry of Defense of the U.S.S.R. [illegible] 1968 [illegible] 164.
(MIRA [illegible])

MEDVEDEV, L.N.

New species of Malachiidae (Coleoptera) from central Kazakhstan.
Trudy Zool. Inst. [illegible] 58 [illegible]. [illegible] 18:2

MEDVEDEV, L.N.

A new species of leaf beetles from the genus Phytodecta (Coleoptera, Chrysomelidae) from the Far East. Ent. obozr. 43 no.1:180-181 '64 (MIRA 17:6)

1. Zoologicheskiy institut Akademii nauk SSSR, Leningrad.

OGLOBLIN, [illegible]; MEDVEDEV, L.N.

Review of the larvae of Cryptocephalinae (Coleoptera, Chrysomelidae) in the forest zone of the European part of the U.S.S.R. Zool. zhur. 44 no.7:1018-1027 '65. (MIRA 18:9)

1. Zoologicheskiy institut AN SSSR, Leningrad.

MEDVEDEV, L.N.

Survey of Cryptocephalus species of the C. macrodactylus Gebl. group. Sbor. ent. rab. no.2:38-47 '62 (MIRA 17:7)

S/123/60/000/02/06/015

Translation from: Referativnyy zhurnal. Mashinostroyeniye, 1960, No. 2, p. 96, # 5702

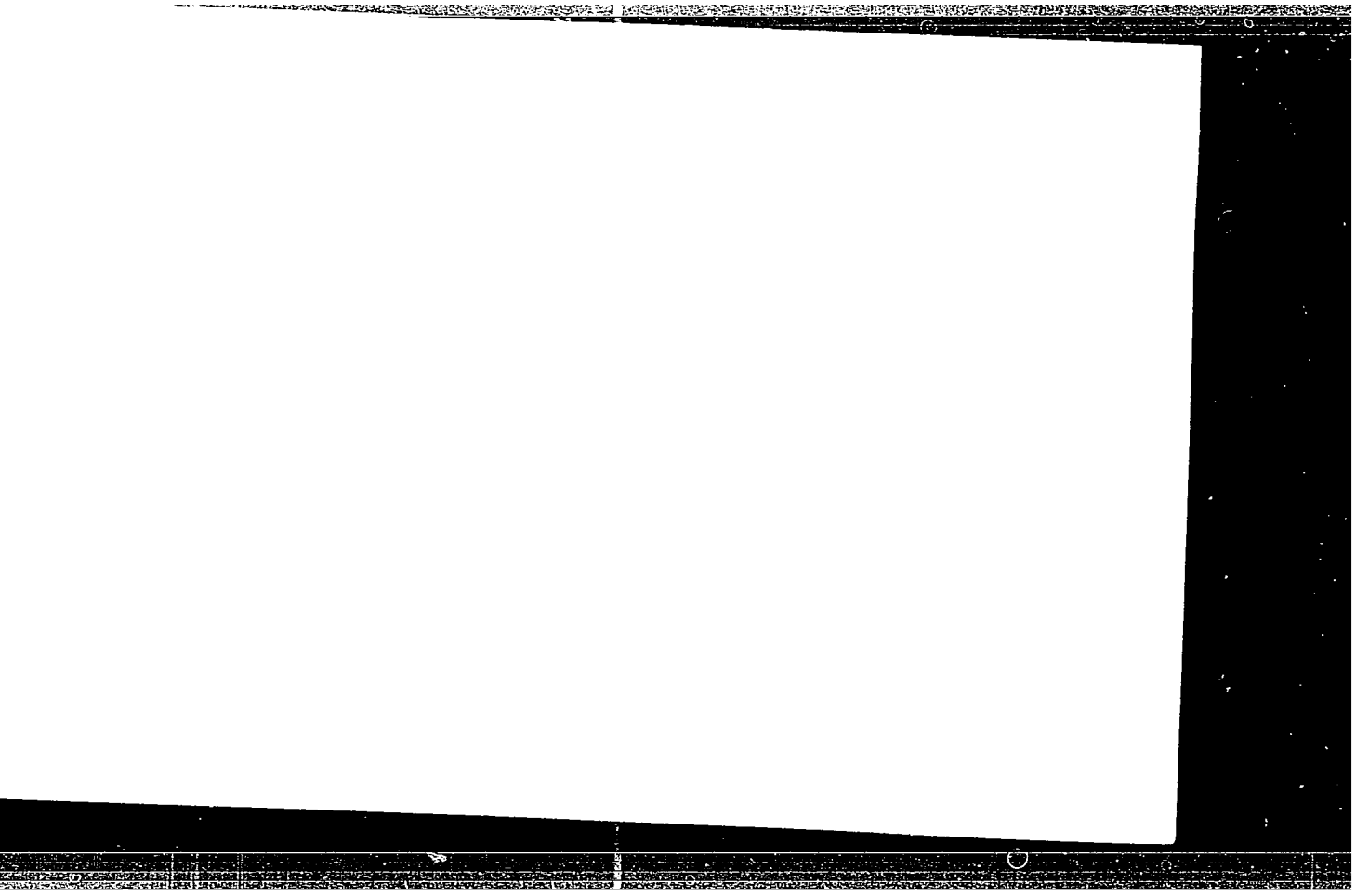
AUTHOR: Medvedev, L. P.

TITLE: Investigating the Rigidity of the 1616 Screw-Cutting Lathes. 14

PERIODICAL: Tr. Kuybyshevsk. aviats. in-t, 1958, No. 7, pp. 135-148

TEXT: The rigidity tests of machine tools according to ГОСТ (GOST) 7896-56 render it difficult to use the test results for the rating of machining accuracy. The author suggests a test method, the application of which makes it possible to combine the test results with the rating of machining accuracy. In the suggested method the ratio $P_z:P_y:P_x = 1.00:0.50:0.25$ instead of 1.00:0.58:0.00 of the GOST standard; the power arm is 50 mm instead of 25 mm, the stress is applied to the live center and not 20 mm lower as it is the case with GOST; the tail spindle sweep amounts to 60 mm, instead of 120 mm. The lathe spindle is loaded by the torque. The compression of the head and tail stocks are measured separately. The full P_y acts only on the carriage, while only half this force is acting on

Card 1/2



APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001033220019-0"

S/123/60/000/02/06/015

Investigating the Rigidity of the 1616 Screw-Cutting Lathes

the stocks. The test results by the suggested method and by GOST should differ from each other. It is recommended to use the suggested method for check tests. If the rigidity test results by the GOST method are used for the rating of machining accuracy with the tail stock center, it is necessary to multiply the total rigidity near the head stock by 0.8 and the total rigidity near the tail stock by 1.15. For the rating of machining accuracy, it is necessary to know the rigidity of the main units, taken separately. The total rigidity by the GOST method should, after multiplication by the correction coefficients, be divided among the units according to the presumed rigidity ratio of head stock, carriage and tail stock $j_{hs} : j_{car} : j_{ts} = 1.00 : 1.50 : 2.00$, which is recommended for the 1616 lathes. There are 9 figures, and 3 tables.

I. A. Ye.

Card 2/2

MEDVEDEV, L.P. (Assist.Prof.Cand.Tech.Sc.)

"Studying Rigidity of 1A616 Machines."

report presented at the 13th Scientific Technical Conference of the Kuybyshev Aviation Institute, March 1959.

S/123/61/000/001/009/015
A005/A001

Translation from: Referativnyy zhurnal, Mashinostroyeniye, 1961, No. 1, p. 40, # 1B339

AUTHOR: Medvedev, L. P.

TITLE: The Rigidity of the Machine Tool - Work-Piece Elastic System at Turning in the Chuck

PERIODICAL: "Tr. Kuybyshevsk. aviats. in-t", 1959, No. 9, pp. 65-79

TEXT: When turning in the centers, the change in the shape of the processed work-piece due to deflection is opposite to the change in the rigidity of the machine tool and the processing errors may be mutually compensated, partially or fully. When turning in the chuck, the change of the machine rigidity and that of the work piece produce the same error in the shape of the work piece and sum up always, increasing the inaccuracy of processing. Tests conducted on the lathe 1K62 (1K62) showed that the rigidity of the machine - work-piece elastic system decreases inversely proportional to the overhang of the work-piece with increasing overhang of the work-piece out of the chuck jaws, within the overhang limits 100-200 mm(neglecting the deflection of the work-piece proper). The two types

Card 1/2

S/123/61/000/001/009/015
A005/A001

The Rigidity of the Machine Tool - Work-Piece Elastic System at Turning in the Chuck

of investigated chucks, the self-centering one ТС-250 (TS-250) and the hydraulical one ГП1 (GP1), showed the same rigidity. - There are 8 figures, 1 table, and 2 references.

E. Dymova

Translator's note: This is the full translation of the original Russian abstract.

Card 2/2

MEDVEDEV, L.P.

Relationship between the finish of machining and contact rigidity. Trudy Sem.po kach.poverkh. no.5:176-180 '61.
(MIRA 15:10)

(Surfaces (Technology))

MEDVEDEV, L.V.; RADZIVILOV, Ye.N.

Low-frequency periodic oscillators. Priborostroenie no.5:29 My '57.
(Oscillators, Electron-Tube) (MLRA 10:6)

103-10-3/10

AUTHORS: Medvedev, L.V., Fel'dbaum, A.A., Fitsner, L.N. (Moscow)

TITLE: The Non-Linear Function Generator Possessing Only One Input. (Nelineynyye preobrazovateli s odnim vkhodom)

PERIODICAL: Avtomatika i Telemekhanika, 1957, Vol. 18, Nr 10, pp. 899-910 (USSR)

ABSTRACT: The possibilities for the construction of a non-linear electron transformer with one input are investigated. The results of the elaboration of the basic types of non-linear transformers: combind with diodes, with diodes and triodes, and with compensation are given. The working method of this device and a description of the NP-1 apparatus are given. This is the result of a long development and it has shown positive results. The securing of greater exactness, stability and the extension of the class of the reproduced curves was solved by the introduction of the compensation principle. In the case of less severe requirements NP-1 should be used with diodes. However, if curves with great slopes and strong salient points are to be reproduced, it is more profitable to use NP-1 with diodes and triodes or combined NP-1. In special cases where increased stability is demanded at a small number of partly linear approximation intervals schemes with pure com-

Card 1/2

The Non-Linear Function Generator Possessing Only One Input. 103-10-3/10

pensation can be used. There are 10 figures and 11 Slavic references.

SUBMITTED: July 16, 1956

AVAILABLE: Library of Congress

Card 2/2

SOV-115-58-3-28/41

AUTHORS: Medvedev, L.V., and Fitsner, L.N.

TITLE: A Protection Device for Voltmeters and Oscillographs (Zashchitnoye ustroystvo dlya vol'tmetrov i ostsillografov)

PERIODICAL: Izmeritel'naya tekhnika, 1958, Nr 3, p 79 (USSR)

ABSTRACT: The described and illustrated circuit with silicon diodes has been experimentally tested by a class 1 microampereme-ter "M24" with a 100 mka range and 850 ohm internal resi-stance. Connection of the silicon diodes in parallel with the instrument did not change its readings in a temperature range of up to +70°C, and input voltage exceeding 100 times the measurement range did not cause breakdown. The micro-amperemeter was subjected to only a fivefold overload. There is 1 diagram.

1. Voltmeters--Equipment 2. Oscillographs--Equipment

Card 1/1

15(2)

AUTHOR: Medvedev, L. V.

SOV/131-59-2-8/16

TITLE: Mechanization of the Blank Transportation From the Press to the Furnace Lorries (Mekhanizatsiya podachi syrtsa ot pressa k pechnym vagonetkam)

PERIODICAL: Ogneupory, 1959, Nr 2, pp 83-84 (USSR)

ABSTRACT: In 1958 S. S. Slavgorodskiy, efficiency expert of the Chasov-Yar works presented the design of an easily extensible transporter which makes it possible to mechanize the transportation of the blanks from the press for half-dry pressing to the furnace carts (see scheme). According to the type of the press as well as to the amount of simultaneously pressed products the transporters can be used with a band width of 400, 500 and 700 mm. Furthermore, its design and working method are described in detail. At present, 9 of such transporters are being in operation facilitating work and reducing the number of workers. There is 1 figure.

ASSOCIATION: Chasov-Yarskiy zavod im. Ordzhonikidze (Chasov-Yar Works imeni Ordzhonikidze)

Card 1/1

MEDVEDEV, L.V.

Ducks of the "Oktyabr' " Collective Farm. Ptitsevodstvo 8 no.12:14-15 D '58. (MIRA 11:12)

(Karmaskaly District--Ducks)

MEDVEDEV, L.V., zootekhnik

Labor productivity has increased five to six times. Svinovodstvo 13 no.11:20-21 N '59. (MIRA 13:2)
(Swine)

MEDVEDEV, L.V.

Wages based on milk yield taking in consideration the fat content of milk. Zhivotnovodstvo 23 no.2:40 F '61. (MIRA 15:11)

1. Starshiy zootekhnik Ministerstva sel'skogo khozyaystva Bashkirskoy ASSR.
(Dairying) (Collective farms--Income distribution)

NR: AP7004751 SOURCE CODE: UR/0413/67/000/001/0046/0046

ENTOR: Zibrov, V. D.; Medvedev, L. V.

: none

LE: Phasemeter of ultralow electrical oscillation. Class 21, No. 189942

RCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 1, 1967, 46

IC TAGS: phase measurement, phase METER, OSCILLATION

STRACT: An Author Certificate has been issued for a phasemeter to measure ultra-
w electrical oscillations. The phasemeter consists of input comparator circuits
shape pulses while input signals are passing through zero, a trigger, a linearly
rying voltage generator, and an output memory circuit. In order to provide
tomatic phase measurement directly in degrees, and to insure the independence of
adings from the value of the direct component of input signals, the linearly
rying voltage generator is designed as an integrating amplifier whose input is
nnected to the outputs of the frequency meter and an inverter, at the frequency
ter output through the series networks which consisted of a diode and an input
sistor. The control key circuits are connected to the diode junctions. [GS]

UB CODE: 09/ SUBM DATE: 29Jan64/

UDC: 621.317.77

ard 1/1

MEDVEDEV, M.

Jet plane of 1867. IUn.tekh. 7 no.1:24-28 Ja '63. (MIRA 16:5)
(Teleshev, Nikolai Afanas'evich, 1828-1895)
(Jet planes--Patents)

MEDVEDEV, M.A. (Tomsk)

Role of pituitary hormones in regulating the motor activity of the bile-secretory system of the liver. Probl.endok.i gorm. no.1:39-45 '62. (MIRA 15:8)

1. Iz kafedry normal'noy fiziologii (zav. - prof. Ye.F. Lapin) Tomskogo meditsinskogo instituta (dir. - prof. I.V. Toroptsev).
(BILIARY TRACT) (PITUITARY HORMONES)

33340
S/181/62/004/001/006/052
B102/B138

18.9500 1043 1143

AUTHORS: Medvedev, M. A., Anokhin, B. G., Skvortsov, I. M., Korotkov, A. S., and Myakinenkova, E. V.

TITLE: Peculiarities in the growth, twinning and structure of germanium dendrites and abnormal impurity segregation in the process of dendritic crystallization

PERIODICAL: Fizika tverdogo tela, v. 4, no. 1, 1962, 36 - 43

TEXT: The optimum conditions for growing long dendritic germanium crystals were studied. The twin structure of real dendrites was determined and complete agreement was found between the twin structure of seeds and of crystals grown from them. Impurity segregation coefficients and the distribution of impurities were measured. The dendrites were grown by the Czochralski method (rate of linear growth 10 - 15 cm/min) and were 150 - 300 μ thick, 1.5 - 3 mm wide and 400 mm long. They were produced with varying impurity concentrations, surface perfection and thickness. They could be divided into 4 groups according to twinning properties: (1) Homogeneous twin structure right across; (2) homogeneous twin structure, but only in the middle of the dendrite; (3) cross-sectional twin

Card 1/3

Peculiarities in the growth...

structure but becoming simplified toward the edges; (4) cross-sectional twin structure which becomes more complex toward the edges; up to 32 twins were observed at the edges. Billig's proposition (Acta Metall., 5, No. 1, 1957) that twinning may be caused by impurities was not confirmed: impurity concentrations of up to $10^{20}cm^{-3}$ caused no additional twinning effects. However, a higher impurity has an unfavorable influence on the quality of the dendrites. The segregation coefficients were measured for In, Ga, Sb, and B in dependence on their concentration in liquid phase. In each case 5 - 7 measurements were made in the following ranges of concentrations: In: $2\cdot10^{14}$ - $4\cdot10^{19}cm^{-3}$, Ga: $1\cdot10^{14}$ - $6\cdot10^{18}cm^{-3}$, Sb: $6\cdot10^{13}$ - $2\cdot10^{20}cm^{-3}$, B: $1\cdot10^{14}$ - $4\cdot10^{19}cm^{-3}$. In, Ga, and Sb show anomalously high segregation coefficients ($K_{eff}>1$) at concentrations of $10^{14}cm^{-3}$, which fall smoothly with increasing concentration. At 10^{18} - 10^{20} K_{eff} of Ga coincides with the equilibrium values. K_{eff} of B reaches 0.5 at 10^{14} - $10^{15}cm^{-3}$ and drops to 0.03 at $4\cdot10^{19}cm^{-3}$. The cross distribution of impurities was determined from the potential distribution, measured by

Card 2/3

Peculiarities in the growth...

means of probes. The impurities were found to be nonuniformly distributed; e. g. for In the concentration ratio $c_{centr.}:c_{edge} \simeq 1:10$. There are 7 figures and 7 non-Soviet references. The four most recent references to English-language publications read as follows: A. Bennet, R. Longini. Phys. Rev. 116, No. 1, 1959; D. R. Hamilton, R. G. Seidensticker, J. Appl. Phys. 31, No. 7, 1960; R. S. Wagner. Acta Metall., 8, No. 1, 1960; J. W. Faust, H. F. John. J. Electrochem. Soc. 107, No. 6, 1960.

SUBMITTED: July 6, 1961

Card 3/3

MEDVEDEV, M.A.

Mechanism of pathological bile secretion following a hypophysectomy. Trudy Khab. med. inst. 23 no.2:68-70 '62
(MIRA 16:12)

1. Iz kafedry fiziologii (zav. - prof. Ye.F.Larin) Tomskogo meditsinskogo instituta.

MEDVEDEV, M.A.

Treatment to prevent relapse in rheumatic fever. Trudy Kaf. proped. vnutr. bol. LPMI no.3:177-181 '64. (MIRA 19:1)

MEDVEDEV, M.F.

MEDVEDEV, M.F.

Most satisfactory number of blanks on a flat hosiery knitting machine. Leg. prom. 16 no.8:30-35 Ag '56. (MIRA 10:12)
(Hosiery industry) (Knitting machines)

PLUNGYAN, T.M., starshiy nauchnyy sotrudnik; MEDVEDEV, M.F.; TSITOVICH, K.G.

Rhythmic conveyers for the final output operations in the manufacture of nylon hosiery. Tekst.prom. 20 no.10:69-72 O'60.

1. Vsesoyuznyy nauchno-issledovatel'skiy institut trikotazhnoy promyshlennosti (for Plungyan). 2. Glavnyy inzh. Tushinskoy trikotazhnoy fabriki (for Medvedev). 3. Glavnyy inzh. Ivantey-evskoy trikotazhnoy fabriki imeni Dzerzhinskogo (for TSitovich). (Hosiery) (Assembly-line methods)

MEDVEDEV, M.F.

New developments in the technology of manufacturing multicolored knit socks. Tekst. prom. 23 no.9:67-69 S '63. (MIRA 16:10)

1. Glavnyy inzh. Tushinskoy chulochnoy fabriki.
(Hosiery)

FIRSOV, Konstantin Gavrilovich; MEDVEDEV, M.F., retsenzent; GRACHEVA, A.V., red.; BATYREVA, G.G., tekhn. red.; SHAPENKOVA, T.A., tekhn. red.

[Analysis of the production operation of a knit goods factory] Analiz proizvodstvennoi deiatel'nosti trikotazhnykh fabrik. Moskva, Gizlegprom, 1963. 133 p. (MIRA 17:2)

MEDVEDEV, M.F.

Prospects of the expansion of the production of hosiery from synthetic fibers. Tekst. prom. 24 no.11:34-37 N '64. (MIRA 17:12)

1. Direktor Vsesoyuznogo nauchno-issledovatel'skogo instituta trikotazhnoy promyshlennosti (VNIITP).

IOFFE, Iosif Grigor'yevich; MEDVEDEV, M.F., retsenzent; ZUBAREVA, M.I., retsenzent; GABOVA, D.M., red.

[Organization and planning of knit goods production] Organizatsiia i planirovanie trikotazhnogo (viazal'nogo) proizvodstva. Moskva, Legkaia industriia, 1965. 237 p. (MIRA 18:5)

MEDVEDEV, M. I.

Determination of moments of inertia of tractor engine flywheels. Avt. trakt. prom. no.6:14-17 Je '55. (MLRA 8:9)

1. Khar'kovskiy politekhnicheskiy institut imeni V. I. Lenina
(Tractors--Engines)

MEDVEDEV, M. I.

Name: MEDVEDEV, M. I.

Dissertation: Caterpillar gearing of tractors

Degree: Doc Tech Sci

Defended at
~~Affiliation~~: Min Higher Education Ukrainian SSR, Khar'kov Polytechnical Inst imeni V. I. Lenin

Publication
~~Defense Date~~, Place: 1956, Khar'kov

Source: Knizhnaya Letopis', No 4, 1957

MEDVEDEV, Mikhail Ivanovich; KRISTI, M.K., prof., doktor tekhn.nauk, retsenzent; ONISHCHENKO, N.P., inzh., red.; RUDENSKIY, Ya.V., tekhn.red.

[Crawler tractors] Gusenichnoe zatseplenie traktorov. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1959. 247 p. (MIRA 13:3)

(Crawler tractors)

MEDVEDEV, M.I.

Prospects of the development of agricultural tractors. Trudy KhPI. Ser.mash. 19 no.5:31-49 '59. (MIRA 14:9)
(Tractors)

MEDVEDEV, M.I., doktor tekhn.nauk; KODENKO, M.N., assistent

Investigating dynamic indices of the idler wheel of the crawling gear of a tractor. Izv. vys. ucheb. zav.; mashinostr. no. 3:124-136 '61. (MIRA 14:5)

1. Khar'kovskiy politekhnicheskiy institut.
(Crawler tractors—Dynamics)

MEDVEDEV, M. (Leningrad).

Summits submit to the brave. Prom. koop. no.12:32-33 D '57.
(Building--Maintenance and repair) (MIRA 10:12)

DEKHTYAR, Samuil Bentsionovich, inzh.; MAYBORODA, Ivan Nikolayevich, inzh
MEDVEDEV, Mikhail Ivanovich, inzh.; ROKHLIN, Il'ya Aleksandrovich,
kand.tekhn.nauk; KHUTORYANSKIY, Mikhail Semenovich, kand.tekhn.nauk;
TUROVSKIY, B., red.; ZELENKOVA, Ye., tekhn.red.

[Useful ceramic construction elements] Effektivnye konstruktsii
iz keramiki. Kiev, Gos. izd-vo lit-ry po stroit. i arkhit. USSR,
1958. 355 p. (MIRA 12:2)
(Ceramics)

MEDVEDEV, M. [Medviediev, M.], inzh.; KULIKOV, L., arkhitektor

Using industrial methods in building apartment houses in Kiev. (MIRA 13:12)
Proek. i bud. 1 no.1:7-13 0 '59.
(Kiev--Aprtment houses)
(Precast concrete construction)

MEDVEDEV, M., inzh.

First Congress of the International Council of Building. Zhil. stroi. no.7:26-28 Jl '60. (MIRA 13:7)
(Rotterdam--Building--Congresses)

TAIROV, Vladimir Dmitriyevich; VOL'VICH, Nikolay Iosifovich; MEDVEDEV, Mikhail Ivanovich. Prinimali uchastiye: BOCHKOVSKAYA, N.L., starshiy inzh.; YEZHEL', F.A., glav. arkhitektor; ALEKSANDROVSKIY, A., red.; ZELENKOVA, Ye., tekhn. red.

[Built-up roofs] Sovmeshchennye pokrytiia. Kiev, Gos. izd-vo lit-ry po stroit. i arkhit. USSR, 1961. 74 p. (MIRA 14:9)

1. Rabotniki Nauchno-issledovatel'skogo instituta stroitel'nykh konstruktsiy i Nauchno-issledovatel'skiy institut eksperimental'-nogo proyektirovaniya Akademii stroitel'stva i arkhitektury USSR (for Tairov, Vol'vich, Medvedev).
(Roofs)

YELIZAROV, V.D., kand. arkh., red.; MEDVEDEV, M.I., inzh., red.; DEKHTYAR, S.B., nauchnyy red.; SLIN'KO, B.I., red.; NARINSKAYA, A.L., tekhn. red.

[Large-panel housing construction] Krupnopanel'noe zhilishchnoe stroitel'stvo. Pod obshchei red. V.D.Elizarova i M.I.Medvedeva. Kiev, Gos.izd-vo lit-ry po stroit.i arkhit. USSR, 1961. 194 p. (MIRA 14:12)

1. Akademiya budivnytstva i arkhitektury URSR. 2. Deystvitel'nyy chlen Akademii stroitel'stva i arkhitektury USSR (for Yelizarov).
(Apartment houses) (Precast concrete construction)

YABLONSKIY, D.N., kand.arkhitektury; SHEPETOVA, I.M., arkhitektor; MEDVEDEV, M.I., inzh.

Numerical foundation of a series of derivative moduli. Izv. ASiA 4 no.2:77-81 '62. (MIRA 15:9)
(Modular coordination (Architecture))

MEDVEDEV, M.; CHECHEL'NITSKIY, A.

Standardization of buildings and structures among branches of industry. Prom.stroi.i inzh.soor. 4 no.5:44-49 S-O '62. (MIRA 16:1)

1. Direktor Nauchno-issledovatel'skogo instituta eksperimental'nogo proyektirovaniya Akademii stroitel'stva i arkhitektury UkrSSR (for Medvedev). 2. Glavnyy spetsialist sektora Nauchno-issledovatel'skogo instituta eksperimental'nogo proyektirovaniya Akademii stroitel'stva i arkhitektury UkrSSR (for Chechel'nitskiy).
(Industrial buildings--Design and construction)

MEDVEDEV, M.

Important problem in the organization of work and production. Sots. trud 7 no.5:113-119 My '62. (MIRA 15:5)

1. Nachal'nik inspektsii po metallurgicheskoy i khimicheskoy promyshlennosti Gosudarstvennogo komiteta Soveta Ministrov SSSR. po voprosam truda i zarabotnoy platy.
(Steel industry--Quality control)

YEROFEYEV, L.M., inzh.; TSAY, T.N., inzh.; BABAYANTS, A.A., inzh.; KARAGOD, V.P., inzh.; MEDVEDEV, M.K., inzh.

Instruments developed by the Kuznetsk Scientific Research Institute for the design and construction of mines in the coal industry for determining rock movements and the intensity of rock pressure. Trudy KuzNIIshakhtostroia no.1:80-84 '63. (MIRA 17:3)

MEDVEDEV, M.L.

Method for dynamic vectorcardiographic study. Kardiologiia 2 no.1: 89-92 Ja-F '62. (MIRA 15:5)

1. Iz fakul'tetskoy terapevticheskoy kliniki (zav. - prof. A.A.Kedrov) Leningradskogo sanitarno-gigiyenicheskogo meditsinskogo instituta.
(VECTORCARDIOGRAPHY)

TRUSIKHIN, Nikolay Pavlovich; MEDVEDEV, M.M., red.; KUZNETSOV, P.V., red.; PONOMAREVA, A.A., tekhn. red.

[Organization of wage payments in industrial enterprises] Organizatsiia zarabotnoi platy na promyshlennykh predpriiatiiakh. Moskva, Gos. izd-vo planovo-ekon. lit-ry, 1961. 76 p. (MIRA 14:7)
(Wage payment systems)

MEDVEDEV, V.M.

Blastomogenic properties of the milk factor following prolonged preservation in a dehydrated state. Medych.zhur.24 no.3:36-40 '54. (MLRA 8:10)

1. Institut normal'noi ta patologichnoi morfologii Akademii medychnykh nauk SRSR, viddil onkologii.
(NEOPLASMS, experimental,
milk factor, carcinogenic eff. after prolonged preserv. in dehydrated state)
(BREAST, neoplasms,
milk factor, carcinogenic eff. after prolonged preserv. in dehydrated state)

MEDVEDEV, M.N.; MATVEYEVA, Ye.N.; ZHIL'TSOVA, L.Ya.

Plastic scintillators with oxazole-group fillers. Prib. i tekh. eksp. no.1:55-57 Ja-F '57. (MLRA 10:6)
(Scintillation counters)

SOV-120-58-3-9/33

AUTHORS: Medvedev, M. N., Matveyeva, Ye. N., Zhil'tsova, L. Ya.

TITLE: Large Volume Plastic Scintillators (Plastichesskiye stsintillyatory bol'shikh ob'yemov)

PERIODICAL: Pribory i Tekhnika Eksperimenta, 1958, Nr 3, pp 45-48 (USSR)

ABSTRACT: The preparation of large plastic scintillators using the uncatalyzed high-temperature polymerization of styrene is described. The system used was a modification of that of Ref.4, which was intended for small volumes only; it can give volumes up to 3 litres. For these large volumes particular attention was paid to purifying the styrene. First the water was removed with $CaCl_2$, and the styrene distilled off in vacuo, the temperature and pressure in the distillation flask being 40-50°C and 20-50 mm Hg respectively. The polymerization was slight. This also removes the inhibitor and dust, etc. The doubly-distilled styrene is poured into the polymerization ampoule seen in Fig.1; the ampoule was of Mo glass. Dissolved oxygen is removed by bubbling nitrogen and then evacuating. The ampoule is sealed off and heated on a water-bath till the activator dissolves completely, and then transferred to a preheated glycerol bath at 70-90°C;

Card 1/3

Large Volume Plastic Scintillators

the temperature is then raised to 200°C over 8-10 hours and kept there until 3-4 hours after the styrene has completely ceased to bubble. The temperature is then slowly reduced to 100°C, and the bath then switched off. Total time required 4-5 days. The ampoule fractures and the glycerol is washed from the recovered plastic. α-NPO, POPOP, TPB and TPP can all be used. The results with these are given in the Table, the compounds being: 1)TPB, 2) and 3) terphenyl +, 4) terphenyl + TPP, 5) terphenyl + quaterphenyl, 6) terphenyl, and 7) anthracene. The next two columns give the dimensions (diameter and thickness), the third and fourth being the pulse height (relative to stilbene) for RdTh γ-rays, for scintillations at the near and far ends, and the last column the light loss in an 80 mm length. Fig.3 shows

Large Volume Plastic Scintillators

that the light absorption does not fall off nearly as rapidly with length as calculation would indicate. Fig.2 generalises some of the data in the Table. The paper contains 3 figures, 1 table and 4 references, 3 of which are Soviet and 1 English.

ASSOCIATION: Ob"yedinennyy institut yadernykh issledovaniy (United Institute for Nuclear Investigations)

SUBMITTED: August 9, 1957.

1. Phosphors--Preparation 2. Styrene--Polymerization
3. Styrene (Polymerized)--Applications

SOV/120-58-4-8/30

AUTHORS: Medvedev, M. N., Sokolova, Ye. S., Filippov, P. I. and Tsislyak, O. N.

TITLE: Time Characteristics of Photo-Multipliers (Vremennyye kharakteristiki fotoumnozhiteley)

PERIODICAL: Pribory i tekhnika eksperimenta, 1958, Nr 4, pp 37-39 (USSR)

ABSTRACT: An investigation was made of the rise times of the leading edges of pulses from the following photomultipliers developed by N. S. Khlebnikov: FEU-1V, FEU-2V, FEU-1B2V Photomultipliers FEU-1V and FEU-2V have semitransparent photocathodes 40 mm in diameter, and differ from each other only in the number of dynodes. The photocathode is made of SbCs and its maximum spectral sensitivity is at 4000 Å. The amplification coefficient for the FEU-1V is about 5×10^5 and for the FEU-2V about $2\text{-}3 \times 10^6$. The FEU-1B2V has a larger cathode, namely, 80 mm diameter and an amplification coefficient of about 10^6. The photomultipliers are so constructed that the electron collection from the photocathode is 100%. Experiments have shown that the rise time (0.1-0.9)

Card 1/2

Time Characteristics of Photomultipliers

of the leading edges of pulses from the 3 photomultipliers are 3.5×10^{-9} for the first two and 4.5×10^{-9} for the third one. The photomultipliers may be used in scintillation counters and Cerenkov counters in fast coincidence circuits. It is necessary to screen the counters from external electromagnetic fields by means of appropriate electromagnetic screens. N. S. Khlebnikov, A. Ye. Melamid and A. M. Potapov are thanked for supplying the photomultipliers and taking part in discussions. There are 4 figures, 4 tables and no references.

ASSOCIATION: Ob"yedinennyy institut yadernykh issledovaniy (United Institute for Nuclear Studies)

SUBMITTED: October 30, 1957.

Card 2/2

MEDVEDEV, M. N.

AUTHORS: Medvedev, M. N., Matveyeva, Ye. N., Zhil'tsova, L. Ya., 48-1-10/20

TITLE: Amplitudes of the Impulses of Plastic-Scintillators With Various Activators (Amplitudy impul'sov ot plasticheskikh stsintillyatorov s razlichnymi aktivatorami)

PERIODICAL: Izvestiya AN SSSR Seriya Fizicheskaya, 1958, Vol. 22, Nr 1, pp. 44-47 (USSR)

ABSTRACT: The purpose of the present work was the production of plastic-scintillators of a large circumference with good transparence for fluorescent radiation, and a maximum ratio B_E/τ (yield of energy the duration of scintillation). The impulse-amplitude in a plastic-scintillator is not only dependent on the activator-concentration, but also on the purity of the solvent and that of the activator. The influence exerted by benzoylperoxide upon the impulse-amplitude was investigated here and data for some samples which were produced with catalysts and without catalysts are given. It is shown that the plastic-scintillators which were produced without catalysts bring about an increase in the impulse-amplitudes by ~10%. The samples of p-terphenyl, produced without catalysts, yield impulse-amplitudes of the order of magni-

Card 1/3

Amplitudes of the Impulses of Plastic-Scintillators With Various Activa- 48-1-b/2o
tors.

tude o,6 of stilbene, but for fluorescent radiation they are not transparent enough. Some substances of the oxazole-class were also investigated. These were used in plastic-scintillators as well as base-fillers as as additions to p-terphenyl and 2,5-diphenyloxazole. It is shown that in these substances the maximum amplitudes are attained at an activator-concentration of o,5 ÷ 1,o %. The best results were attained in samples with PBD as activator. The sample with 1 % PBD in polystyrene without benzoylperoxide shows impulses whose amplitude amounts to o,9 with reference to stilbene. The sample with 1% αNPO (i.e. 2-(1-naphthyl)-5-phenyloxazole) in polystyrene without benzoylperoxide yields impulses whose amplitudes amount to o,73 with reference to stilbene.- PBD is 2-phenyl-5-(4-biphenyl)-1,3,4-oxydiazole. POPOP is 1,4-di[2-(5-phenyloxazolyl)] benzene. It is finally shown that the plastic-scintillators which are produced with p-terphenyl and luminescing additions of POPOP,BBO and αNPO and which possess a comparatively good transparence for characteristic radiation, can be successfully used for scintillation-counters.BBO is 2,5-di-(4-biphenyl)oxazole. There are 4 tables, 4 references, 1 of which is Slavic.

Card 2/3

Amplitudes of the Impulses of Plastic-Scintillators With Various Activators. 48-1-1o/2o

ASSOCIATION: United Institute for Nuclear Research AN USSR (Ob"yedinennyy institut yadernykh issledovaniy Akademii nauk SSSR).

AVAILABLE: Library of Congress

1. Crystals 2. Benzoylperoxide-Application

Card 3/3

24(7) SOV/48-23-1-23/36

AUTHORS: Matveyeva, Ye. N., Medvedev, M. V., Shafranov, V. S.

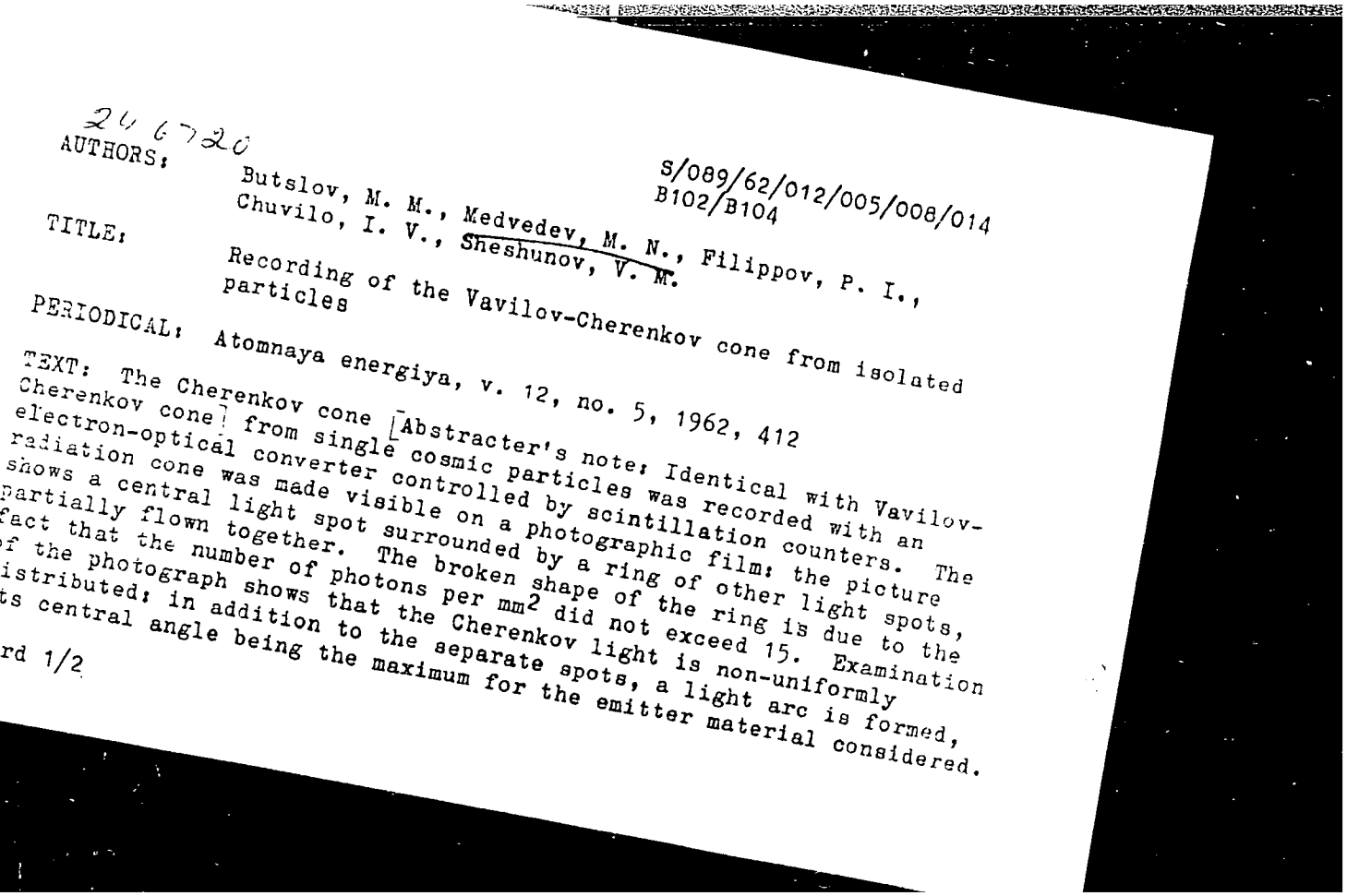
TITLE: Luminescence Spectra of αNPO and POPOP in Various Solvents (Spektry lyuminestsentsii αNPO i POPOP v razlichnykh rastvoritelyakh)

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1959, Vol 23, Nr 1, pp 108 - 111 (USSR)

ABSTRACT: The present paper gives the results of investigations concerning the yield and the spectra of plastic scintillators with αNPO and POPOP as basic activators and also as addition to the solutions of paraterphenyl in polystyrene, polyvinyl toluene, and poly-2,5-dimethyl styrene (αNPO= 2-(1-naphthyl)-5-phenyl-oxazole POPOP= 1,4-di-(5-phenyl-2-oxazolyl-benzene) .Measurements of spectra are carried out with a variation of the concentration of αNPO and POPOP, and with constant concentration and variation of the solvent. The different spectra with POPOP and αNPO are shown by a figure. The spectra are not influenced by the solvents. The addition of n-terphenyl increases the luminescence yield in comparison to samples containing αNPO

Card 1/2

and POPOP as basic activators. In accordance with existing conceptions (Refs 1,2) it is assumed that here an excitation energy transfer from the solvent to the luminescent impurity is concerned. The intermediate position of the excitation level of n-terphenyl compared with solvents and the impurity thus increases the possibility of transition of energy from the solvent to the impurity. There are 2 figures, 1 table, and 2 references, 1 of which is Soviet.



24 6720

S/089/62/012/005/008/014
B102/B104

AUTHORS: Butslov, M. M., Medvedev, M. N., Filippov, P. I., Chuvilo, I. V., Sheshunov, V. M.

TITLE: Recording of the Vavilov-Cherenkov cone from isolated particles

PERIODICAL: Atomnaya energiya, v. 12, no. 5, 1962, 412

TEXT: The Cherenkov cone [Abstracter's note: Identical with Vavilov-Cherenkov cone] from single cosmic particles was recorded with an electron-optical converter controlled by scintillation counters. The radiation cone was made visible on a photographic film: the picture shows a central light spot surrounded by a ring of other light spots, partially flown together. The broken shape of the ring is due to the fact that the number of photons per mm^2 did not exceed 15. Examination of the photograph shows that the Cherenkov light is non-uniformly distributed: in addition to the separate spots, a light arc is formed, its central angle being the maximum for the emitter material considered.

Card 1/2

S/089/62/012/005/008/014
B102/B104

Recording of the Vavilov-Cherenkov ...

The effect discovered will be further investigated. There is 1 figure.

SUBMITTED: January 29, 1962

Card 2/2

ACCESSION NR: AR4046003 S/0058/64/000/007/A021/A021

SOURCE: Ref. zh. Fizika, Abs. 7A206

AUTHORS: Medvedev, M. N.; Shafranov, M. D.

TITLE: Use of film scintillators to extend the spectral sensitivity of photomultipliers and to record strongly ionizing radiation

CITED SOURCE: Sb. Stsintillyatory* i stsintillyats. materialy*. Khar'kov, Khar'kovsk. un-t, 1963, 187-190

TOPIC TAGS: thin film, ionization detector, scintillator, photomultiplier, coincidence counting

TRANSLATION: It is proposed to employ scintillating films deposited on a photocathode in order to extend the sensitivity of photomultipliers into the far ultraviolet region. The optimal film was found to contain 2% terphenyl plus 0.1% POPOP in polystyrene. The sensitivity of the cathode with the film, relative to the maximum sensitivity of the photocathode of the FEU-19M photomultiplier with-

Card 1/2

ACCESSION NR: AR4046003

out the film, amounts to 30% in the 320 nm region, 18--23% in 220 nm region, and 18--23% at 220 nm. The optimal film thickness is 0.1 nm. The de-excitation time is (2--3) x 10^{-9} sec. The use of a photomultiplier with a scintillating film in fast coincidence circuits greatly simplifies measurements of strongly ionized radiations in large gamma fields or in the presence of fast charged particles.
T. Razumova.

SUB CODE: NP ENCL: 00

Card 2/2

MATVEYEVA, Ye.N.; MEDVEDEV, M.N.; RUBINA, O.G.; SHAFRANOV, M.D.

Luminescence spectrum of pentaphenyl. Izv. AN SSSR. Ser. fiz. 27 no.6:763-764 Je '63. (MIRA 16:7)

1. Laboratoriya vysokikh energiy Ob"yedinennogo instituta yadernykh issledovaniy.

(Pentaphenyl--Spectra)

MATVEYEVA, Ye.N.; MEDVEDEV, M.N.; PISAREVA, M.G.; SHAFRANOV, M.D.

Luminescence of p-vinyl biphenyl. Izv. AN SSSR. Ser. fiz. 27 no.6:765-766 Je '63. (MIRA 16:7)

1. Laboratoriya vysokikh energiy Ob"yedinennogo instituta yadernykh issledovaniy.

(Biphenyl—Spectra)

L 33503-65 EWG(j)/EWI(m)/EPF(c)/EWP(j)/T/EWA(h)/EWA(l) Pc-4/Pr-4/Peb IJP(c)
ACCESSION NR: AR5003891 RM S/0081/64/000/018/S086/S086

SOURCE: Ref. zh. Khimiya, Abs. 18S496

AUTHOR: Isayev, A. S.; Medvedev, M. N.; Prokhorov, V. I.

TITLE: Pressing of Scintillating Plastics

CITED SOURCE: Sb. Stsintillyatory i stsintillyats. materialy. Khar'kov, Khar'kovsk. un-t, 1963, 25-28

TOPIC TAGS: scintillator, plastic, scintillation counter, gamma radiation

TRANSLATION: Scintillating filaments 0.3-5 mm in diameter and 1000-1200 mm long, films, discs and rings of the desired configuration were pressed from scintillating plastics produced from polystyrene and containing 2% terphenyl and 0.02% ROROR. The filaments and films were pressed from a plastic rod which was placed in the press form and heated at a rate of 50° per hour, maintaining the pressure of 10-15 mm of Hg by periodic pumping down. At 140°C, pumping was stopped and 4-5 kg/cm^2 pressure was applied. Filaments (films) from the opening in the lower cover pass into a vessel with water. Discs and rings were pressed from plastics of random shape by slow increase of the temperature to 100°C, the pressure inside the press being 2-3

Card 1/2

mm Hg. Pumping down then stops, the temperature is raised to 170°C and 5-6 kg/cm^2 pressure is applied. Following this, the specimen is slowly cooled to 60°C. When the specimens were of large size the pulse amplitudes were determined with respect to stilbene single crystal and measured in individual areas of the specimen upon irradiation with γ-rays from a Co^{60} source using FEU-29. The error in measurement was ± 10%. It was established that the decrease in pulse amplitude when the thread is 500 mm long is ~35%. The filaments may be used in scintillation counters. (See *Ref. Zhur. Khim*, 1964, 3S374).

SUB CODE: OC ENCL: 00

L 33505-65 EWG(j)/EWT(m)/EPF(c)/EWP(j)/T/EWA(h)/EWA(l) Pc-4/Pr-4/Peb RM
ACCESSION NR: AR5003893 S/0081/64/000/018/S086/S086

SOURCE: Ref. zh. Khimiya, Abs. 18S498

AUTHOR: Isayev, A. S.; Medvedev, M. N.; Porokhov, V. I.; Pilipenko, T. D.

TITLE: Scintillators made from block polystyrene

CITED SOURCE: Sb. Stsintillyatory i stsintillyata. materialy. Khar'kov, Kharkovsk. un-t, 1963, 29-32

TOPIC TAGS: scintillator, polymerization, styrene polymerization, polystyrene

TRANSLATION: Scintillators of any desired configuration were produced by pressing block polystyrene in the form of granules with scintillating substances (1.5% RRO and 0.02% RORDR). The temperature was controlled with thermocouples mounted in the

and 0.02% RORDR). The temperature was controlled with thermocouples mounted in the upper and lower halves of the press-form. Polystyrene granules were first washed with tap water and then with distilled water and dried at 70-80°C. The granules were placed in the press-forms in layers, wetted with liquid styrene containing scintillating substances. The recommended amount of solution is equal to or greater than 16% of the weight of the scintillator. After 1 hour vacuum treatment

Card 1/2

under 2-3 mm of Hg pressure in the press-form, heating was started at a rate of 50° per hour. After 2 hours holding at 165°C the temperature was lowered to 145°C, 4-5 kg/cm^2 pressure was applied and the entire mass was slowly cooled. The pressure was removed at 60-50°C and the specimen was withdrawn. Eight hours are required to produce scintillators 200 mm in diameter and 50 mm thick. The pulse amplitudes from the scintillators were determined from 4 samples 30 × 30 mm^2 by irradiation with γ-rays from a Co^{60} source using an FEU-29 photomultiplier. It was found that scintillating substances are uniformly distributed throughout the scintillator. The pulse amplitudes and the thermal stability of scintillators produced by pressing in

a vacuum and by high temperature polymerization of styrene are similar. (See Ref. Zhur. Khim., 1964, 2S378). L. Kotlyarevskaya.

SUB CODE: GP, OC. ENCL: 00

Card 2/2

L 01294-66 EPA(s)-2/EWT(m)/EPF(c)/EPF(n)-2/EWP(j) GG/RM

ACCESSION NR: AP5020813 UR/0048/65/029/008/1417/1418

AUTHOR: Matveyeva, Ye. N.; Medvedev, M. N.; Rubina, O. G.; Shafranov, M. D.

TITLE: Scintillation properties of polyphenyls. Report, 13th Conference on Luminescence held in Khar'kov 25 June to 1 July 1964

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 29, no. 8, 1965, 1417-1418

TOPIC TAGS: luminescence, scintillation, solution property, gamma radiation, radiation detector, organic compound

ABSTRACT: The authors have measured the relative intensities of the scintillations initiated by Co^{60} gamma rays in solutions of polyghenyls in polystyrene, toluene and phenylcyclohexane. The polyphenyls investigated were: diphenyl, n-terphenyl, n,n'-quaterphenyl, and pentaphenyl. The scintillation intensity increased with concentration at low concentrations, but this effect reached a saturation; the maximum scintillation amplitude of diphenyl and terphenyl was reached at concentrations of 0.05 and 2%, respectively, and increasing the concentration even to 5% did not further increase the intensity. At concentrations up to 0.05% the scintillation intensity increased linearly with the number of phenyl

Card 1/2

L 01294-66

ACCESSION NR: AP5020813

rings in the molecule. The intensity of the scintillations was approximately the same in all three solvents. Orig. art. has: 1 figure and 3 tables.

ASSOCIATION: Laboratoriya vysokikh energiy Ob'yedinennogo instituta yadernykh issledovaniy (High Energy Laboratory, Joint Institute for Nuclear Research)

SUBMITTED: 00 ENCL: 00 SUB CODE: OP, NP

NO REF SOV: 002 OTHER: 000

Card 2/2

DOLGOV, N.V.; MEDVEDEV, M.P.

Retention of complement-fixing antibodies in Q fever convalescents. Zhur.mikrobiol.,epid.i immun. 30 no.12:124 D '59. (MIRA 13:5)

1. Iz Voronezhskoy oblastnoy sanitarno-epidemiologicheskoy stantsii.
(Q FEVER) (ANTIGENS AND ANTIBODIES)

BELYKH, B.P., dotsent; MELNIKOV, N.V., inzh.

Study of the safe operation of electric equipment in mines of the Karabash Mining and Ore-dressing Combine. Izv.vys.ucheb. zav.; gor. zhur. 6 no. 1 [illegible] '63. (MIRA [illegible])

1. Magnitogorskiy gornometallurgicheskiy institut. Rekomendovana kafedroy gornoy elektrotekhniki.

L 39456-65 EEC(b)-2/EWP(s)-2/EWT(l)/T Pi-4/Pt-10 IJP(c) GG
ACCESSION NR: AP5006507 S/0056/65/048/002/0574/0586

31
30
B

AUTHOR: Izyumov, Yu. A., Medvedev, M. V.

TITLE: Impurity atom in a ferromagnetic crystal 21

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 48, no. 2, 1965, 574-586

TOPIC TAGS: ferromagnetic crystal, magnetic oscillation, neutron scattering, magnetic scattering, Green function, spin vibration, correlation function

ABSTRACT: The purpose of this study is to examine the possibility of detecting magnetic oscillations from scattering data. A complete solution is presented for the problem of a ferromagnetic crystal with an impurity, including both a determination of the spin correlation functions between different states, so that a variety of phenomena connected with such a system can be described. It is shown that the single-particle Green's function of a ferromagnetic crystal containing a single magnetic impurity atom satisfies the Dyson equation and can therefore be expressed in terms of the Green's function of an ideal crystal. The mathematical

Card 1/2

L 39456-65

ACCESSION NR: AP5006507

techniques necessary to solve various problems concerning the properties of the system are first developed, and the theory is then used to calculate the cross section for the inelastic magnetic scattering of slow neutrons by such a crystal. It is shown that the energy distribution of the scattered neutrons shows peaks corresponding to definite types of local magnetic vibrations of the perturbed crystal. Orig. art. has: 69 formulas.

ASSOCIATION: Institut fiziki metallov Akademii nauk SSSR (Institute of Physics of Metals, Academy of Sciences SSSR)

SUBMITTED: 24Jul64 ENCL: 00 SUB CODE: NP, EM

NR REF SOV: 006 OTHER: 005

Card 2/2

L 00566-66 EWT(1)/T IJP(c) GG

ACCESSION NR: AP5016566 UR/0056/65/048/006/1723/1731

AUTHORS: Izyumov, Yu. A.; Medvedev, M. V.

TITLE: Some properties of a ferromagnetic crystal containing a magnetic impurity atom

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 48, no. 6, 1965, 1723-1731

TOPIC TAGS: ferromagnetic material, spontaneous magnetization, ferromagnetic resonance, crystal lattice structure, spin wave, crystal impurity

ABSTRACT: The rigorous mathematical treatment developed by the authors in an earlier paper (ZhETF v. 48, 574, 1965) is used to analyze certain effects due to the presence of local magnetic oscillations in a ferromagnetic crystal containing impurities at low temperatures. It is shown that if one of the local levels lies close

Card 1/2

ACCESSION NR: AP5016566

3

to the bottom of the spin-wave band, then an anomaly should be observed in the temperature dependence of the spontaneous magnetization, which should decrease much faster than required by the $T^{3/2}$ law for an ideal crystal, even when the impurity concentration does not exceed a few per cent. Ferromagnetic resonance in such a crystal in a uniform radio-frequency field is also considered. It is shown that when the g-factors of the matrix and impurity atoms are different, the radio-frequency field can excite local oscillations of the s-type only. When the g-factors are equal, only the usual ferromagnetic resonance, with excitations of uniform spin precession, should be observed. Orig. art. has: 44 formulas.

ASSOCIATION: Institut fiziki metallov Akademii nauk SSSR (Institute of Metal Physics, Academy of Sciences, SSSR)

44,55

SUBMITTED: 15Jan65 ENCL: 00 SUB CODE: SS

NR REF SOV: 003 OTHER: 002

L 18775-66 EWT(1) IJP(c) GG
ACC NR: AP6002732 SOURCE CODE: UR/0056/65/049/006/1887/1894

AUTHORS: Izyumov, Yu. A.; Medvedev, M. V.

ORG: Institute of Metal Physics, Academy of Sciences SSSR (Institut fiziki metallov Akademii nauk SSSR); Ural State University (Ural'skiy gosudarstvennyy universitet)

TITLE: Peculiarities of the spin-wave spectrum of a ferromagnet containing impurities and the temperature dependence of spontaneous magnetization

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 49, no. 6, 1887-1894

TOPIC TAGS: spin wave spectrum, ferromagnetism, magnetic resonance, spontaneous magnetization, impurity level

ABSTRACT: The conditions for the occurrence of virtual and local magnetic oscillations in a Heisenberg ferromagnet with simple cubic lattice, containing an impurity magnetic atom, are calculated by numerically solving an equation previously derived by the authors

Card 1/2

(ZhETF v. 48, 574, 1965) for the density of states in the spin-wave spectrum. The energies of the local and virtual states are obtained from these equations by numerical means. Equations are presented for the conditions under which virtual and local levels are absent, the conditions under which virtual levels appear near the top of the band, and the conditions under which local levels appear. It is shown that only virtual levels of the s-type can arise at the bottom of the spin-wave band and only in those cases when the exchange coupling between the impurities in the atoms of the matrix is weaker than the exchange coupling between the matrix atoms themselves. Approximate formulas are also obtained for the density of states near the bottom of the band, and respectively for the spontaneous magnetization at low temperatures of a ferromagnet with an impurity. It is also shown that strong excitation of the impurity spins produces further decrease in the magnetization of the crystal, but this cannot be calculated correctly by means of the density of the single-particle states, and calls for a self-consistent solution of the equations for the magnetization of individual sites with the aid of temperature Green's function. The authors thank Ye. A. Turov and O. B. Sokolov for helpful discussions. Orig. art. has: 6 figures and 21 formulas.

SUB CODE: 20/ SUBM DATE: 05Jul65/ ORIG REV: 004/ OTH REF: 001

MEDVEDEV, M.Ye.; BROFMAN, M.V.

Use of hot compressed air in the Kiruna Mine. Izv. AN Kazakh. SSR. Ser. gor. dela no.1:109-110 '58. (MIRA 16:5)

(Kiruna Region, Sweden—Boring—Cold weather operations)

L 02198-67 EWT(l)/EWT(m)/T/EWP(t)/ETI IJP(c) JD/GG
ACC NR: AP6031443 SOURCE CODE: UR/0056/66/051/002/0517/0527

AUTHOR: Izyumov, Yu. A.; Medvedev, M. V.

ORG: Institute of the Physics of Metals, Academy of Sciences SSSR (Institut fiziki metallov Akademii nauk SSSR); Ural State University (Ural'skiy gosudarstvennyy universitet)

TITLE: Impurity atom in a ferromagnetic crystal with negative exchange interaction

SOURCE: Zh eksper i teor fiz, v. 51, no. 2, 1966, 517-527

TOPIC TAGS: impurity atom, spin wave theory, ferromagnetic material, matrix element, spin system, crystal property, temperature dependence

ABSTRACT: A spin wave theory is developed for a ferromagnetic cubic crystal containing an impurity atom which has a negative interaction with the matrix. It is shown that the ground state of such a crystal is magnetically inhomogeneous due to the zero oscillations of the spin system. This means that the impurity spin projection on the direction of the spontaneous moment is smaller than its maximum value, and the decrease is compensated for by a nonuniform contraction of the matrix atom

Card 1/2

spins. It is shown that the effect is related to the s-type spin system oscillations in the state terminology used for describing a crystal containing an impurity with ferromagnetic interactions). The temperature dependence of spontaneous crystal magnetization in the range of validity of the Bloch law is calculated and the corresponding results are compared with the case of a ferromagnetic impurity. Measurements of the saturation magnetization at zero temperature and the temperature dependence of the magnetization of a crystal containing a low impurity concentration permit the determination of the impurity atom spin and its exchange with the matrix. Orig. art. has: 54 formulas. [Based on authors' abstract]. [NT]

SUB CODE: 20/ SUBM DATE: 04Feb66/ ORIG REF: 006/ OTH REF: 003/

ACC NR: AP7005126 SOURCE CODE: UR/0126/66/022/004/0506/0513

AUTHOR: Izyumov, Yu. A.; Medvedev, M. V.

ORG: Institute of Metal Physics, AN SSSR (Institut fiziki metallov AN SSSR); Ural State University im. A. M. Gor'kiy (Ural'skiy gosuniversitet)

TITLE: Temperature behavior of an "antiferromagnetic" impurity spin in a ferromagnetic matrix

SOURCE: Fizika metallov i metallovedeniye, v. 22, no. 4, 1966, 506-513

TOPIC TAGS: crystal impurity, antiferromagnetism, ferromagnetic material, spin system

ABSTRACT: In a previous investigation (FTT, 1966, 8, 2117) the authors developed an approximate theory of the temperature behavior of an impurity atom in a ferromagnetic crystal, in the presence of a positive exchange coupling with its environment. In these conditions the impurity spin is always oriented along the spontaneous moment of the crystal, but given certain relationships between the parameters characterizing the matrix and the impurity, the temperature-induced change in the magnetization of the impurity atom may markedly differ from the change in the magnetization of the atoms of the matrix. Now the authors calculate with the

Card 1/2 UDC: 538.22+548.4.01

ACC NR: AP7005126

lid of Green's temperature functions the magnetization of the impurity atom in a ferromagnetic crystal over a broad range of temperatures in the presence of a negative exchange coupling between this atom and the matrix. Owing to zero oscillations in the spin system with an antiferromagnetic orientation of the impurity spin, contractions of the z-projections of the spins of the impurity and matrix atoms occur in the ferromagnetic crystal, thus leading to inhomogeneity of magnetization of the crystal in the fundamental state. It is shown that in the case of a feebly coupled impurity its magnetization may sharply diminish at a temperature at which the magnetization of the atoms in the matrix is still close to saturation. As a result, given a sufficient concentration of the impurity, the spontaneous moment of the crystal will increase with temperature in the low-temperature range. "The authors are indebted to Ye. A. Turov and D. B. Sokolov for discussing the findings of this project." Orig. art. has: 39 formulas.

SUB CODE: 20, 11/ SUBM DATE: 05Feb66/ ORIG REF: 005/ OTH REF: 002

Card 2/2

04799-67 EWT(d)/EWT(l) IJP(c) WW
ACC NR: AP6024476 SOURCE CODE: UR/0181/66/008/007/2117/2123

AUTHOR: Izyumov, Yu. A.; Medvedev, M. V.

ORG: Institute of Metal Physics AN SSSR (Institut fiziki metallov AN SSSR); Ural State University im. A. M. Gor'kiy, Sverdlovsk (Ural'skiy gosudarstvennyy universitet)

TITLE: Temperature behavior of impurity spins in a ferromagnetic matrix

SOURCE: Fizika tverdogo tela, v. 8, no. 7, 1966, 2117-2123

TOPIC TAGS: spin wave, spontaneous magnetization, saturation magnetization, ferromagnetic structure, crystal impurity, Green function, temperature dependence

ABSTRACT: This is a continuation of earlier work (ZhETF v. 49, 1887, 1965), where a spin-wave theory was developed for a Heisenberg ferromagnet containing a magnetic impurity atom. In the present paper it is shown, using two-temperature Green's functions, that under certain conditions, when the exchange coupling between the impurity and the matrix is much weaker than the exchange coupling of the matrix atoms, the spontaneous magnetization of the impurity atom in the ferromagnetic crystal has a specific temperature dependence. It can become very small at temperatures at which the magnetization of the matrix atoms is still close to saturation. Such a behavior of the impurity spin is due to the existence in the elementary-excitation spectrum of a narrow resonance level lying at the bottom of the band of the quasicontinuous exci-

Card 1/2

04799-67
ACC NR: AP6024476

tation spectrum. This level corresponds to resonant states of the spin excitations with maximum at the impurity atom, so that these states begin to fill up rapidly at temperatures at which the average thermal energy is of the order of the resonance-level energy, thus ensuring a sharp decrease of magnetization of the impurity lattice point. The distribution of the magnetization around the impurity lattice point is calculated. Orig. art. has: 33 formulas

SUB CODE: 20/ SUBM DATE: 16Dec65/ ORIG REF: 004/ OTH REF: 005

ard 2/2 afs

NR: AP7002733 SOURCE CODE: UR/0126/66/022/006/0801/0809

THOR: Izyumov, Yu. A.; Medvedev, M. V.

G: Institute of Metal Physics, AN SSSR (Institut fiziki metallov AN SSSR); Ural e University im. A. M. Gor'kiy (Ural'skiy gosuniversitet)

LE: Neutron scattering in a ferromagnetic crystal containing impurities with negative hange coupling

URCE: Fizika metallov i metallovedeniye, v. 22, no. 6, 1966, 801-809

PIC TAGS: ferromagnetic material, neutron scattering, spin wave, magnetic crystal, did impurity

STRACT: This work is a continuation of a previous investigation (Izyumov, Yu. A., Medve-, M. V. ZhETF, 1966, 51, 517) dealing with the spin-wave theory of a ferromagnetic stal containing an impurity atom with negative exchange coupling with the matrix, with the erence that it deals with the theory of the inelastic scattering of neutrons in a ferromagne- crystal containing a small concentration of impurity atoms with a spin and exchange inte- ls differing in value from those in the original crystal. (Owing to zero oscillations in the n-system, the fundamental state of such a crystal is characterized by nonuniform distribu-

1/2 UDC: 669.017:539.125.5

NR: AP7002732

of spin projections onto the direction of the spontaneous moment about the impurity atom. n the spin projection of the antiferromagnetic aligned spin does not equal in absolute fi- es its maximum value S' and is somewhat shorter, this contraction being compensated by overall spin contraction of the atoms of the matrix. An investigation of magnetic noncohe- elastic scattering of neutrons on such crystals in the presence of low impurity concen- ions, in the small-angle region, makes it possible in principle to determine the form- or of the nonuniform distribution of the magnetic moment in the neighborhood of the defect. experimental determination of the inelastic neutron scattering cross sections in such a stal would make it possible to investigate the structure of spin excitations in the crystal. e, however, this question is investigated theoretically alone.) The case of negative ex- nge coupling between the impurity and the matrix is considered, with the impurity spin in fundamental state being oriented in a direction antiparallel to the direction of the magnetic er of the matrix. Compared with the case of ferromagnetic impurity, neutron scattering uch a crystal displays a specific feature; the noncoherent part of the cross section has a rp peak even at transition energies lying within the quasicontinuous spectrum region, be- se states of a special kind, whose excitation enhances the spontaneous moment of the stal, participate in the scattering. Recording this peak makes it possible to determine the nange integral impurity-matrix. Orig. art. has: 38 formulas.

CODE: 20 / SUBM DATE: 13May66/ ORIG REF: 00?/ OTH REF: 001

2/2

ACC NR: AP6037071 SOURCE CODE: UR/0056/66/051/005/1423/1429

AUTHOR: Izyumov, Yu. A.; Medvedev, M. V.

ORG: Institute of Physics of Metals, Academy of Sciences, SSSR (Institut fiziki metallov Akademii nauk SSSR)

TITLE: Incoherent scattering neutrons in a ferromagnet and the problem of reconstructing the magnon spectrum

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 51, no. 5, 1966, 1423-1429

TOPIC TAGS: neutron scattering, inelastic scattering, ferromagnetic materials, magnon, Green function, scattering cross section

ABSTRACT: A method is developed for determining the state density in the magnon spectrum of a ferromagnetic crystal from data pertaining to inelastic scattering of neutrons. The method is based essentially on reducing the problem to the calculation of the Green's function of the crystal containing one non-magnetic impurity. It is shown thereby that measurement of the scattered neutron energy distribution should not be carried out for a perfect ferromagnetic crystal, but for a crystal containing a small concentration of nonmagnetic substitution atoms. In this case the cross section defined by the incoherent single-magnon scattering impurities can be expressed in terms of the density state in the magnon spectrum of a perfect crystal. Although the concrete calculations are presented for a simple cubic lattice, they can be readi-

Card 1/2

ACC NR: AP6037071

ly extended for all types of cubic lattices with a single magnetic atom in the primitive cell. Orig. art. has: 27 formulas.

SUB CODE: 20/ SUBM DATE: 22Apr66/ · ORIG REF: 002/ OTH REF: 005

Card 2/2

MEDVEDEV, M.Ye., inzh.; SHEVCHUK, I.A., inzh.; CHEREZOVA, V.M., inzh.

Painting veneered surfaces permeated by resin glue. Der. prom. 8 no.10:3 O '59. (MIRA 12:12)

1.Moskovskiy mebel'no-sborochnyy kombinat No.1.
(Furniture painting)