S/185/63/008/002/001/012
D234/D308

AUTHOR: Krivoglaz, M. A.

TITLE: Theory of the scattering of x rays and neutrons by ordered alloys

PERIODICAL: Ukrayins'kyy fizychnyy zhurnal, v. 8, no. 2, 1963, 162-170

TEXT: A review of literature on the subject, largely of papers by the author himself (10 in all). There are 25 references: 17 Soviet-bloc and 8 non-Soviet-bloc.

ASSOCIATION: Institut metallofiziki AN USSR (Institute of Metal Physics of the AS UkrSSR), Kiev

Card 1/1

KRIVOGLAZ, M.A.; TIKHONOVA, Ye.A.

Theory of the Debye thermal factor in solid solutions. Ukr. fiz. zhur. 8 no.2:248-251 F '63. (MIRA 16:2)

1. Institut metallofiziki AN UkrSSR, Kiyev.
(Alloys—Thermal properties)

S/126/63/015/001/002/029
E132/E135

AUTHORS: Krivoglaz, M.A., and Ryaboshapka, K.P.

TITLE: The theory of the scattering of X-rays by crystals containing dislocations. The case of random distribution through the crystal of screw and edge dislocations

PERIODICAL: Fizika metallov i metallovedeniye, v.15, no.1, 1963, 18-31

TEXT: An analysis is made of the scattering of X-rays by crystals which contain straight screw and edge dislocations. It is assumed that there is no correlation between the dislocations and that they run in directions which are characteristic for the given crystal structure. Displacements at a given point may be due not only to the nearest dislocations, but to all other dislocations. The case in which the mean distance between dislocations is much less than the dimensions of the crystal is studied. It is found that dislocations lead to a Gaussian widening of the X-ray lines. The line width in powder photographs is proportional to tan θ where 2θ is the angle through which the

Card 1/3

rays are scattered and depends not only on the length but also on the direction of the corresponding diffraction vector. The influence of correlations between dislocations is discussed. Other authors have described in detail the scattering from a crystal with a single dislocation in a cylindrical block. These results are not directly applicable to a crystal with many dislocations, as all dislocations affect the displacement at a given point in the crystal. The number of dislocations is assumed to be much less than the number of lattice points. A cubic crystal with one atom per cell is first examined. Eshelby's results are used to describe the displacement field around a screw dislocation in an isotropic continuum. An expression for parallel dislocations is obtained and this is extended to the case where there are several Buerger's vectors in a series of different special directions. If all the dislocations are parallel the spots in reciprocal space become discs with a Gaussian density distribution; a b.c.c. crystal in which the Buerger vectors of the screw dislocations are parallel to the <111> directions is particularly examined. In this, and in the f.c.c. case, the distribution round the reciprocal lattice points becomes non-isotropic, in fact ellipsoidal.

The theory of the scattering of ... S/126/63/015/001/002/029
E132/E135

Edge dislocations are similarly considered. In f.c.c. lattices the dislocation lines are parallel to <112> and the Buerger vectors to <110> . The width of the powder lines is approximately proportional to the square root of the dislocation density. The results obtained differ from those of A.J.C. Wilson. He found $2\Delta\theta$ to be proportional to (sec θ + k tan θ) instead of tan θ as here. This is due to the artificial division of the crystal into blocks by Wilson. A non-random distribution of dislocations will, in general, lead to further line broadening. If the dislocations assemble in walls then the intensity distribution will be sharply affected. In this case sub-blocks may be distinguishable so that the line breadth will be due to the block size. Complicated intermediate cases may occur.

ASSOCIATION: Institut metallofiziki AN USSR
(Institute of Physics of Metals, AS Ukr.SSR)

SUBMITTED: July 2, 1962

Card 3/3

KRIVOGLAZ, M.A.; RYABOSHAPKA, K.P.

Theory of X-ray scattering by crystals having dislocations. Case of dislocation loops distributed at random. Fiz. met. i metallo-ved. 16 no.5:641-654 N '63. (MIRA 17:2)

1. Institut metallofiziki AN UkrSSR.

ACCESSION NR: AP4011757 S/0181/64/006/001/0200/0209

AUTHORS: Ivanov, M. A.; Krivoglaz, M. A.

TITLE: Damping of phonons in solid solutions

SOURCE: Fizika tverdogo tela, v. 6, no. 1, 1964, 200-209

TOPIC TAGS: phonon damping, phonon, solid solution, frequency, frequency shift, frequency spectrum, sound, sound absorption, acoustical method, neutron, neutron scattering, electron phonon interaction, anharmonicity, crystal momentum

ABSTRACT: Damping of phonons and shifts in frequency lead to broadening and shifting of peaks in the energy distribution of inelastically scattered neutrons. The position of the peak maximums permits one to reconstruct the frequency spectra of vibration, and a study of the shifts observed for maximums and determination of the width and shape of the peaks make it possible to ascertain the kinetic characteristics of the phonons. The damping and frequency shifts of phonons clearly lead to the absorption of sound and to a change in sound velocity. For relatively low frequencies this may be investigated by acoustical methods. In the transition from ideal crystals to solid solutions, not only does a new mechanism of damping arise in association with elastic scattering of phonons at static

Card 1/2

ACCESSION NR: AP4011757

inhomogeneities, but a new peculiarity of damping appears in association with anharmonicity. In ideal crystals this damping is due to absorption, emission, and scattering of phonons by one another. In solid solutions or in crystals containing defects, the pulse may be transmitted to a defect; that is, the law of conservation of crystal momentum during inelastic scattering of phonons at defects will not be fulfilled. As a consequence, there may be a qualitative change in dependence of phonon damping on the wave vector. Another mechanism of damping in ideal crystals is associated with electron-phonon interaction, which may be especially appreciable in semiconductors. At the same time, for ideal crystals, when phonons are emitted or absorbed, crystal momentum is conserved, but in solid solutions, the law of conservation of crystal momentum is disturbed. Since fulfilling this law leads to an exponential decrease in damping in semiconductors at large and small values of the phonon wave vector, disruption may markedly increase the damping. Orig. art. has: 29 formulas.

ASSOCIATION: Institut metallofiziki AN UkrSSR, Kiev (Institute of Metal Physics AN UkrSSR)

SUBMITTED: 22Jul63 DATE ACQ: 14Feb64 ENCL: 00

SUB CODE: PH NO REF SOV: 011 OTHER: 017

Card 2/2

KRIVOGLAZ, M.A.

Anisotropy of diffusion in cubic crystals. Fiz. met. i metalloved. 17 no.2:161-167 F '64. (MIRA 17:2)

1. Institut metallofiziki AN UkrSSR.

ACCESSION NR: AP4019230 S/0056/64/046/002/0637/0648

AUTHOR: Krivoglaz, M. A.

TITLE: Effect of anharmonicity on the Mossbauer line intensity

SOURCE: Zhurnal eksper. i teor. fiz., v. 46, no. 2, 1964, 637-648

TOPIC TAGS: Mossbauer effect, Mossbauer line intensity, anharmonicity effect, local mode, correlation function, correlation function time dependence, Debye Waller factor, temperature dependence, wave vector dependence, anisotropy in cubic crystal, one phonon spectrum, harmonic approximation

ABSTRACT: The anharmonicity effect is investigated in the presence of modes and the peculiarities of the spectrum of the nucleus-phonon emission, caused by the anharmonicity, are discussed. The analysis is based on the formulas derived for the normalized probability of photon emission by K. S. Singwi and A. Sjolander (Phys. Rev. v. 120, 1093, 1960) and G. Baym (Phys. Rev. v. 121, 741, 1961). It is shown that even a weak anharmonicity produces a qualitative change in the time dependence of the correlation function. The corresponding

ACCESSION NR: AP4019230

intensity difference is distributed around the Mossbauer line over a band of the same width as the level width of the local mode. The effect of anharmonicity on the Debye-Waller factor is also discussed. Anharmonicity changes the dependence of the Mossbauer line intensity on the temperature and on the wave vector, and causes the effect to become anisotropic in cubic crystals. Similar effects can occur in solid solutions, in the harmonic approximation. The effect of anharmonicity on the one-phonon spectrum is also considered. "The author is grateful to Yu. Kagan for valuable discussion." Orig. art. has: 36 formulas.

ASSOCIATION: Institut metallofiziki AN UkrSSR (Institute of Physics of Metals, AN UkrSSSR).

SUBMITTED: 05Jul63 DATE ACQ: 27Mar64 ENCL: 00

SUB CODE: PH NO REF SOV: 006 OTHER: 010

Card 2/2

KRIVOGLAZ, M.A., doktor fiz.-matem. nauk; SOKOLOVICH, V.L., prof.; TYABLIKOV, S.V., red.

[Solid state physics; theory of a solid] Fizika tverdogo tela; teoriia tverdogo tela. Moskva, 1965. 235 p. (MIRA 18:9)

1. Akademiya nauk SSSR. Institut nauchnoy informatsii.

IVANOV, M.A.; KRIVOGLAZ, M.A.; MASYUKEVICH, A.I.

Theory of the inelastic magnetic scattering of neutrons on localized spin excitation in ferromagnetic materials. Fiz. met. i metalloved. 20 no.2:161-172 Ag '65. (MIRA 18:9)

1. Institut metallofiziki AN UkrSSR.

KRIVOGLAZ, M.A.; SADOVSKIY, V.D.

Effect of strong magnetic fields on phase transformations.
Fiz. met. i metalloved. 18 no.4:502-505 O '64. (MIRA 18:4)

1. Institut metallofiziki AN UkrSSR i Institut fiziki metallov AN SSSR.

L 3345-66 EWT(1)

ACCESSION NR: AP5017297 UR/0181/65/007/007/2047/2057

AUTHORS: Ivanov, M. A.; Kvashnina, L. B.; Krivoglaz, M. A.

TITLE: Spectral distribution of local oscillations

SOURCE: Fizika tverdogo tela, v. 7, no. 7, 1965, 2047-2057

TOPIC TAGS: Green function, correlation function, spectral distribution, ir absorption, neutron scattering

ABSTRACT: The temperature Green's function method is used to calculate the local-oscillation correlation function which determines the spectral distribution of the coefficient of infrared absorption of light and inelastic scattering of neutrons by these oscillations. It is shown that the broadening of the spectral distribution can be due both to the finite lifetime of the excitations and to the fluctuation modulation of the local-oscillation frequencies. The modulation broadening due to the interaction of the local oscillations with one another and with the oscillations of the continuous spectrum, and also with the fourth-order terms with respect to the coordinate of

Card 1/2

L 3345-66

ACCESSION NR: AP5017297

3

the given oscillations, are considered. It is shown that the modulation broadening can become comparable with the broadening due to the finite lifetime. The modulation effects can lead also to the appearance of a fine structure in the spectral distribution. Orig. art. has: 32 formulas

ASSOCIATION: Institut metallofiziki AN UkrSSR, Kiev (Institute of Metal Physics AN UkrSSR)

SUBMITTED: 18Jan65 ENCL: 00 SUB CODE: NP, OP

NR REF SOV: 008 OTHER: 008

Card 2/2 DP

AM4017086 BOOK EXPLOITATION S/

Gertsriken, S. D.; Dekhtyar, I. Ya.; Krivoglaz, M. A.; Larikov, L. N.; Lyusak, L. I.; Nesterenko, Ye. G.; Novikov, N. N.; Sosnina, Ye. I.; Slyusar, B. F.; Tikhonov, L. V.; Trefilov, V. I.; Chuistov, K. V.

Physical bases of the strength and ductility of metals (Fizicheskiye osnovy* prochnosti i plastichnosti metallov) Moscow, Metallurgizdat, 1963. 321 p. illus., biblio. Errata slip inserted. 4250 copies printed. Editor of the publishing house: Ye. N. Berlin; Technical editor: L. V. Dobuzhinskaya; Bindery artist: Yu. M. Vashchenko

TOPIC TAGS: strength of metals, ductility, crystal lattice, dislocations, metal failure, strain hardening, solid solution, microstress, lattice defect, plastic strain, relaxation, polygonization, recrystallization, grain growth

PURPOSE AND COVERAGE: This collection of articles is intended for scientific personnel and for engineers and metals physicists; it also may be useful to students at metallurgical and machine-building vuzes. The results of study of crystal-lattice imperfections and the dislocation theory of metal failure are

Card 1/3

AM4017086

presented. Contemporary concepts of the nature and mechanism of different weakening processes in metals are expounded, as well as present-day thinking concerning the effect of impurities on the kinetics of the weakening processes. The articles in this collection are principally the original results of research performed in recent years at the Institut Metallofiziki AN USSR.

TABLE OF CONTENTS:

Card 2/3

AM4017036

SUB CODE: ML, AP SUBMITTED: 23Aug63 NR REF SOV: 253

OTHER: 463 DATE ACQ: 17Jan64

Card 3/3

[illegible]/EWP(t)/EWP(b) Pab IJP(c)/AFWL/

[illegible] JD S/0181/64/006/006/1707/1717

ACCESSION NR: AP4039698

AUTHOR: Krivoglaz, M. A.

TITLE: The theory of broadening of the phonon-free line in the Mossbauer or optical spectrum

SOURCE: Fizika tverdogo tela, v. 6, no. 6, 1964, 1707-1717

TOPIC TAGS: phonon free line, Mossbauer spectrum, optical spectrum, thermal vibration, line broadening

[illegible] when photons are absorbed or emitted by electron impurity centers or by Mössbauer nuclei, it is necessary to consider phototransitions in a system consisting of two subsystems, one fast (electrons and nucleons), the other slow (vibrations). Phototransitions in all such systems may be considered essentially by a single method based on adiabatic approximation. The authors have examined [illegible] of thermal vibrations on broadening of the narrow phonon-free lines in [illegible] Mössbauer spectrum. Computations were made by ordered operators. It has been shown that consideration [illegible] by several

Card 1/2

L 20374-65
ACCESSION NR: AP4039658

2

orders, the value of broadening determined by interaction with local vibrations and by use of harmonic approximation. In this case, and also in the case of interactions with crystal vibrations, vibrations leading to change in frequency during [illegible] determine the form of the broadened phonon-free line and the [illegible] dependence of its width. It has been shown that, in considering [illegible], line broadening may be due to linear members relative to phonon operators, and to differences in the Hamiltonians of vibrations for initial and terminal states. Orig. art. has: 23 formulas.

ASSOCIATION: Institut metallofiziki AN UkrSSR, Kiev (Institute of Metal Physics, AN UkrSSR)

16

SUBMITTED: 26Dec63 ENCL: 00

SUB CODE: SS, OP NO REF SOV: 010 OTHER: 013

Card 2/2

s/0181/64/006/011/3272/3278

AUTHORS: Krivoglaz, M. A.; Shalderyan, F. I.

TITLE: Phonon correlation function and [illegible] scattering [illegible] containing shallow [illegible] impurity centers

SOURCE: Fizika tverdogo tela, v. 6, no. 11, 1964, 3272-3278

TOPIC TAGS: conduction electron, electron phonon interaction, neutron scattering, impurity scattering

ABSTRACT: This is an extension of earlier work by one of the workers (M. A. Krivoglaz, FTT v. 3, 2761, 1961), except that in addition to interactions of conduction electrons, the authors consider electron-phonon interactions accompanied by quantum transitions between discrete energy levels, such as occur in crystals containing shallow impurity centers. The phonon correlation function, frequency

Card 1/2

L 10427-65
ACCESSION NR: AP4048400

attenuation are determined. The calculation is carried

the resonant character of

interaction between phonons and

bution of the scattered neutrons

this interaction

attenuation and in the width and shape of the

distribution

ASSOCIATION: None

SUBMITTED: 21May64 ENCL: 00

SUB CODE: SS NR REF SOV: 007 OTHER: 002

Card 2/2

L 21132-65 EEC(b)-2/EWT(1)/T IJP(c)/SSD/AFWL/ESD(t)

ACCESSION NR: AP5001553 S/0185/64/009/012/1331/1344

AUTHOR: Kryvoglaz, M. O. (Krivoglaz, M. A.); Shaldervar, P. I. (Shalderva, P. I.)

Single-phonon Green's function, phonon correlation function, and inelastic scattering of neutrons by crystals containing shallow electronic impurity

Ukrayins'kyy fizychnyy zhurnal, v. 9, no. 12, 1964, 1331-1344

TOPIC TAGS: Green function, phonon correlation function, inelastic scattering, neutron scattering, crystal impurity center, electron level

The authors show how the interaction between phonons and electrons [illegible] impurity centers [illegible] frequency [illegible] by the method [illegible] customary, [illegible] Formulas are derived [illegible]

Card 1/2

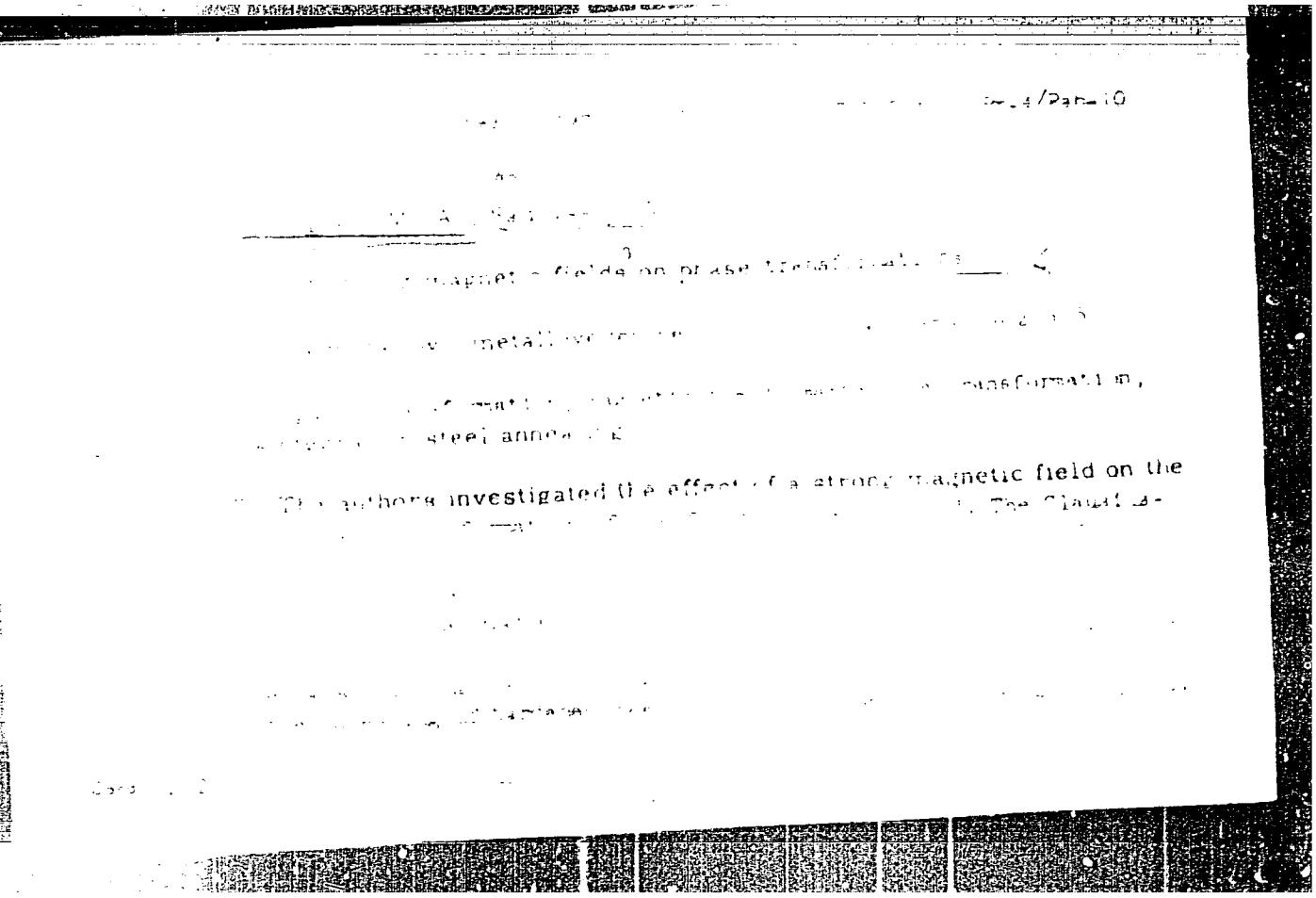
L 21132-65
ACCESSION NR: AP5001553

...on interaction only, as well as for the general case. These formulas ... determine the single-phonon ... and the damping ... oscillations ... emitted phonon is close to the ... distribution of the scattered neutrons exhibits resonant peaks, with a ... the phonon ... damping. If ... The damping due to the ... is shown to be independent of the ... being ... by the density of the localized electrons and the distribution ... frequencies near the ... This damping ... become appreciable at relatively low density concentrations ~ ... Orig. art. has: 51 formulas.

... Instytut metalofizyky AN URSR, Kiev (Institute of Metal Physics, ...

... ENCL: ...

... SUB CODE: SS, NP   NR REF SOV: 008   OTHER: 003



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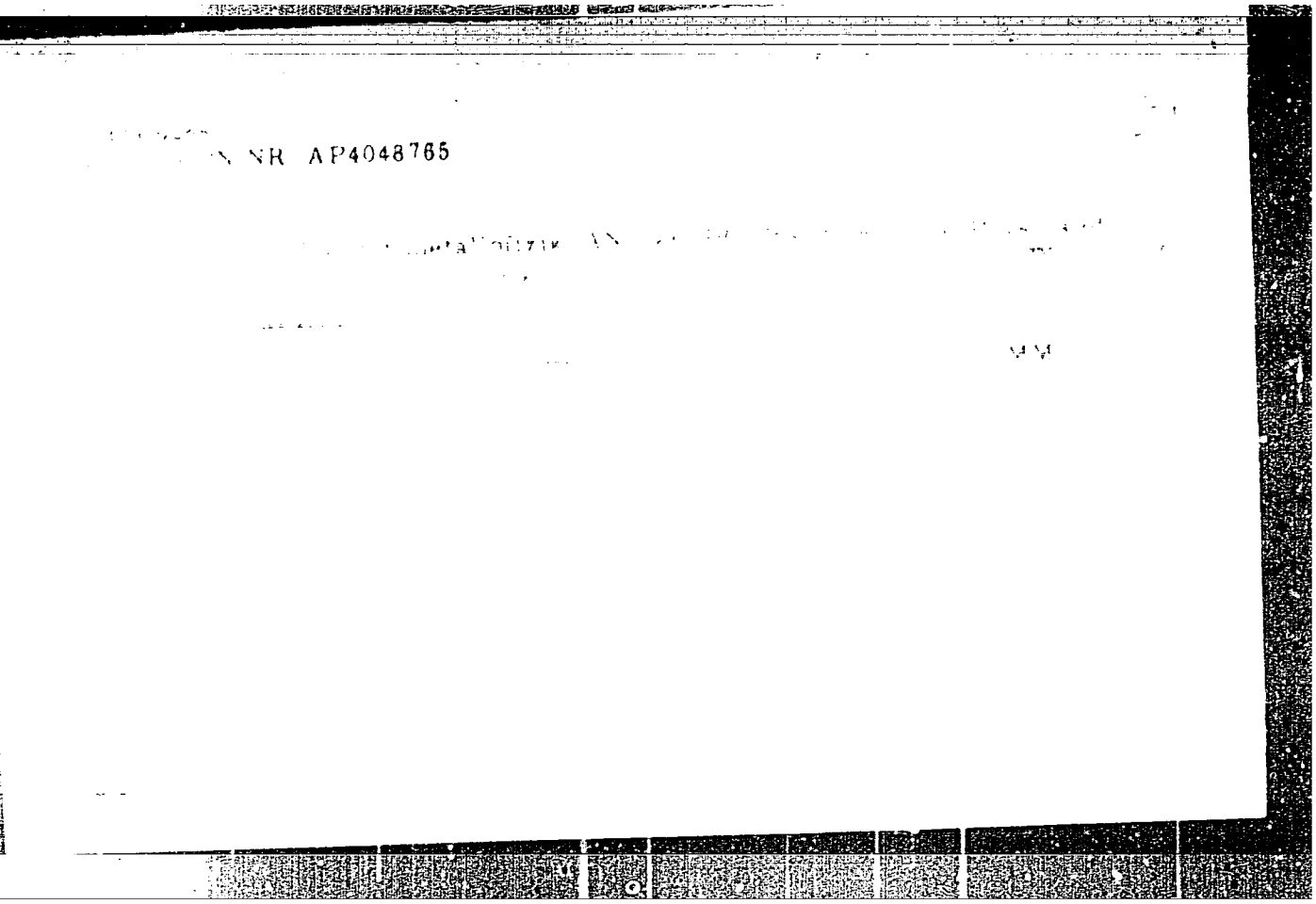
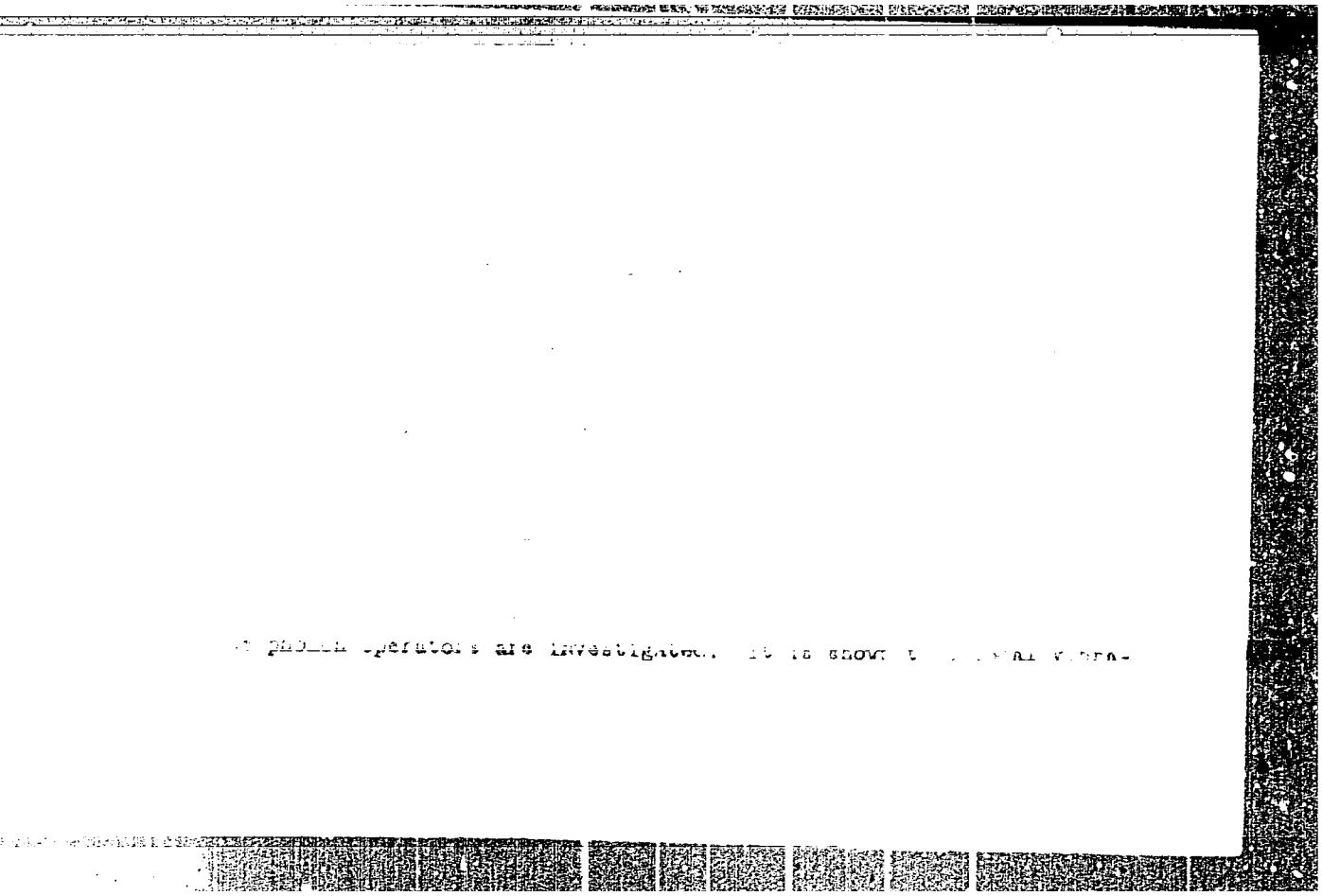
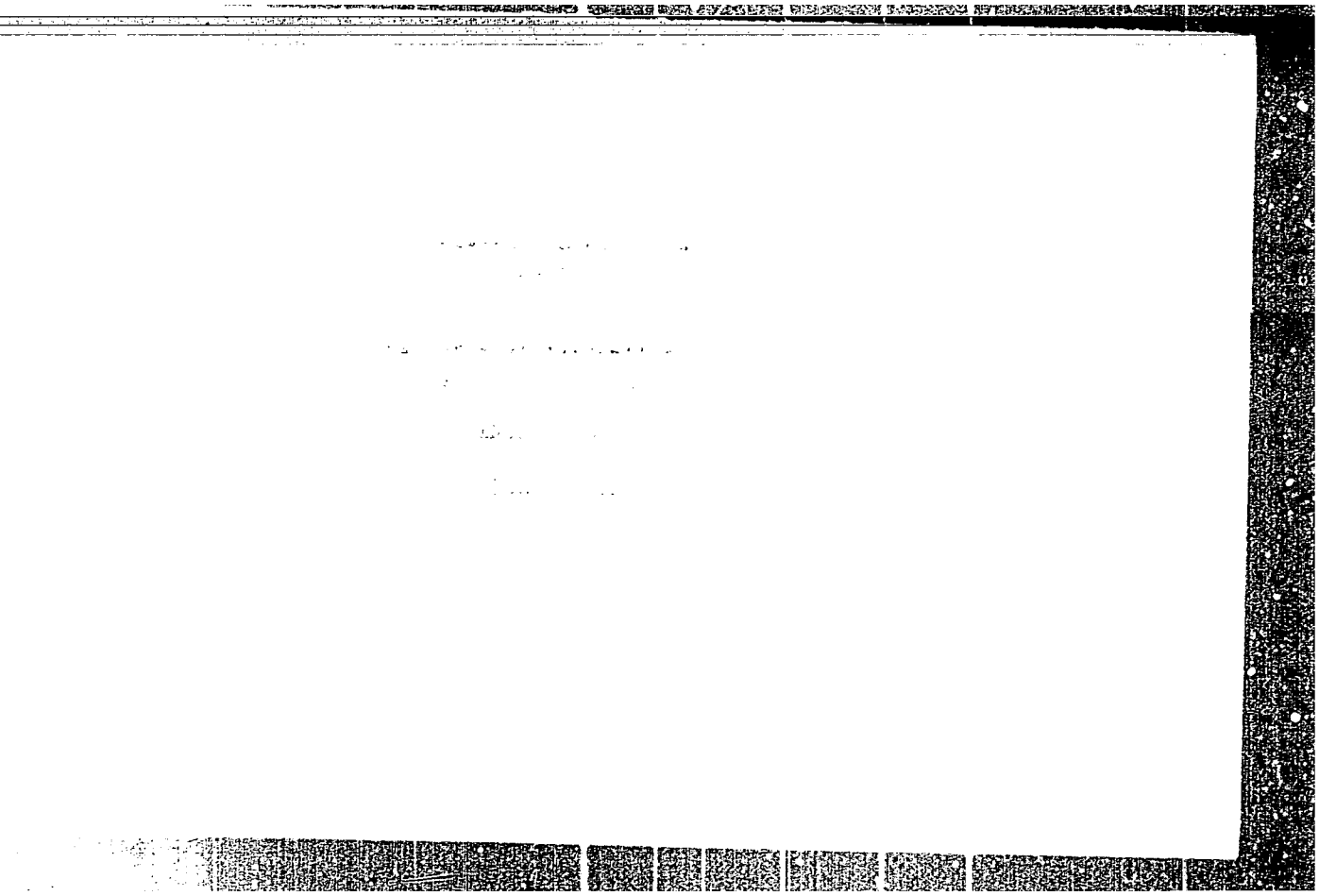
The authors investigated the effect of a strong magnetic field on the



IVANOV, M.A.; KRIVOGLAZ, M.A.

Damping of phonons in solid solutions. Shor.nauch.trud. Inst. metallofiz. AN UkSSR no.19:28-45 '64. (MIRA 18:5)





APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000826530001-6"

ACC NR: AP7005749 SOURCE CODE: UR/0126/67/023/001/0003/0014

AUTHOR: Kvashnina, L. B.; Krivoglaz, M. A.

ORG: Institute of Metal Physics, AN UkrSSR (Institut metallofiziki AN UkrSSR)

TITLE: Mossbauer spectra in non-ideal crystals

SOURCE: Fizika metallov i metallovedeniye, v. 23, no. 1, 1967, 3-14

TOPIC TAGS: Mossbauer spectrum, crystal defect, crystal deformation, crystal lattice energy, Zeeman effect

ABSTRACT: The effect of randomly distributed defects in non-ideal crystals on the spectral distribution of the Mossbauer line is investigated. The pattern of this distribution is largely determined by the decrease in perturbation energy with increasing distance to the defect and it differs for different types of defects. Owing to the displacement of the energy terms of Mossbauer nuclei at various distances from the defects, the resulting Mossbauer spectrum gets blurred. Blurred distributions of this kind are considered for several types of defects, chiefly those creating relatively slowly decreasing distortion fields (screw and edge dislocations, dislocation loops, new-phase particles). Estimates of the extent of broadening of

Card 1/2

UDC: 539.1:548.4.01

ACC NR: AP7005749

the Mossbauer line are presented; it is shown that in strongly deformed crystals this broadening is comparable with the natural width of Fe^{57}: $\gamma = 4.5 \cdot 10^{-9}$ ev. The defects present in the neighborhood of a given nucleus influence the electron and spin densities of the nucleus, the force constants and the gradient of the electrical field, which leads to changes in the isomeric and relativistic displacements of energy levels as well as in Zeeman and quadrupole splitting. Orig. art. has: 30 formulas.

SUB CODE: 20,~~12~~/ SUBM DATE: 15Jun66/ ORIG REF: 006/ OTH REF: 005

Card 2/2

ACC NR: AP6033550 SOURCE CODE: UR/0181/66/008/010/2908/2918

AUTHOR: Krivoglaz, M. A.; Repetskiy, S. P.

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

TITLE: Theory of diffusional widening of the Mossbauer line in nonideal crystals

SOURCE: Fizika tverdogo tela, v. 8, no. 10, 1966, 2908-2918

TOPIC TAGS: crystal, Mossbauer spectrum, nonideal crystal, Mossbauer line, atom, interstitial atom

ABSTRACT: AN analysis is made of the effect of the diffusional motion of interstitial atoms on the Mossbauer spectrum of nuclei (either the matrix or impurity atoms) located at lattice points and not participating directly in diffusion. It is shown that the static shifts generated by interstitial atoms at high temperatures decrease the intensity of the Mossbauer line and result in a secondary wider distribution. The study showed that these phenomena occur even at rather low concentrations and, in principle, may be utilized to study statistical distortions and the diffusional motion of interstitial atoms, particularly those close to impurity atoms.

ACC NR: AP6033550

The effect of diffusion on the concentration widening of the Mossbauer spectrum and the narrowing of lines at high temperatures is also investigated. [Authors' abstract]

SUB CODE: 20/SUBM DATE: 12Feb66/ORIG REF: 008/OTH REF: 006/

Card 2/2

ACC NR: [illegible] (a)/ (a)/ (t)/ [illegible] (c) [illegible]
SOURCE CODE: [illegible]/66/[illegible]/010/2867/2877

AUTHOR: Ivanov, M. A.; Krivo[illegible] [illegible]

ORG: Institute of Physics of Metals, AN UkrSSR, Kiev (Institut metallo[illegible] AN UkrSSR Kiyev)

TITLE: Effect of electron-phonon interaction on the spectral distribution of local fluctuations

SOURCE: Fizika tverdogo tela, v. 8, no. 10, 1966, 2867-2877

TOPIC TAGS: phonon, electron, electron phonon interaction, electron spectrum, phonon spectrum, metal, transition metal, semiconductor, high frequency oscillations, vibration damping

ABSTRACT: A study is made of the damping of local oscillations in metals and semiconductors as a function of their interaction with conduction electrons. Such damping in metals does not depend on temperature; it may be quite considerable, particularly in transition metals, and may be predominant in the case of high-frequency oscillations. The effect of the interaction between localized electrons and impurity centers in semiconductors on the spectral distribution of local

Card 1/2

vibrations is investigated and an analysis is made of the ensuing splitting and widening of the spectral distribution. Orig. art. has: 23 formulas and 1 figure. [Authors' abstract]

SUB CODE: 20/ SUBM DATE: 05Feb66/ ORIG REF: 007/ OTH REF: 009/

L 21156-66 EWT(1)/EWT(m)/T/EWP(t) IJP(c) JD
ACC NR: AP6003786 SOURCE CODE: UR/0181/66/008/001/0192/0200

AUTHORS: Ivanov, M. A.; Krivoglaz, M. A.; Mirlin, D. N.; Reshina, I. I.

ORG: Institute of Semiconductors AN SSSR, Leningrad (Institut poluprovodnikov AN SSSR); Institute of Physics of Metals AN UkrSSR, Kiev (Institut metallofiziki AN UkrSSR)

TITLE: On the nature of the broadening of the infrared absorption lines on high-frequency local oscillations

SOURCE: Fizika tverdogo tela, v. 8, no. 1, 1966, 192-200

TOPIC TAGS: ir absorption, ir spectrum, line broadening, sodium chloride, potassium chloride, hydrogen ion, deuterium, excited state

ABSTRACT: This is a continuation of earlier work (FTT v. 6, 3078, 1964 and earlier), dealing with the temperature dependence of the line width of infrared absorption by local oscillations of H^- and D^- ions in KCl and KBr crystals in temperature interval from 90 to 400K. To reconcile some discrepancies between theory and the earlier experi-

Card 1/2

ments in the low-temperature region, the measurements of the line widths were extended to 55K. The samples for the measurements were prepared by a technique similar to that used in the earlier work. The measurement procedure was similar to that described elsewhere (FTT v. 8, 158, 1966). Whereas in the earlier investigation it was assumed that the absorption line width was governed by the lifetime of the excited state of the local oscillator, it is deduced from the new results that in the case of hydrogen the broadening is initiated by modulation. In the case of deuterium, the broadening is connected predominately with modulation effects at high temperatures and with decay processes at low temperatures. A simple relation is established between the modulation widths for the different isotopes; this relation is in satisfactory agreement with the experimental data. Orig. art. has: 3 figures and 8 formulas.

SUB CODE: 20/ SUBM DATE: 22Jul65/ ORIG REF: 008/ OTH REF: 006

Card 2/2

KRIVOGLAZ, V.A., doktor meditsinskikh nauk

Medical evaluation of the working capacity and work arrangement for collective farmers. Sov.med. 20 no.2:67-72 F '56. (MLRA 9:7)

1. Iz Kiyevskogo instituta gigiyeny truda i professional'nykh zabolevaniy (dir.-dotsent L.I.Medved')
(WORK
capacity & arrangement of collective farm worker in Russia)

Krivogus, G.V.

SMETANKINA, P.P., kand.med.nauk; KRIVOGUS, G.V., ordinator

Lactotherapy as a nonspecific method for treating syphilis [with summary in English]. Vest.derm. i ven. 32 no.1:49-51 Ja-F '58. (MIRA 11:4)

1. Iz kliniki kozhnykh i venericheskikh bolezney (zav.-dotsent V.I. kazakov) Stavropol'skogo meditsinskogo instituta.
(SYPHILIS, ther.
lactother. (Rus)
(MILK, ther. use
syphilis (Rus)

KRIVOGUZ, V.

Agricultural Machinery

Experience with the work of the Poltava Machine Tractor Station on mechanization of animal husbandry farms. MTS 13, No. 2, 1953.

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

KRIVOGUZOV, A.

Calculation of the output power of radio transmitters. Radio no.9:17-18,27 S '63. (MIRA 16:12)

FRIDKHUZOV, A., Inzh.

Calculation of the operation of a SSB transmitter. Radio no.7:22-24
(MIRA 18:1)

ANISIMOV, O.K.; KRIVOGUZOV, A.S.; MIKHAYLOV, P.A.

Pressure generator-transducers for pipelines. Izv.vys.ucheb.zav.; neft' i gaz 4 no.7:103-108 '61. (MIRA 14:10)

1. Novosibirskiy elektrotekhnicheskiy institut svyazi.
(Pipelines) (Transducers)

L 10454-66

ACC NR: AR5027565 SOURCE CODE: UR/0274/65/000/008/B036/B036

SOURCE: Ref. zh. Radiotekhnika i elektrosvyaz', Abs. 8B261

AUTHOR: Krivoguzov, A. S. 44,55 21

TITLE: Possible principle for designing broadband short-wave radio transmitters 4, 44, 55

CITED SOURCE: Tr. uchebn. in-tov svyazi. M-vo svyazi SSSR, vyp. 21, 1964, 53-64

TOPIC TAGS: short wave transmitter, radio transmitter, broadband transmitter

TRANSLATION: A trend to use nontunable circuits with a 3--30-Mc band for simplifying the automation of short-wave transmitting equipment is noted. A new feature in this equipment is represented by a distributed TW amplifier. Power relations in such an amplifier and an analysis of its operation are presented. Investigation results are submitted in graphic form. Calculations and experiments indicate the possibility of obtaining an anode-circuit amplifier efficiency of 20--25%, or in a push-pull circuit, 35--40%. Such transmitters are simple in construction and are highly reliable. Bib 13, figs 5.

SUB CODE: 17, 09

Card 1/1 pw

UDC: 621.396.61.029.55

ACC NR: AR6035216 SOURCE CODE: UR/0274/66/000/008/A078/A078

AUTHOR: Krivoguzov, A. S.; Mikhaylov, P. A.; Masharskiy, Ye. I.

TITLE: Frequency meter

SOURCE: Ref. zh. Radiotekhnika i elektrosvyaz', Abs. 8A577

REF SOURCE: T. Novosib. elektrotekhn. in-t svyazi, vyp. 1, 1965, 90-100

TOPIC TAGS: frequency meter, frequency band, frequency measurement, frequency spectrum

ABSTRACT: A device has been developed for frequency measurement with an accuracy of $\pm 1 \cdot 10^{-6}$ in the 3—10 Mc frequency band. It is based on producing spectra of frequencies multiple of the frequency of a basic quartz-crystal oscillator of 100 kc. The measured frequency is read using a decade scaler. A block diagram of the system, the basic circuits of the essential junctions and the results of experimental tests are presented. A number of advantages of this device as compared to the PICh-3 precision frequency meter are mentioned. [Translation of abstract] [NT]

SUB CODE: 17/

Card 1/1 UDC: 621.317.76:621.317.36

KRIVOHLAVY, J.

"Safety signs and symbols." (Supplement) P. 1.

NOVA TECHNIKA. (Rada vedeckych technickych spolecnosti pri Ceskoslovenske akademii ved). Praha, Czechoslovakia, No. 6, 1959.

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

KRIVOHLAVY, J.

"Colors in work places."

NOVA TECHNIKA, Praha, Czechoslovakia, Vol. 7, July 1959.

Monthly List of East European Accessions (EEAI), LC, Vol. 8, No. 9, September 1959.
Unclassified.

KRIVOHLAVY, J., dr.

The smallest visible details. Nova technika no.2:85 '60.

1. Vyzkumny ustav bezpecnosti prace, Revolucni odborove hnuti, Praha.

(Visibility) (Industrial safety)

1(1,10)

CZECH/3-60-5-29/40

AUTHOR: Křívohlavý, Jaro, Doctor

TITLE: Instrument Panel Arrangement in a Helicopter

PERIODICAL: Křídla Vlasti, 1960, No 5, p 25

ABSTRACT: The author briefly describes the arrangement of indicator dials on the helicopter instrument panel, including the conventional arrangement, the integrated system and the so-called "rapid indicator system". The efficiency of all these systems was examined by A.W. Bailey on the grounds of tests performed in 6 flight simulators, each pair equipped with one of the above systems. During a 25 hours test, 6 pilots were exposed to impulses simulating strong gusts. The accuracy of reaction of each pilot was measured. Best results were obtained by the so-called rapid indicator, as shown in the inclosed table. There is 1 photo and 1 table.

Card 1/1

KRIVOHLAVY, Jaro

"Choice of Displays for Complicated Machines," Ceskoslovenska Hygiena, Vol. V, No. 6, Prague, Jul 60, p. 374.

Affiliation: Research Institute of Occupational Safety (ROH), Prague.

KRIVOHLAVY, Jaro, dr.

Efficiency of safety measures in highway traffic. Doprava no.11:387-388 '60.

KRIVOHLAVY, Jaro, dr.

Considering workers' safety in constructing cranes. Nova technika no.11:491-493 N '60.

1. Vyzkumny ustav bezpecnosti prace, Revolucni Odborove Hnuti.

KRIVOHLAVY, J.; HOSKOVEC, J.

Dimensional distribution of the threshold visual angles. Cesk. ofth. 16 no.3/4:202-205 My '60
(VISION TESTS)

KRIVOHLAVY, Jaro

Heuristic value of factor analysis. Activ. nerv. sup. 3 no.3:318-325 '61.

1. Vyzkumny ustav bezpecnosti prace ROH, Praha.

(CENTRAL NERVOUS SYSTEM physiol) (STATISTICS)

KRIVOHLAVY, Jaro; VANEK, Jaroslav

Hand reach through openings of different forms and sizes. Pracovni lek.13 no.1:11-15 F '61.

1. Vyskumny ustav bezpecnosti prace ROH v Praze.
(HUMAN ENGINEERING)

KRIVOHLAVY, J.

Models of the input-sensory function. Activ. nerv. sup. 4 no.1:59-67 '62.

1. Vyzkumny ustav bezpecnosti prace Revolucne Odborove Hnutie, Praha.

(PERCEPTION) (REACTION TIME)

KRZHIVOGLAVY, Yaro [Krivohlavy, Jaro]

Psychology of engineering and industrial safety. Vop. psikhol. 8 no.4:89-98 Jl-Ag '62. (MIRA 16:1)

1. Nauchno-issledovatel'skiy institut bezopasnosti truda, Praga.
(Psychology, Physiological) (Industrial safety)

KRIVOHLAVY, Jaro

"Harmful substances in machinery industry and their removal" by Otakar Prada. Reviewed by Jaro Krivohlavy. Stroj vyr 10 no.4:214 Ap '62.

KRZHIVOKHLAVI, Iaro [Krivohlavy, Jaro], d-r.

Colors and work. Tekhnika Bulg 11 no.2:75-76 '62.

KRIVOHLAVY, Jaro, dr.

Algorithm of coal handling and industrial safety. Energetika Cz 12 no.6:313-315 Je '62.

1. Vyskumny ustav bezpecnosti prace, Praha.

KRIVOHLAVY, Jaro, dr.

Central control of a battery of boilers. Energetika Cz 12 no.11: 589-592 N '62.

1. Vyzkumny ustav bezpecnosti prace, Revolucni odborove hnuti, Praha.

KRIVOHLAVY, J.

The accuracy of reading pointer instruments. Pracovni lek. 14 no.5: 221-228 Je '62.

1. Vyzkumny ustav bezpecnosti prace ROH, Praha.
(INDUSTRIAL MEDICINE)

CZECHOSLOVAKIA

J. KRIVOHLAVY, RCH (Abbreviation not identified) Research Institute on Occupational Safety (Vyzkumny ustav bezpecnosti prace), Prague.

"Methods of Assessing the Difficulty of Central Direction of Production."

Prague, Pracovni Lekarstvi, Vol 14, No 10, Dec 1962; pp 455-464.

[Abstract [English summary modified]: An analysis of the theoretical bases for determining optimal work parameters of operators supervising large central consoles in automated plants: information theory, channel noise and number of bits possible; experiments of message discrimination with volunteers done by author are reported, illustrated and discussed; role of factors such as extraneous noise, lighting conditions. Equations, 2 photographs of console operator at 4-boiler power plant; illustration of 4 test patterns; 10 tables; of 9 references, 3 are from Ergonomics, rest Czechoslovak.

1/1

KRIVOHLAVY, Jaro, dr.

Effect of numerous traffic signs for drivers on the rate of accidents. Doprava no.2:118-122 '63.

CZECHOSLOVAKIA

J. KRIVOHLAVY [Affiliation not stated.]

"Psychological Studies SAV III. SAV Publisher, Bratislava 1961, Editor Dumian KOVAC."

Prague, Activitas Nervosa Superior, Vol 5, No 1, Jan 63; pp 115-118.

Abstract: REview of this publication of 283 pages including 14 articles by authors affiliated with the Slovak Academy of Sciences Psychological Laboratory. Papers on theory of learning (1 review, 1 experimental,) discrimination in learning, diagnostic applications of skin galvanic reflex, emotional reactivity in tuberculer patients, statistical methods in psychology, 2 papers by Hungarian authors; all 14 are reviewed and discussed.

1/1

CZECHOSLOVAKIA

KRIVOHLAVY, J., Institute for Research in Occupational Safety (Vyzkumny ustav bezpecnosti prace,) Prague.

"Modeling of Motor Activity."

Prague, Activitas Nervosa Superior, Vol 5, No 3, July 63; pp 300-304.

Abstract : Review of Western literature of time and motion studies: extent of movement and rapidity thereof; information theory and mathematical models. Many mathematical formulae; 5 Western references.

1/11

CZECHOSLOVAKIA

KRIVOHLAVY, J., Research Institute for Safety at Work (Vyzkumny ustav bezbecnosti prace), ROH [Revolucni odborove hnuti; Revolutionary Trade-Union Movement], Prague.

"Disturbing Effect of Noise"

Prague, Pracovni Lekarstvi, Vol XV, No 5, June 63, pp 212-217.

Abstract: Acoustic conditions affect some types of work, especially that type where initial information is important, where information comes unexpectedly, and where a distraction of one or two seconds may prevent the reception of information. Experiments proved that simple sensory and motoric activities, like the simple reaction time, are not affected by noise. Most disturbing are noises of high intensity, high frequency, irregular noises, and unexpected and unknown noises. Graphs. Twenty references, including 1 Slovak.

1/1

CZECHOSLOVAKIA

KRIVOHLAVY, J., Research Institute for the Safety at Work (Vyzkumny ustav bezpecnosti prace), ROH [Revolucni odborove hnuti; Revolutionary Trade-Union Movement], Prague.

"Irritating Noise"

Prague, Pracovni Lekarstvi, Vol XV, No 6, August 1963, pp 252-257.

Abstract: General information based on data taken from various sources, mostly Western, are presented describing the problem of noise and its effect on the quality of work. As the most irritating is considered a noise of high frequency which is interrupted and the source of which is close to the source of acoustic information and has little relation to the activity of the person exposed to the noise. The effect of noise should not be underestimated as to the quality of work and accident rate. This is especially true in neurotic persons. Twenty-two references, including 4 Czech.

1/1

KRIVOHLAVY, J.

Measurement of the capacity of ocular transfer. Cesk. oftal 19 no.2:73-79 Mr '63.

1. Vyzkumny ustav bezpecnosti prace ROH, Praha.
(VISION)

KRIVOHLAVY, J.

Irritating noise. Prac. lek. 15 no.6:252-257 Ag '63.

1. Vyzkumny ustav bezpecnosti prace ROH, Praha.
(NOISE) (INDUSTRIAL MEDICINE)
(ACCIDENT PREVENTION)

KRIVOHLAVY, J.

Relation between Signal and Control Units. Cesk. hyg. 9 no. 1: 16-22 F'64.

1. Vyzkumny ustav bezpecnosti prace ROH, Praha.

KRIVOHLAVY, J.

The disturbing effect of noise. Prac. lek. 15 no.5:212-217 Je '63.

1. Vyzkumny ustav bezpecnosti prace ROH, Praha.
(NOISE) (ACOUSTIC TRAUMA) (INDUSTRIAL MEDICINE)

PRIVOMAVY, Jaro

Methods of determining threshold concentrations and troublesome effect of chemical substances in the air. Chem prum 14 no.5:272-274 My '64.

1. Research Institute of Industrial Safety, Revolutionary Trade Union Movement, Prague.

Industrial Medicine

CZECHOSLOVAKIA

UDC 159.9:613.65

KRIVOHLAVY, Jaro; Research Institute for Work Safety (Vyzkumny Ustav Bezpecnosti Prace), Prague.

"Psychological Criteria of the Effect of Unfavorable Working Conditions."

Prague, Pracovni Lekarstvi, Vol 18, No 10, Dec 66, pp 433-438

Abstract [Author's English summary modified]: Psychological aspects in the evaluation of unfavorable working conditions are discussed. Output of the worker under given conditions is evaluated from the point of view of accuracy of the work and of the quantitative output. Subjective confidence and psychic stress (measured tensometrically) during the control movements are discussed. Application of information theory, decision theory, and the theory of data in control measurements is described. Use of the variation coefficient as the criterion of suitability of working conditions is recommended. 4 Figures, 8 Tables, 5 Western, 4 Czech references. (Manuscript received 27 Nov 65).

1/1

KRIVOKAPIC, Bajo

Foca; characteristics of its position, functions and development.
Geogr hor 7 no.4:14-25 '61.

KRIVOKAPIC, Dusan

Golemi Dor Lake in Sar Planina. Glas Srp geogr dr 43 no. 2: 111-116 '63.

KRIVOKAPIC, Dusan S.

Fictive geographical names of Sar Planina, and errors on the 1:100,000 special map. Glas Srp geogr dr 42 no.2:183-185 '62.

KRIVOKHARCHENKO, S.P.

Change in the permeability of the hematoencephalic barrier in experimental allergic encephalomyelitis. Dokl.AN SSSR 145 no.3:685-687 Jl '62. (MIRA 15:7)

1. Odesskiy gosudarstvennyy meditsinskiy institut imeni N.I. Pirogova. Predstavleno akademikom L.S.Shtern.
(ENCEPHALOMYELITIS) (CAPILLARIES--PERMEABILITY)

KRIVOKHATSKIY, A. S.

AID P - 2756

Subject : USSR/Chemistry

Card 1/1 Pub. 119 - 4/6

Author : Krivokhatskiy, A. S. (Chelyabinsk)

Title : Separation of isomeric nuclei

Periodical : Usp. khim. 24, 3, 302-312, 1955

Abstract : Chemical and physical methods of separation of isomeric nuclei, and the effect of temperature on the process are reviewed. A table listing isomeric nuclei and their characteristics is included. One table, 88 references (20 Russian: 1935-1952)

Institution : None

Submitted : No date

VDOVENKO, V.M.; KRIVOKHATSKIY, A.S.

Extraction of nitric acid with dibutyl ether. Radiokhimiia 1 no.4:454-457 '59. (MIRA 13:1)
(Nitric acid) (Ether)

KRIVOKHATSKIY, A.S.

GINZBURG, F.L.

21 (0), 5 (0)

AUTHOR: Shchebetkovskiy, V. N. SOV/89-7-2-17/24

TITLE: All-Union Symposium on Radiochemistry (Vsesoyuznyy simpozium po radiokhimii)

PERIODICAL: Atomnaya energiya, 1959, Vol 7, Nr 2, pp 175-176 (USSR)

ABSTRACT: A symposium was held in Leningrad from 3 to 5 March 1959. More than 200 participants from different institutes in Moscow, Leningrad, Kiyev, Novosibirsk, Tbilisi and Gor'kiy attended it. Twentyeight papers were read. The following are mentioned: I. Ye. Starik: On the problem of the molecular state of micromasses of radioactive elements in solutions: I. Ye. Starik, N. I. Ampelogova, F. L. Ginzburg, L. I. Il'menkova, I. A. Skul'skiy, L. D. Sheidina: Condition of radioactive elements occurring in microconcentrations of solutions (Zr, Am, Pa, Po). N. V. Yakovleva, N. A. Zhuravleva: Application of the dialysis method for examination of uranium carriers in natural bodies of water. V. I. Paramonova, Ye. F. Latysheva. Complex formation of the multivalent ruthenium with chlorine ions. K. B. Zaborenko, A. V. Kaval'skaya, V. V. Fomin: Determination of the composition and the instability constants by ion exchange of the cerium oxalate complexes. A. I. Moskvin: Complex formation of plutonium and americium with the anions of ethylene diamine tetra acetic acid (EDTA) and oxalic and phosphoric acid. A. V. Trofimov, L. N. Iliyanova: A new method for the determination of ion charges of radioactive elements in solutions by application of ion exchanging resins of different swelling capacities. N. B. Tyaskostrovskaya, A. V. Trofimov, B. N. Nikol'skiy: Confirmation of the non-existence of complex formation between potassium and EDTA by application of the ion exchange and the potentiometric methods. V. M. Vdovenko, Ye. A. Smirnova: Determination of the conditions of compounds to be extracted in the organic phase (hydration of uranyl nitrate with water). V. M. Vdovenko, N. F. Lisitskaya: Degree of hydration of nitric acid in dibutyl ether of the diethylene glycol. V. M. Vdovenko, A. S. Krivokhatskiy: Degree of solvation of the nitric acid in the dibutyl ether of the diethylene glycol. A. Y. Lavrukhina: Determination of the dependency of the distribution coefficients between the organic and the watery phases in order to determine the condition of the substance in the solution and to fixate the concentration range at which complex formation starts. V. I. Kuznetsov, F. D. [illegible] lectured on extraction of hexavalent tungsten with aniline from hydrochloric media. An. N. Nesmeyanov on substitution of hydrogen in benzol by the recoil atoms P^{32}, As^{76} and Sb^{124}. B. G. Dzantiyev lectured on the recoil atoms from the reactions of $Li^{6}(n,\alpha)T$, $N^{14}(n,p)C^{14}$ in a medium of cyclic hydrocarbons. [illegible] lectured on the influence of the NO_3 and H^{+} ions on the reduction velocity of hexavalent plutonium under the influence of its own α-radiation. In the course of thorough discussions it was established that the comprehension of the condition of radioactive elements in solution are of eminent importance for the whole range of radio chemistry. More studies have to be made in this field as were made before. A better coordination of all the institutes which are occupied with this problem will yield good results in the future.

Card 1/3

Card 2/3

PHASE I BOOK EXPLOITATION SOV/5404

Murin, A. N., V. D. Nefedov, and V. P. Shvedov, eds.

Radiokhimiya i khimiya yadernykh protsessov (Radiochemistry and the Chemistry of Nuclear Processes) Leningrad, Goskhimizdat, 1960. 784 p. Errata slip inserted. 13,000 copies printed.

Ed.: P. Yu. Rachinskiy; Tech. Ed.: Ye. Ya. Erlikh.

PURPOSE : This textbook is intended for students of physical chemistry or radiochemistry at universities and schools of higher education. It may also serve as a handbook for scientific workers and technical personnel in the radiochemical industries and other related branches.

COVERAGE: The textbook deals with problems in modern radiochemistry, including adsorption, coorystallization, isotope exchange in radioactive elements, the chemistry of nuclear processes, and methods of preparing radioactive isotopes and labeled compounds. Special attention has been given to chemical processes caused by radioactive transformations and radiation. In the main the book was compiled by person-

Card 1/16

nel of the Radiochemistry Department, Leningradskiy gosudarstvennyy universitet imeni A. A. Zhdanova (Leningrad State University imeni A. A. Zhdanov), and the Department of the Technology of Artificial Radioactive Isotopes, Leningradskiy tekhnologicheskiy institut imeni Lensoveta (Leningrad Technological Institute imeni Lensovet). No personalities are mentioned. References accompany individual chapters.

TABLE OF CONTENTS:

20650

S/186/60/002/005/003/017
A051/A130

21.3100

AUTHORS: Vdovenko, V. M.; Krivokhatskiy, A. S.; Gusyev, Yu. K.

TITLE: The extraction of various metal nitrates with mixed solvents

PERIODICAL: Radiokhimiya, v. 2, no. 5, 1960, 531 - 536

TEXT: The present article offers the results obtained in a study of the extraction of micro-quantities of metal nitrates of various valency: cerium, zirconium, niobium and ruthenium. The study was carried out on the extraction of trivalent cerium nitrates, and the other metal nitrates using mixtures of simple oxygen-containing solvents, and on the phenomenon of non-addivity, i.e., the extraction of the nitrates exceeding that of the computed value of extraction, estimated from the assumption of independence of the extraction by each component of the mixture with respect to the presence of the other. The following preparations were used in the experiments: Ce^{144}, Zr^{95}, Nb^{95}, Ru^{106}, of the "non-carrier" grading. Two mixtures were used as the extracting agents, which were extreme with respect to the extraction of the nitric acid and uranyl nitrate, i.e., ex-

The extraction of various metal .....

tracting these better than pure solvents individually, dibutyl ether-ββ'--dichlorodiethyl ether, (chlorex) and diethyl ether-acetophenone. Figures 1 - 7 show the results of the experiments, indicating that the investigated mixtures are really non-additive with respect to the extraction of all the mentioned elements, and the values of deviation from the addivity become rather high. The extremeness, however, is only present for the solvent mixtures which extract the given nitrate in the pure form, to about an equal extent. The data showed that the non-addivity (formation of mixed solvates) is characteristic not only for the extraction of the given element by the mixtures of various oxygen-containing solvents (Ref. 1: V. M. Vdovenko, A. S. Krivokhatskiy, ZhNKh, 5, 494, 1960), but also for the extracting of various elements by one mixture, proving the generality of the phenomenon. The possibility of increasing the degree of separation of the elements by selection of the corresponding composition of the extracting agent, as a result of the difference in the shapes of the curves of extraction of the various elements is shown. There are 1 table and 7 figures, 3 references: 2 Soviet-bloc, 1 non-Soviet-bloc, The English language publication reads as follows: (Ref. 2) H. A. C. McKay, Chemistry a. Industry, 51, 154, 1954.

Card 2/ 9

VDOVENKO, V.M.; KRIVOKHATSKIY, A.S.

Extraction capacity of mixed solvents. Zhur.neorg.khim. 5 no.2: 494-497 F '60. (MIRA 13:6)
(Extraction(Chemistry))

VDOVENKO, V.M.; KRIVOKHATSKIY, A.S.

Extraction of ferric chloride with diisobutyl sulfide. Zhur.neorg. khim. 5 no.3:745-746 Mr '60. (MIRA 14:6)
(Iron chloride)
(Sulfide)

VDOVENKO, V.M.; KRIVOKHATSKIY, A.S.; CHIZHOV, A.V.

Extraction of chlorides with mixed solvents. Zhur. neorg. khim. 5 no.10:2363-2365 O '60. (MIRA 13:10)
(Chlorides)

40092
S/048/62/026/008/002/028
B102/B108

26 2541

AUTHORS: Ivanov, R. B., Krivokhatskiy, A. S., and Nedovesov, V. G.

TITLE: Measurement of the alpha particle energies of some curium isotopes

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya, v. 26, no. 8, 1962, 976-978

TEXT: The alpha transition energies of $Cm^{242,243,244}$ were determined by means of photographic emulsion plates. In four series of measurements the plates were exposed to the Cm alpha particles as well as to a Bi^{212} source whose alpha decay energies are known exactly. The magnetic field strength was kept constant with an accuracy of 0.01%. The following mean alpha-transition energies (kev) were obtained:

Cm^{242}: $E_{\alpha_0} = 6115 \pm 1$ $E_{\alpha_1} = 6071 \pm 1$

Cm^{244}: $E_{\alpha_0} = 5806 \pm 2$ $E_{\alpha_1} = 5763 \pm 2$

S/048/62/026/008/002/028
B102/B108

Measurement of the alpha ...

Cm^{243}: three groups with E_α = 5991 ± 3, 5784 ± 3, 5739 ± 3. These values are somewhat higher than those obtained by other authors (Strominger et al. Tables of Isotopes UCRL-1928. April 1958). There are 2 figures and 3 tables.

Card 2/2

L 17583-63 EWT(m)/EDS AFFTC/ASD DM

ACCESSION NR: AP3005226 S/0089/63/015/002/0158/0159

AUTHORS: Malkin, L. Z.; Alkhazov, I. D.; Krivokhatskiy, A. S.; Petrzhak, K. A. 55

TITLE: Half-life periods of spontaneous fission of Pu sup 240 and Pu sup 242 19

SOURCE: Atomnaya energiya, v. 15, no. 2, 1963, 158-159

TOPIC TAGS: Pu sup 240, Pu sup 242, Pu, scintillation counter, ionization counter

ABSTRACT: Authors used a xenon scintillation counter to measure the half-lives of plutonium isotopes. A double scintillation counter was constructed which permitted a simultaneous measurement of the activity from two identical samples. Surface density of the samples was reduced in this method. Other investigators made measurements with ionization counters. Scintillation counters have the advantage of higher resolution and lesser sensitivity to Alpha particles. Xenon pressure used was 2.5 to 3 atm. The

Card 1/2

L 17583-63

ACCESSION NR: AP3005226

quantity of Pu sup 240 and Pu sup 242 was determined from their Alpha activity. Thirty-eight and 3/10 fission events per hour were recorded. The half-life of the spontaneous fission of Pu^{240} was 1.45 + or - 0.02 x 10^{11} years; in the case of Pu^{242}, it was 7.45 + or - 0.17 x 10^{10} years. "In conclusion, the authors express their deep gratitude to N. S. Kazakina for preparation of samples." Orig. art. has: 2 figures.

ASSOCIATION: none

SUBMITTED: 14Nov62 DATE ACQ: 06Sep63 ENCL: 00

SUB CODE: PH NO REF SOV: 003 OTHER: 009

Card 2/2

MALKIN, L.Z.; ALKHAZOV, I.D.; KRIVOKHATSKIY, A.S.; PETRZHAK, K.A.; BELOV, L.M.

Energy distribution of spontaneous fission fragments of Cm^{244}. Atom. energ. 15 no.3:249-250 S '63. (MIRA 16:10)

(Curium) (Nuclear fission)

BELOV, L.M.; DZHELEPOV, B.S.; IVANOV, R.B.; KRIVOKHATSKIY, A.S.; NEDOVESOV, V.G.; CHECHEV, V.P.

α-Decay of Cm^{245} and Cm^{246}. Radiokhimiia 5 no.3:394-395 '63. (MIRA 16:10)

(Curium isotopes—Decay)

IVANOV, R.B.; KRIVOKHATSKIY, A.S.; KRIZHANSKIY, L.M.; NEDOVESOV, V.G.; YAKUNIN, M.I.

Determining (T_{α}) Pu^{241} half-life period. Atom. energ. 15 no.4: 322-323 O '63. (MIRA 16:10)

BARANOV, I. A.; IVANOV, R. B.; KRIVOKHATSKIY, A. S.; NEDOVESOV, V. G.; SILANT'YEV, A. N.

"Gamma Radiations of Cm^{242} and Cm^{243}."

report submitted for All-Union Conf on Nuclear Spectroscopy, Tbilisi, 14-22 Feb 64.

Radiyevyy Institut (Radium Inst)

MALKIN, L.Z.; ALKHAZOV, I.D.; KRIVOKHATSKIY, A.S.; PETRZHAK, K.A.

Spontaneous fission periods for Pu^{240} and Pu^{242}. Atom. energ. 15 no.2:158-159 Ag '63. (MIRA 16:8)
(Nuclear fission) (Plutonium)