APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700014-6

NEUGEBAUEROVA, L. ; KOTASEK, A.; ZAK, F.

Listeriosis of the mother and fetus. Cesk. gynek. 29 no.4: 266-270 My'64

1. II. det. klin. fakulty det. lek. KU [Karlovy university] v Praze (prednosta: prof. dr. J.Houstek, DrSc.); a I. gyn.-por. klin. fak. vseob. lek. KU [Karlovy university] v Praze (prednosta: prof. dr. K.Klaus, DrSc.)

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KALOUSKOVA, J.; KVAPIL, J.; NEUGEBAUEROVA, L.; KANDRAC, M.

Use of hydroxydione in cesarean section. Cesk. gynek. 29 no.9:663-666 N '64

1. I. gyn-por.klin. fak. vseob. lek. Karlovy University v Praze (prednosta prof. dr. K.Klaus, DrSc) a III. in[illegible] klin. fak. vseob. lek. Karlovy University v Praze (prednosta akademik J. Charvat).

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KUZEL,D.; KOBILKOVA,J.; NEUGEBAUEROVA, L.; CERVENKA, J.; CECH,E.

Effect of prolonged pregnancy on development of the fetus. Cesk. gynek. 29 no.4:281-283 My'64

1. Gyn.-por. klin. fakulty vseobecneho lek. KU [Karlovy university] v Praze (prednosta: prof. dr. K.Klaus, DrSc.) a II. det. klin. fakulty det. lek. KU [Karlovy university] v Praze (prednosta: prof. dr. J.Houstek, DrSc.).

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APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700014-6

NEUGEBAUER, Tibor

Scattering of light with double frequency. Fiz szemle 14 no. 3: 71-78 Mr '64.

1. Eotvos Lorand Tudomanyegyetem Elmeleti Fizikai Intezete.

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700014-6

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700014-6

NEUGEBAUER, T.

"Structure of binary materials possessing transistor properties." p. 1.

MAGYAR FIZIKAI FOLYOIRAT. (Magyar Tudomanyos Akademia). Budapest, Hungary, Vol. 7, No. 1, 1959.

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

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700014-6

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700014-6

NEUGEBAUER, T.

Distr: 4E3c/4E3d

984. ON THE PROBLEM OF THE HUBBLE EFFECT. 523.112

T. Neugebauer.

Acta phys. Hungar., Vol. 8, No. 4, 365-85 (1958). In German.

Further consideration is given to the possibility of explaining the effect in terms of neutrino scattering. Classical and relativistic scattering processes are considered, and it is concluded that a resultant energy loss does not necessarily imply an appreciable deflection of a light ray.

R.A.Newing

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700014-6

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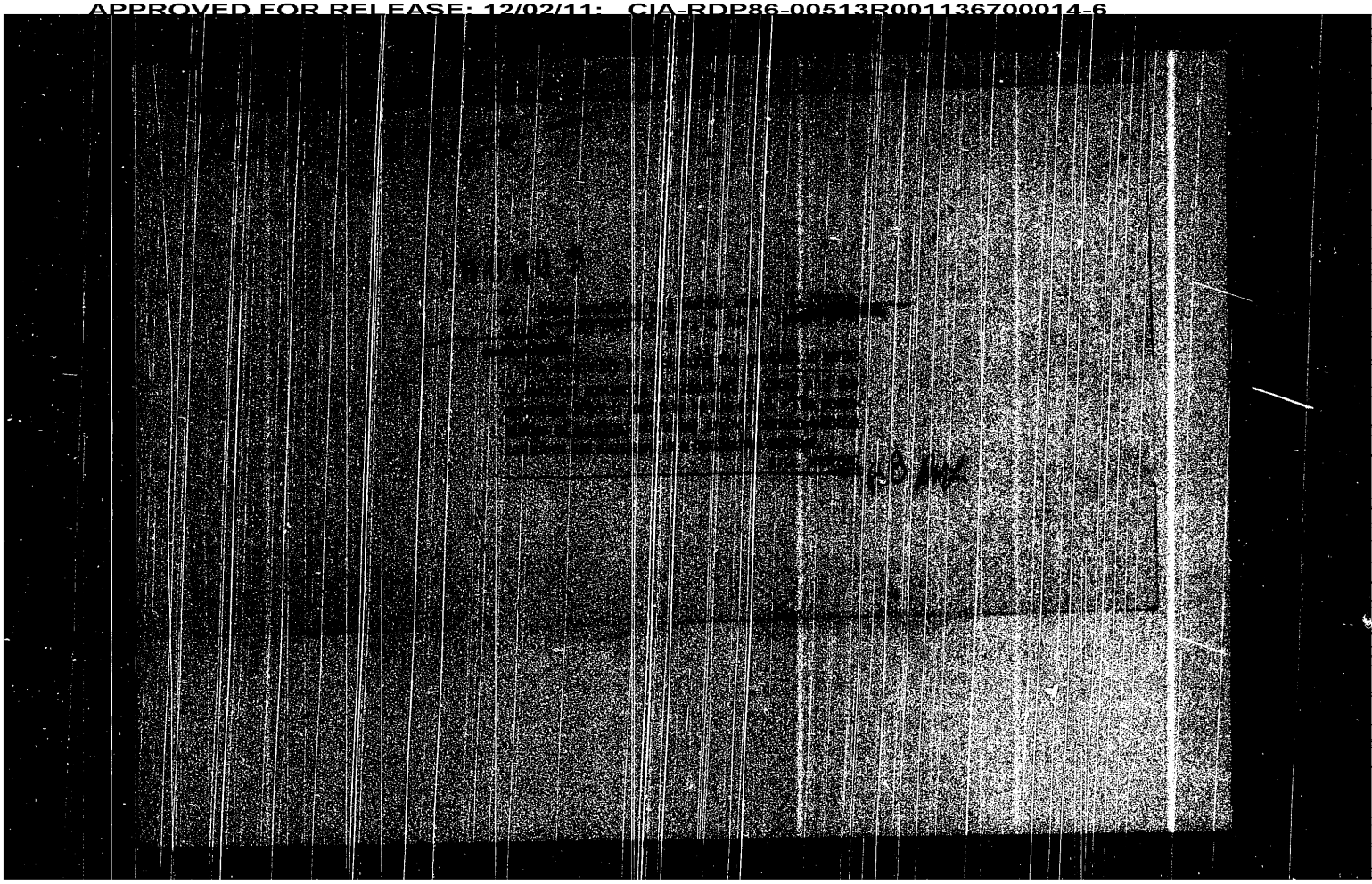

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Neugebauer, T.

HUNG

539.13

6%.1. Physical interaction of [illegible] substances with chain molecules. T. Neugebauer. *Acta phys. Hungar.*, 2, No. 4, 305-[illegible].

A mathematical investigation leads to the conclusion that, on account of the very high diamagnetic susceptibilities of aromatic carcinogens perpendicular to the plane of the rings, such molecules can enter into strong van der Waals interactions with chain molecules (e.g. polypeptides). C. B. ALLSOPP

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4

Some Remarks on Supraconductivity. T. Neugebauer (*Hungar. Acta Phys.*, 1949, **1**, (4), 28-38; *Physics Abs.*, 1950, **53**, 484). [In German] The difference between a diamagnetic body of zero permeability and a supraconductor is illustrated. The argument is extended to cover the intermediate state. Finally, it is shown again that the Meissner-Ochsenfeld effect cannot be deduced from infinite conductivity.

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1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

CA

2

The calculation of the energy of the methane molecule Tibor Neugebauer. *Math. naturw. Ann. ungar. Akad. Wiss.* 57, 183-8(1938).—The energy required to push off the 8 electrons and 4 protons of the CH_4 mol. was previously calcd. theoretically (cf. C. A. 30, 2488[1]). To prove the reliability of this value a cyclic process was worked out by means of which exptl. data can be used for the calcn. The value 341.32 × 10^{-12} erg. was the result which is by 7.4% higher than the former published theoretical value (316.07 × 10^{-12} erg.). The two values are in practical agreement. S. S. de Finály

COMMON ELEMENTS

MATERIALS INDEX

OPEN

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700014-6

Calculation of ion deformation in the lattice of wurtzite

Tibor Neugebauer, *Math naturw Anz ungar Akad Wiss* **55**, 403 (1937) (in German). The moments appearing in the wurtzite type because of the tetrahedral asymmetry can be calcd. by a special method. Numerical calcn. for zincite led to values of the same numerical range as obtained by H. J. Yearian (C. A. **30**, 5129) by expts. on electron inclination. In addn. some methods are published to make possible the calcn. of induced higher moments.

S. S. de Finaly

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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PROCESSES AND PROPERTIES INDEX

The theory of antipolarization. Tibor Neugebauer. *Math. naturw. Anz. ungar. Akad. Wiss.* **54**, 339-48 (1936) (in German). The loosening of ions observed at alkali flourides can be explained by the disturbance theory of quantum mechanics. The quant. data of antipolarization were calcd. by specially developed math. formulas. The results agree with the data obtained by Fajans and Joos.

S. S. de Finady

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700014-6

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700014-6

NEUGEBAUER, Th.

Contribution to the problem of absolute diamagnetism and supraconduction. Acta phys Hung 17 no.1/2,203-214 '64.

1. Institute für Theoretische Physik der Roland Eotvos University, Budapest. Vorgelegt von Z.Gyulai.

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700014-6

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700014-6

NEUGEBAUER, Th.

On the experimental possibility of proving dispersion with double frequency by means of maser effect. Acta phys Hung 14 no.1:77-81 '62.

1. Institut fur Theoretische Physik der Roland Eotvos Universitat, Budapest. Vorgelegt von K.F. Novobatzky.

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NEUGEBAUER, Th.

On the interference of photons. Acta phys Hung 12 no.3:241-247 '60.
(EEAI 10:5)

1. Institut for Theoretische Physik der Roland Eotvos Universitat, Budapest. Vorgelegt von K.Novobatzky.
(Photons)

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NEUGEBAUER, Th.

Problem of the elementary charge and meson masses. Th. Neugebauer (Roland Eötvös Univ., Budapest, Hung.). *Acta Phys. Acad. Sci. Hung.* 10, 327-30(1959)(in German). —From the model of a charged sphere contg. only electrons, under the influence of 2 repulsive forces (Coulomb and Fermi) and 1 attractive force (exchange), it is found that the sphere contains only 1 electron if its radius $R > 10^{-8}$ cm. By imagining the charge of the electron to vary, it is shown that the actual value observed is energetically the most favorable. It is also shown that heavier particles have a smaller vol. than lighter ones; this explains why heavy particles like hyperons and mesons are the 1st to form in high-energy nuclear reactions, and decay only later. If the model is changed to include compensating charges, a model of a completely degenerate electron gas, as in a metal, is obtained. If, conversely, we consider a partly charge-compensated proton gas, a model of "nuclear fluid" is obtained. It is found that this, unlike the electron gas, can not extend through an infinite vol., but must be confined to finite nuclei. By taking into account the magnetic spin-orbit interaction, which was neglected before, the actual distances between nucleons in a nucleus are obtained without assuming any new specifically nuclear forces.

H. Newcomb

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NEUGEBAUER, TH.

Hungarian

CA: 47:10939

Univ. Budapest, Hung.

"Mutual polarization of ions in coordination lattices."

Naturwissenschaften 40, 18 (1953)

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APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700014-6

NEUGEBAUER, Th.

Transition from homopolar to ionic bond. Th. Neugebauer (Univ. Budapest). *Naturwissenschaften* 40, 459-60 (1953).—A discussion of recent work (*C.A.* 31, 6545[6]; 47, 10939g) on polarity in binary lattices. In the ZnS-type lattice the lattice const. depends only on the sum of the nucleus charges of cation and anion, little on the distribution of this sum between the two ions. The valence electrons do not strictly belong to either ion. Similar transition to practically homopolar structure is shown in the Goldschmidt series CuBr, ZnSe, GaAs, GeGe with almost equal distances of the ions of opposite sign. On the other hand the hardness sequence of the same crystals shows remains of ionic bonding. For the alkali halides the importance of the van der Waals forces decides the nature of the lattice structure: CsCl, CsBr, and CsI are strongly polarizable and have the CsCl-type lattice. B. J. C. van der H.

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NEUGEBAUER, TH. Hungary CA: 47:11290

Univ. Budapest.

"A biophysical theory of the autocatalytic development of the protein molecule in protoplasm."

Z. physik. Chem. 200, 162-79 (1952).

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700014-6

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700014-6

NEUGEBAUER, Th.

Neugebauer, Th.

The connection between gravitation and magnetism

Acta Physica (Magyar Tudomanyos Akademia) Budapest
Vol. 1, No. 2, 1951, p.151

From: E. European Acc. List, Vol. 1, No.7, May 1952, p. 20 (Hungary)

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APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700014-6

ACC NR: AP7003869 SOURCE CODE: HU/0012/66/000/012/0365/0372

AUTHOR: Neugebauer, Jeno (Candidate of technical sciences); Kortvelyessy, Laszlo (Aspirant)

ORG: none

TITLE: Tungsten-rhenium thermocouple applicable up to 2600 C

SOURCE: Meres es automatika, no. 12, 1966, 365-372

TOPIC TAGS: thermocouple, tungsten, rhenium, thermocouple characteristic

ABSTRACT: Experiments with tungsten-rhenium thermocouples have been carried out for a decade by the laboratories of the United Incandescent Plant in Hungary. They have succeeded in reducing the fragility and chemical sensitivity of the tungsten-rhenium thermocouple by adding artificial impurities and by employing a special tungsten tube (developed at the laboratory by Janos Nagy). The thermocouple can be used in metallurgical furnaces up to 2600 C and can be suddenly immersed in molten metals. Its characteristics and applications are discussed in detail. Orig. art. has: 12 figures and 4 tables. [Based on authors' abstract]

SUB CODE: 13/SUBM DATE: 18Jan66/ORIG REF: 004/OTH REF: 026/ [KS]

Card 1/1 UDC: 536.53:546.3-19'78'719

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L 46044-66 T/EWP(t)/ETI IJP(c) DS/JD/JG/WB

ACC NR: AT6034086 SOURCE CODE: HU/2502/65/044/003/0253/0266

AUTHOR: Kiss, Andras--Kish, A.; Neugebauer, Jeno--Naygebauer, Y.

ORG: [Kiss] Research Institute of the Telecommunication Industry, Budapest; [Neugebauer] United Incandescent Lamp Factory and Electric Works, Budapest

45
B+1

TITLE: Reactions of tungsten, molybdenum and their oxides in the potassium hexachloroferrate(III)-alkali-water system II. studies of the electrode potential of tungsten

SOURCE: Acta chimica academiae scientiarum Hungaricae, v. 44, no. 3, 1965, 253-266

TOPIC TAGS: tungsten, tungsten compound, molybdenum compound, molybdenum, cyanogen compound, electrode potential

ABSTRACT: The changes in the electrode potential of tungsten at various concentrations of potassium hexacyanoferrate(III) and with different types of alkali were investigated. The aim was to find the conditions under which the dissolution process leads to the formation of a crystalline structure suitable for microscopic investigations. It was found that the electrode potential of tungsten shows sudden changes at certain points of the dissolution process. A rapid decline in the redox potential was found to be the principal process which determined the potential and which was responsible for the sudden changes at the same time. By correlating the characteristic values of electrode potentials with the surface changes which took place during the dissolution process it could be shown that, at mole ratios of potassium hexacyanoferrate(III) to potassium hydroxide of over 2.25, the surface of tungsten becomes polished while, at lower ratios, an etching effect is evident which makes the crystal structure more pronounced. Orig. art. has: 9 figures, [Orig. art. in Eng.] [JPRS: 33,540]

SUB CODE: 07, 11 / SUBM DATE: 06Mar64 / ORIG REF: 001

Card 1/1

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APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700014-6

L 46122-66 EWP(t)/ETI IJP(c) JD/JG

ACC NR: AT6034085 SOURCE CODE: HU/2502/65/044/003/0241/0251

40

B+1

AUTHOR: Neugebauer, Jeno--Naygebauer, Y.; Kiss, Andras--Kish, A.

ORG: [Neugebauer] United Incandescent Lamp Factory and Electric Works, Budapest; [Kiss] Research Institute of the Telecommunication Industry, Budapest

TITLE: Reaction of tungsten, molybdenum and their oxides in a potassium hexacyanoferrate(III)-alkali-water system I. studies on the dissolution rate of tungsten

SOURCE: Acta chimica academiae scientiarum Hungaricae, vol. 44, no. 3, 1965, 241-251

TOPIC TAGS: tungsten, molybdenum, tungsten compound, molybdenum compound, cyanogen compound

ABSTRACT: In the course of study of the reaction between tungsten and an alkaline solution of potassium cyanoferrate(III) it was found that, by chosing the right ratio of potassium cyanoferrate(III) to alkali, it is possible to attain two opposing effects related to the formation of tungsten surface during the dissolution process. When the mole ratio of $K_3[Fe(CN)_6]$: KOH exceeds 2.5, the surface of tungsten will be smooth, while at molar ratios under 2.5 the long-known etching effect takes place. The development of these two types of dissolution mechanism is related to the rate of siddolution. At mole ratios up to 2.5, the dissolution rates increase gradually while they approach constancy rapidly at a molar ratio of over 2.5. Orig. art. has: 7 figures and 2 tables. [Orig. art. in Eng.] [JPRS: 33,540]

SUB CODE: 07, 11 / SUBM DATE: 06Mar64 / ORIG REF: 003 / OTH REF: 010

Card 1/1

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700014-6

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700014-6

NEUGEBAUER, Jeno, dr.

Congress on solids in Warnemunde. Hir techn 15 no.3:90 Mr '64.

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APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700014-6

NEUGEBAUER, Jeno, dr. (Budapest, II., Pusztaszeri ut 57/69)

Increasing the volatility of oxides by means of water vapor. Acta chimica Hung 37 no.3:247-249 '63.

1. Forschungsinstitut fur Technische Physik der Ungarischen Akademie der Wissenschaften, Budapest.

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NEUGEBAUER, J.

Distr: 4E2c

Reduction of ammonium tungstate and tungsten trioxide by ammonia. The tungsten-nitrogen system. J. Neugebauer, A. J. Hegedus, and T. Millner (Nachrichtenlab. Ind. u. Ver. Glühlampen-u-Elektrizitäts Akt.-Ges., "Tungsram," Budapest, Hung.). *Z. anorg. u. allgem. Chem.* 302, 50-9(1950).—Thermogravimetric and x-ray diffraction studies are made of the decompn. of $(NH_4)_2WO_4$ (I) in air; the redn. of I in H, 30/70 H-N mixts., and dry and wet NH_3; the redn. of WO_3 in dry and wet NH_3; and the nitridation of α- and β-W in N-contg. gases. In the atm. decompn. of I and in its redn. by H or H-N mixts. a deep-orange ammonium tungsten bronze $(NH_4)_{0.06}WO_3(H_2O)_{0.31}$, tetragonal, a = 7.60, c = 6.36A., is formed at 380-400°. Further heating gives WO_3, which is then reduced as found earlier (*C.A.* 51, 12716*h*). In dry or wet NH_3 beginning at 560°, I gives a pseudo-tetragonal ammonium tungsten bronze, metallic in appearance, not isomorphous with the alkali metal tungsten bronzes. At higher tempn. are formed an oxide-nitride phase, then a β-nitride phase (W_2N), and finally, at ~900°, α-W. No β-oxide ($WO_{1.75}$) or β-W step is found. The redn. of WO_3 by NH_3 gives β-oxide at ~500°, then the oxide-nitride phase, which is further reduced as above. Powd. β-W and dry NH_3 at 350-470° form WN, a new nitride phase designated as γ-tungsten nitride (II). At 700-900° in NH_3 II is gradually reduced to α-W, which when cooled to 500° in NH_3 forms β-nitride. II decomp. in N at 700-900° or in H at 20-500° without change of crystal structure; the β-nitride phase is not formed. II is tetragonal, a = 5.786, c = 6.048A. Nitridation of α-W gives the β-nitride, even at compn. $WN_{0.70}$.

Richard H. Jaquith

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NEUGEBAUER, J., DVORSZKY, M., HEGEDUS, A.

Microdetermination of sodium, potassium, and calcium by means of flame photometry in wolframium and wolframium oxide. p. 159.

MAGYAR KEMIAI FOLYOIRAT. Budapest, Hungary. Vol. 65, no. 4, Apr. 1959.

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

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APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700014-6

NEUGEBAUER, J.; SIMON, T.; TREMMEL, J.

Formation of crystals from metal powder particles in the sintering process of tungsten rods. Acta techn Hung 43 no.1/2:233-239 '64.

1. Forschungsinstitut fur Technische Physik der Ungarischen Akademie der Wissenschaften, Budapest, und Wolframlaboratorium der Tungsram A.G. (for Neugebauer). 2. Tungsram A.G. (for Simon). 3. Institut fur Strukturforschung der Ungarischen Akademie der Wissenschaften, Budapest (for Tremmel).

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APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700014-6

Neugebauer, J.

Distr: 4E2c

Data on the W-N system. Ammonium tungstate and WO_3 reduction with NH_3. Jeno Neugebauer, Tivadar Millner, and Andras Hegedus. *Magyar Tudomanyos Akad. Kem. Tudomanyok Osztalyanak Közleményei* 12, 37-44(1959).—The thermal decompn. and redn. of ammonium tungstate in air, a stream of H, a H-N mixt., dry and moist NH_3, the redn. of WO_3 in dry and moist NH_3, and the nitridation of β- and α-W in gases of varying N content were studied by thermal and x-ray analytical methods. In redn. of ammonium tungstate with NH_3 first on ammonium W bronze, then W oxide nitride, then β-W nitride, and finally α-W near 900° are obtained. During nitridation of β-W with NH_3 a new phase ε-W nitride is obtained, the characteristics of which are between those of β- and δ-W nitrides. X-ray data are given for ε-W nitride.

Andrew W. Zalay

4

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A.J. Hegedüs, K. Sarvári, and J. Neugebauer

curves occur at different compns. and probably reflect transition from amorphous to cryst. Mo. The steps found by Dupuis (*C.A.* 45, 9386a) in the reduction of $(NH_4)_6Mo_7O_{24}.4H_2O$ are confirmed and an addnl. step possibly corresponding to $Mo_8O_3(OH)_{10}$ is found, especially in the presence of H_2O. The compn. MoO_3 is reached at a temp. 80° lower when this step is present. The final reduction product is highly pyrophoric. As the temp. of oxidation of Mo is increased first MoO_2 and then MoO_3 are the products obtained; small breaks at the compn. $MoO_{2.41}$ are attributed to diffusion processes. The nitridation is inhibited by a no. of metals and is affected below 1000° only in the presence of H. In producer gas only the β-nitride is formed, but in NH_3 γ- and δ-nitrides are detected. The reactions are discussed. 75 references.

Richard H. Jaquith

CC.

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NEUGEBAUER, J.

Distr: 4E2c

27 Thermal and x-ray investigation of the reduction of molybdenum trioxide and of the oxidation and nitridation of molybdenum. A. J. Hegedüs, K. Sasvári, and J. Neugebauer (Nachrichtentech. Ind. Ver. Glühlampen- [illegible] rektrons A.-G., "Tungsram," Budapest). *Z. anorg. u. allgem. Chem.* 293, 56-83(1958).—Thermogravimetric curves were detd. for the reduction of MoO_3 and $(NH_4)_6Mo_7O_{24}\cdot 4H_2O$ in dry and wet H and in 30% producer gas; for the reduction of $MoO_{2.95}$, $MoO_{2.75}$, and MoO_2 in dry and wet H; for the oxidation of Mo in N-O mixts. (97:3) and Ar-H_2O mixts. (97:3); and for the nitridation of Mo in NH_3 and in producer gas of varying compn. The effects of impurities on the reductions and nitridation and of various gas mixts. on the decompn. of $(NH_4)_6Mo_7O_{24}\cdot 4H_2O$ were detd. Intermediates and end products were examd. by x-ray analysis. Thermogravimetric curves for the reduction of MoO_3 (prepd. by igniting $(NH_4)_6Mo_7O_{24}\cdot 4H_2O$ at 385°) in 30% producer gas or in H show the formation of MoO_2 in increasing amts. from 465-510° up to the break found at this compn. at temps. of 600-685°. There, x-ray analysis shows the presence of only small amts. of $MoO_{2.75}$, apparently the result of slow reaction between MoO_2 and MoO_3. Beyond this point MoO_2 and $MoO_{2.75}$ are reduced to Mo; this is complete at [illegible]° in H. At about 800° in 30% producer gas the nearly O-free Mo begins to form β-Mo nitride, $MoN_{0.4}$, which at 830-910° is reduced to Mo. With decreasing particle size of the MoO_3 the temp. required to initiate reduction decreases; the MoO_3 break becomes more evident. Both MoO_2 and $MoO_{2.75}$ are then detected in x-ray analyses of samples of the compn. $MoO_{2.95}$; with very fine particles, MoO_2 is absent. In the presence of H_2O vapor the MoO_2 breaks are more pronounced. Reduction of MoO_2 by H begins 110-50° higher than the reduction of MoO_3, $MoO_{2.95}$, or $MoO_{2.75}$. In the latter 2 cases barely perceptible breaks at 430° in the thermogravimetric

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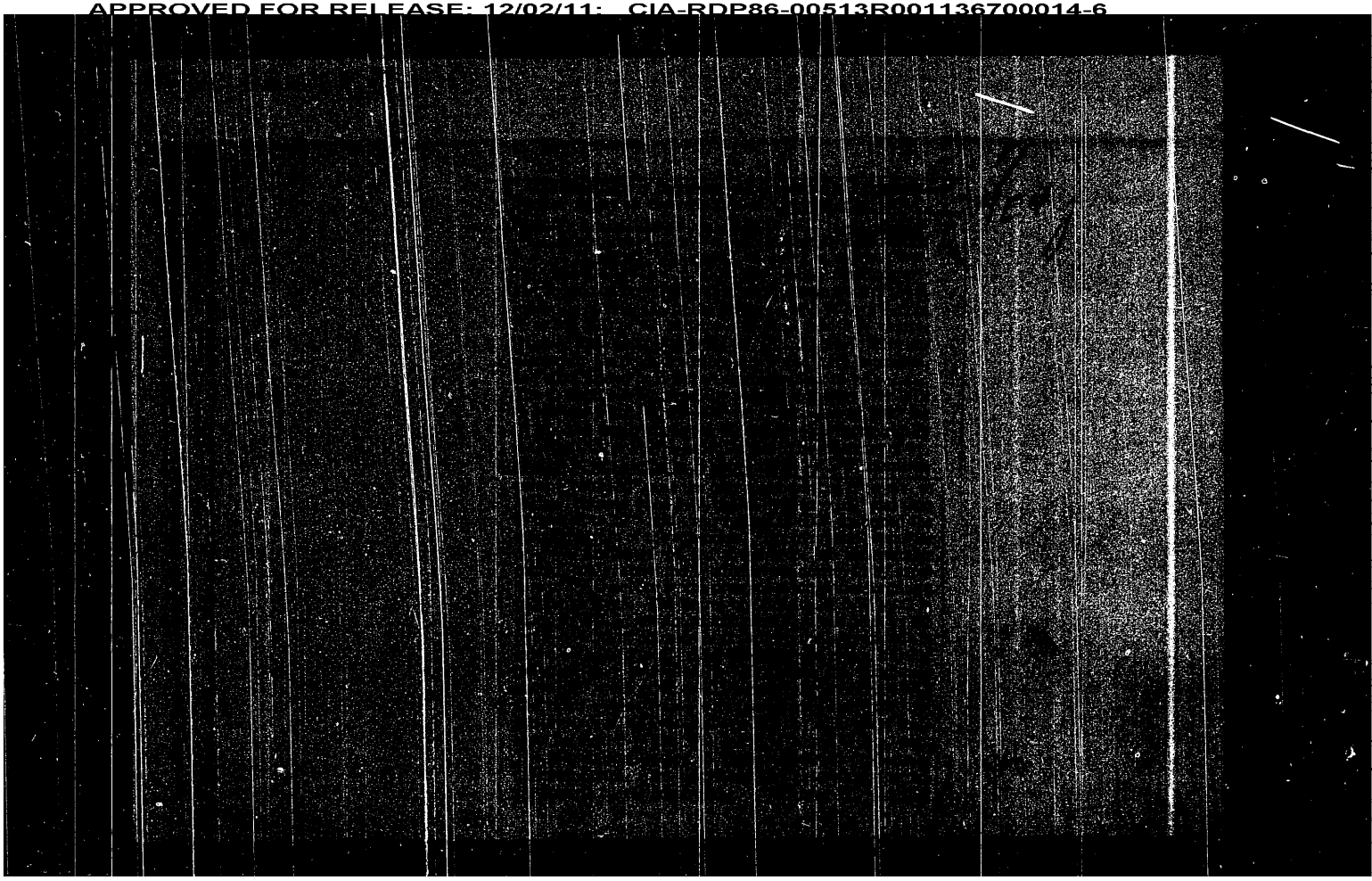

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HEGEDUS, Andras; NEUGEBAUER, Jeno; DVORSZKY, Magda

Microdetermination by flame photometry of sodium, potassium and calcium in tungsten metals and tungsten oxides. Magy kem folyoir 65 no.4:159-164 Ap '54.

1. Hiradastechnikai Ipari Kutato Intezet, Budapest.

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2

The crystal structure of sodium iodate. I. Náray-Szabó and J. [illegible] (Univ. Tech. Econ. Sci., Budapest, Hungary). J. Am. Chem. Soc. 69, 1280-3(1947).—

Sodium iodate has an orthorhombic lattice with space group V_h^{10} = Pbnm, a = 5.78 A., b = 6.87 A., c = 8.10 A., s = 4. The structure was completely det. by the aid of oscillation diagrams. It contains distinct IO_3 radicals with the I-O distances 2.06 and 2.08 A., resp. Other distances are: I-O 2.66 A. (2 neighbors), 2.08 A. (1 neighbor), 2.89 A. (1 neighbor), 2.48 A. (2 neighbors); Na-O 2.27 A. (4 neighbors), 2.44 A. (2 neighbors); Na-I 3.48 A.; O-O 3.16, 3.35, 3.51, 3.55 A. Harry H. Sisler

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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9

X-ray investigation of Hungarian bauxite ores. István Náray-Szabó and Jeno Neugebauer (Univ. Tech. Sci., Budapest, Hungary). *Technika* (Budapest) **25**, 259-63 (1944).--The possibility of working up ores according to the method of Bayer depends upon the form of $Al(OH)_3$ present in the ores. X-ray powder photographs seemed to be suitable for detg. the compds. (other than salts) present in bauxite ores. Ores contg. böhmite or hydrargillite seem to be suitable for the method of Bayer; the presence of diaspore is disadvantageous. István Finály

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700014-6

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700014-6

ZAV'YALOV, B.A., kand.tekhn.nauk; NEUGASOV, N.M., dotsent; KAPUSTINA, I.A., inzh.; KUL'TIN, B.I., inzh.

Automatic dispatcher control system. Sbor. trud. LIIZHT no.205:3-20 '63. (MIRA 18:1)

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700014-6

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700014-6

PETROV, A.P., prof.; EYLER, A.A., dotsent; NEUGASOV, N.M., dotsent; BOSIN, M.I., dotsent; ZAV'YALOV, B.A., inzh.

Experiment in traffic control in a railroad section with the aid of the "Ural-1" calculating machine. Vest.TSNII MPS 20 no.3:52-56 '61. (MIRA 14:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut zheleznodorozhnogo transporta i Leningradskiy institut inzhenerov zheleznodorozhnogo transporta imeni V.N.Obraztsova.

(Railroad--Traffic)
(Electronic calculating machines--Programming)

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APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700014-6

AZBUKIN, P.A., prof.; LUPAL, N.V., prof.; KOTLYARENKO, N.F., dots.; NEUGASOV, N.M., dots.; RYAZANTSEV, B.S., kand. tekhn. nauk,; KIRILLOV, M.M., kand. tekhn. nauk

Outstanding specialist in the field of railroad automatic and remote control. Avtom., telem. i sviaz' 2 no. 8:43 Ag '58. (MIRA 11:8)

(Maishev, Petr Vladimirovich, 1888-)

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700014-6

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700014-6

NEUGASOV, N.M., dots.

Operational requirements for the electric centralization system of switches and signals. Avtom., telem. i sviaz' 2 no.7:3-7 Jl '58. (MIRA 11:6)

1. Leningradskiy institut inzhenerov zheleznodorozhnogo transporta.
(Railroads--Signaling--Block system)

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700014-6

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700014-6

MAYSHEV, P.V.; ZHIL'TSOV, P.N.; VYKHODTSEV, V.V.; KOTLYARENKO, N.F.; BRYLEYEV, A.M.; KUT'IN, I.M.; NEUGASOV, N.M.

Seventy-fifth anniversary of the birth of Professor Nikolai Osipovich Roginskii. Avtom., telem. i sviaz' 2 no.3:34 Mr '58. (MIRA 13:1)

(Roginskii, Nikolai, Osipovich 1883-)

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700014-6

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700014-6

NEUGASOV, Nikolay Mikhaylovich, dots.; STEPANOV, Nikolay Mikhaylovich, inzh.; NOVIKOV, Valentin Dmitriyevich, inzh.; RAKITO, E.O., red.; CHEKMENEV, N.M., red.; KNITROV, P.A., tekhn.red.

[Planning automatic block systems for railroad transportation] Proektirovanie avtomaticheskoi blokirovki na zheleznodorozhnom transporte. Moskva, Gos. transp. zhel-dor. izd-vo, 1958. 347 p. (MIRA 11:5)

(Railroads--Signaling--Block system)

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700014-6

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700014-6

NEUFERT, ERNST.

Pravila gradevinarstva; preveo VI. Potocnjak. Beograd, "Gradevinska knjiga," izadavacko preduzece N.R. Srbije, 1952. 423 p.

(Rules of building. Tr. from the German. illus., diagrs., tables)

CU Not in DLC

SO: Monthly List of East European Accessions (EEAL) LC. Vol. 6, No. 10, October 1957. Uncl.

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700014-6

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700014-6

NEUFELDOVA, M.

CZECHOSLOVAKIA/Chemical Technology - Chemical Products and Their Application. Synthetic and Natural Medicinal Substances. Galenicals and Medicinal Forms. H.

Abs Jour : Ref Zhur - Khimiya, No 10, 1959, 36303

Author : Neufeldova, M.
Inst : -
Title : A Simple Method for the Preparation of Certain Salts Which Have a Medicinal Application.

Orig Pub : Farmacia (Cehosl.), 1958, 27, No 6, 187-191.

Abstract : There are submitted detailed methods for the preparation, in pharmaceutical conditions, of certain salts from the corresponding acids and bases, which, as a rule, are within easy access; for example, $(NH_4)_2SO_4$, $(CH_3COO)_2Ca.H_2O$, $HgCl_2$, KI, $C_4H_4O_6KNa.4H_2O$, K_2SO_4, $(CH_3COO)_2Zn.2H_2O$. --

T. Zvarova.

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NEUFELD, Bela, dr.,; Heffler, Irma, dr.

Study on the relationship of congestive heart failures and occupational fitness. Nepegeszsegugy 37 no.5:135-140 May 56

1. Kozl. az Ipari Tanulok Egeszseg. Intez. (igaz.: Neufeld Bela dr.)

(INDUSTRY AND OCCUPATIONS
apprentices, occup. fitness in various congestive heart failures (Hun))
(CONGESTIVE HEART FAILURE
occup. fitness of indust. apprentices with various heart failures (Hun))

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NEUFAKH, A.A.

Effect of ionizing radiation on the early development of fishes. Trudy Inst.morf.zhiv. no.24:135-159 '59. (MIRA 13:3)

(X rays--Physiological effect) (Embryology--Fishes)

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700014-6

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700014-6

MULZER, Lajos; ALEXANDER, Geza (Budapest); NEUENSTEIN, Felix (Budapest)

Forum of innovators. Ujit lap 12 no.22:30 25 N '60.

1. Soproni Selyemszovogyar ujitasi eloadoja (for Mulzer).

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APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700014-6

NEUDIREL, ZDENEK

2

The production of [illegible] acid by [illegible] process. Zdenek Neudorf. Chem. Průmysl 4, 13-14(1954).—The story of the development of the process is given, and its advantages and potentialities compared with the contact process are discussed. L. A. Helwich

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700014-6

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700014-6

NEUDECK, O. - Paliva - Vol. 35, no. 2, Feb. 1955.

Fully mechanized generators for gasification of black coal. p. 56.

SO: Monthly list of East European Accessions, (EEAL), LC, Vol. 4, No. 9, Sept. 1955
Uncl.

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YUGOSLAVIA

NEUDAUER, Dr. Joze; ZVOKELJ-KRIZAN, Dr. Breda and STROPNIK, Dr. Zlata; Department of Internal Medicine, General Hospital (Interni odjel Opce bolnice), "Dr. Joze Potrc", Ptuj; Regional Institute for National Health (Oblastni zavod za zdravstvenu zastitu), Maribor and Department of Microbiology, Medical College (Institut za mikrobiologiju Medicinskog fakulteta), Ljubljana.

"Mycetoma Due to Nocardia asteroides."

Zagreb, Lijecnicki Vjesnik, Vol 87, No 10, Oct 1965; pp 1093-1104.

Abstract [English summary modified]: Description of case in 74 year old women farmers, ulnar surface of right forearm with open tumor, pain, fever for three weeks. Surgery and antimicrobial treatment with penicillin and sulfonamides brought healing. Mycologic diagnosis Nocardia asteroides. Photograph of patients; of Petri dish, 3 photomicrographs; 8 Yugoslav, and 44 Western references. Manuscript received 11 May 65.

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APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700014-6

NEUDAUER, Joze, dr.

Spontaneous umbilical biliary fistula. Lijecn. vjesn. 86 no.1: 49-54 Ja'64

1. Iz Internog odjela Opce bolnice u Ptuju.

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NEUDAUER, Joze

Enzyme deficient congenital familial methemoglobinemia. Zdrav. vestn. 33 no.12:366-370 '64

1. Interni oddelek splosne bolnisnice Dr. Jozeta Potrca v Ptuju (Predstojnik : dr. Andrej Lisicky).

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NEUDAUER, Joze

Polyostotic fibrous dysplasia of Jaffe-Lichtenstein. Zdrav. vestn. 33 no.6:153-159 '64

1. Interni oddelek splosne bolnisnice v Ptuju (Predstojnik oddelka: dr. Andrej Lusicky).

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APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700014-6

NEUDAUER, Joze

Postoperative pancreatitis as a complication following biliary and gastrointestinal surgery. Zdrav. vestn. 33 no.3:85-89 '64

1. Interni oddelek splosne bolnisnice v Ptuju (Predstojnik: dr. Andrej Lusicky).

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APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700014-6

NEUDAUER, Joze, dr.

Our experiences in the diagnosis of dietary lead poisoning.
Lijecn. vjesn. 85 no.2:139-148 '63.

1. Iz Internog odjela Opce bolnice u Ptuju.
(LEAD POISONING) (DIAGNOSIS)
(COOKING AND EATING UTENSILS)
(FOOD CONTAMINATION)

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YUGOSLAVIA

J. NEUDAUER, Department of Internal Medicine, General Hospital (Interni oddelek, Obca bolnica), Ptuj.

"Fatal Poisoning with Zinc Phosphide."

Zagreb, Arhiv za Higijenu Rada i Toksikologiju, Vol 13, No 4, 1962; pp 325-328.

Abstract [German summary modified]: Suicide by woman aged 32 who drank 2000 ml. of applejack + 200 ml. of same in cup into which she put undetermined quantity of Zn_3P_2-impregnated wheat used as rodent poison. Hospitalized about 5 hours later, she remained conscious but in severe pain until death despite energetic treatment 42 hours after admission. Case report; 2 German and 1 Yugoslav reference.

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VEDENKIN, D.P., inzh., red.; ZASLAVSKIY, Ye.I., inzh., red.; KOVAL'SKIY, L.Ya., inzh., red.; VOYTOVA, V.P., inzh., red.; SHELIKHOV, S.N., inzh., red.; NEUDAKIN, K.A., red.

[Price list for the assembly of equipment] TSennik na montazh oborudovaniia. Moskva, Stroiizdat. No.11. 1965. 104 p. (MIRA 18:8)

1. Russia (1923- U.S.S.R.) Gosudarstvennyy komitet po delam stroitel'stva. 2. Gosstroy SSSR (for Vedenkin). 3. Nauchno-issledovatel'skiy institut ekonomiki stroitel'stva Gosstroya SSSR (for Zaslavskiy, Koval'skiy, Voytova). 4. Proyektno-konstruktorskoye byuro No.12 Glavmontazhavtomatiki (for Neudakin). 5. Vsesoyuznyy bank finansirovaniya kapital'nykh vlozheniy SSSR (for Shelikhov).

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NEUDAKHINA, A.I.; KOT, M.K.; VEKTESHEV, M.S.

Quantitative determination of cation and anion exchangers in their mixtures. Zav. lab. 30 no.6:674 '64 (MIRA 17:8)

1. Novocherkasskiy politekhnicheskiy institut imeni Ordzhonikidze.

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DOROFEYEV, Yu.G.; ZHERDITSKIY, N.T.; NEUDAKHINA, A.A.

Saving cobalt and nickel in the manufacture of permanent magnets. TSvet. met. 38 no.8:90-91 Ag '65. (MIRA 18:9)

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700014-6

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NEUDAKHIN, A.S., assistent

Establishing triangulation networks in cities. Izv. vys. ucheb. zav.; geod. i aerof. no.2:15-17 '60. (MIRA 13:6)

1. Novosibirskiy institut inzhenerov geodezii, aerofotos"yemki i kartografii.

(Triangulation)

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L 41290-66

ACC NR: AP6019613

the quadrupole moment, and compare the results with the experimental data of P.D.Kunz (Phys.Rev., 128, 1343 (1962)) and H.Nguen Ngoc, M.Hors, I.Perez, and J.Jorba (Nucl. Phys., 42, 62 (1963)). The technique used in performing the calculations is similar to that previously employed by the authors in their discussion of the Be^9 quadrupole moment. The calculated form factor was found to be in excellent agreement with the experimental data, whereas an analogous form factor calculated on the basis of the Bohr-Mottelson unified model was not. It is concluded that the spatial correlations among the nucleons described by the cluster model are real. The authors thank V.V.Balashov, N.M.Kabachnik, and R.A.Eramzhyan for valuable advice and interesting remarks. Orig. art. has: 17 formulas and 3 figures.

SUB CODE: 20 SUBM DATE: 00 ORIG. REF: 005 OTH REF: 010

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L 41290-66 EWT(1)/EWT(m)/EWT(t)/ETI IJP(c) JD/JG/AT

ACC NR: AP6019613 (A, N) SOURCE CODE: UR/0048/66/030/002/0235/0241

AUTHOR: Kudeyarov, Yu.A.; Neudachin, V.G.; Smirnov, Yu.F.

ORG: none

TITLE: Inelastic scattering of electrons on Be-9 and a comparison of different nuclear models /Report, Fifteenth Annual Conference on Nuclear Spectroscopy and Nuclear Structure, held at Minsk, 25 January to 2 February 1965/

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya. v. 30, no. 2, 1966, 235-241

TOPIC TAGS: nuclear structure, beryllium, nuclear model, electron scattering, inelastic scattering, nucleon ~~clustering~~ interaction

ABSTRACT: The authors have been interested in a nucleon cluster model discussed by Y.C.Tang, K.Wildermuth, and L.D.Pearlstein (Nucl.Phys., 32, 504 (1962)) which contains a parameter x describing the overlap of the α-particle clusters which assumes the value unity in the limiting case of the shell model and assumes low values in the case of the α-particle model. Previously the authors and collaborators (Zh.eksperim. i teor. fiz., 45, 107 (1963); ibid., 49, 97 (1963); Izv. AN SSSR. Ser. fiz., 27,1273 (1963); Nucl. Phys. (1965) in press) have evaluated the parameter x for Be^9 from the value of the quadrupole moment, and for C^{12} and O^{16} from the E2 and E3 transition probabilities. In the present paper the authors calculate the form factor of Be^9 for inelastic scattering of electrons, employing the value of x previously obtained from

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L 21554-66

ACC NR: AP6011497

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lattice (Bloch's sums). In cases 1 and 2 it is assumed that the electron energies and the scattering angles are equal (coplanar symmetrical case). The optimal experimental conditions and the equations obtained for the cross sections are discussed. The great difference between the formulas obtained in cases (2) and (3) will probably make it possible to investigate the single plane-wave approximation in metals, molecular orbitals in molecular crystals, or localization of "ferromagnetic" d-electrons in metals of the Fe group and ferrites. The required accuracy in the measurement of the energies is $\approx$ 0.1--0.2 ev. Allowance for the distortion of the wave and the departure from the mass shell, the use of more realistic wave functions, and of the many-electron problem will be discussed in a later detailed article. The authors thank K. P. Belov, V. L. Bonch-Bruyevich, S. V. Vonsovskiy, Yu. P. Gaydukov, V. I. Gol'danskiy, A. F. Tulinov, and S. V. Tyablikov for advice and discussions. Orig. art. has: 1 figure and 3 formulas.

SUB CODE: 20/ SUBM DATE: 21Feb66/ ORIG REF: 001/ OTH REF: 008

Card 2/2 BLG

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700014-6

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700014-6

L 21554-66 EWT(m)/EWA(h)

ACC NR: AP6011497 SOURCE CODE: UR/0386/66/003/007/0298/0301

AUTHOR: Smirnov, Yu. F.; Neudachin, V. G.

ORG: Scientific Research Institute of Nuclear Physics of the Moscow State University im. M. V. Lomonosov (Nauchno-issledovatel'skiy institut yadernoy fiziki Moskovskogo gosudarstvennogo universiteta)

TITLE: Investigation of the electronic states of atoms, molecules, and solids by quasielastic knock-on of an electron by a fast electron (e, 2e)

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki. Pis'ma v redaktsiyu. Prilozheniye, v. 3, no. 7, 1966, 298-301

TOPIC TAGS: excited electron state, electron collision, hydrogen atom reaction, hydrogen ion, metal crystal, wave function, fast particle

ABSTRACT: Continuing earlier investigations (ZhETF v. 45, 131, 1963) of the analogs of direct nuclear reactions in the atomic-molecular region, the authors point out the great value of the quasielastic knock-on reaction (e, 2e). They show with three examples (in the impulse approximation) that this makes it possible to obtain the Fourier transform of the wave function of the knock-on electron and its binding energy. The cases considered are: (1) H_2 molecule, final ion H_2^+ in state $1\sigma_g$, (2) free electrons in a metal (plane waves), and (3) strong coupling with the

Card 1/2

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APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700014-6

L 13173-66

ACC NR: AP6001147

Orig. art. has: 6 formulas.

SUB CODE: 18/ SUBM DATE: 23Mar65/ ORIG REF: 004/ OTH REF: 010

Card 2/2

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APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700014-6

L 13173-66 EWT(m)/EWA(h)

ACC NR: AP6001147 SOURCE CODE: UR/0367/65/002/003/0427/0432

AUTHOR: Zelenskaya, N. S.; Mayling, L.; Neudachin, V. G.; Smirnov, Yu. F. 26

ORG: Nuclear Physics Institute, Moscow State University (Institut yadernoy fiziki [illegible] moskovskogo gosudarstvennogo universiteta)

TITLE: Selection rules for nuclear reactions involving nucleon associations in the SU(3) scheme 19,44,55

SOURCE: Yadernaya fizika, v. 2, no. 3, 1965, 427-432

TOPIC TAGS: nuclear reaction, nucleon interaction, selection rule, quantum number, radioactive decay scheme, alpha particle, alpha decay

ABSTRACT: The authors examine selection rules according to approximate models of quantum numbers in the SU(3) scheme. Selection rules are formulated for nuclear reactions involving associations according to quantum numbers in the SU(3) scheme, widely used in light nuclei spectroscopy. It is shown that these selection rules in some cases lead to very rigid restrictions, which makes it easy to check them experimentally. For example, the reaction of quasi-elastic knock-out of an alpha-particle from the nucleus O^{16} by a fast particle a: O^{16} (a, aα)C^*, accompanied by α-decay of $C^{12*} \rightarrow 3\alpha$, is possible only through the ~ 12-MeV level $|1s^4\ 1p^8\ [444]4^+>$ of the nucleus C^{12}. Furthermore, in the stripping reactions $O^{16}(Li^6, d)Ne^{20*}$ the only levels of the configuration $(1d\text{-}2s)^4$ which can be excited are those of the lowest rotational series $0^+, 2^+, \ldots$, based on the ground state of Ne^{20}.

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ACCESSION NR: AP4024059

quadrupling in light nuclei is due to M(0) forces was formulated briefly in a review by two of the authors (V.N.Orlin and Yu.F.Smirnov) in collaboration with V.V. Balashov and I.B.Teplov, devoted to the structure of light nuclei and presented at the Twelfth All-Union Conference on Nuclear Spectroscopy held in Leningrad in January 1962. "The authors are grateful to L.A.Pokrovskii for carrying out a number of the calculations and to S.S.Vasil'yev and I.B.Teplov for assistance in carrying out the work." Orig.art.has: 33 groups of formulas and 2 figures.

ASSOCIATION: none

SUBMITTED: 00 DATE ACQ: 08Apr64 ENCL: 00

SUB CODE: NS NR REF SOV: 004 OTHER: 021

Card 3/3

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ACCESSION NR: AP4024059

of the experimental data shows, the overlapping of the α-clusters is very significant. As a result the level diagrams of light nuclei are not correctly described by the α-particle model, but, on the other hand, the spectra of p shell nuclei, for example, are satisfactorily described by the shell model. Hence it is more logical to analyze quadrupling in the framework of the shell model, wherein the effect is associated with the Young diagram [f] of the orbital part of the wave function. Such an analysis has been carried out by J.P.Elliott and A.M.Lane (Handbuch der Physik 39,1957). In the present paper the role and significance of Majorana forces are discussed and analyzed. More specifically, there is considered the Majorana monopole M(0) which, as analysis of the experimental data shows, is the principal "carrier" of quadrupling in light nuclei, i.e., responsible for the effect that the more symmetrical [f], the higher the coupling energy. The energy role of quadrupling factors, i.e., the Majorana molopole M(0), is particularly great in p shell nuclei and decreases in going to heavier nuclei. This is connected with increase of both the principal quantum number N_0 and the length parameter of the oscillator well. Among the factors discussed is the influence of M(0) forces on the positions of levels with T = 1 and the relation between the energy effects of quadrupling and reduced α widths. Consideration is also given to the effect of the forces and clustering in Po isotopes. In conclusion, it is noted that the inference that nucleon

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APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700014-6

ACCESSION NR: AP4024059 S/0048/64/028/002/0326/0336

AUTHOR: Neudachin, V.G.; Orlin, V.N.; Smirnov, Yu.F.

TITLE: Monopole part of the Majorana forces and nucleon quadrupling in light nuclei [Report, Thirteenth Annual Conference on Nuclear Spectroscopy held in Kiev 25 Jan to 2 Feb 1963]

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v.28, no.2, 1964, 326-336

TOPIC TAGS: nucleon quadrupling, α cluster, shell model, Majorana forces, Majorana monopole, light nucleus, nucleon coupling, α decay energy, polonium

ABSTRACT: It is known (J.M.Blatt and V.Weisskopf, Theoretical Nuclear Physics, N.Y. 1952; J.P.Elliott and A.M.Lane, Handbuch der Physik, 39, 1957) that in light nuclei Majorana forces are largely responsible for the specific effect of quadrupling or α-clustering, i.e., the following effects: "sawtooth" variation of the nucleon coupling energy as a function of A, exceptionally high location of the lowest level with T = 1 in nuclei with N = Z = 2m, persistence of LS coupling with N = Z = 2m, a relatively low α-particle detachment energy, etc. Interpretation of these phenomena from the standpoint of the α-particle model proved to be unsatisfactory, for, as analysis

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APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700014-6

NEUDACHIN, V.G.

Structure of nuclear quasi-molecules. Vest. Mosk. un. Ser.3:Fiz., astron. 19 no.1:81-82 Ja-F '64. (MIRA 17:4)

1. Nauchno-issledovatel'skiy institut yadernoy fiziki Moskovskogo universiteta.

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700014-6

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700014-6

BEREGI, P.; NEUDACHIN, V. G.; SMIRNOV, Yu. F.

"Surface interference in direct reaction of nucleon cluster substitution."

report submitted for Intl Conf on Low & Medium Energies Nuclear Physics, Paris, 2-8 Jul 64.

Moscow State Univ. & Inst Theor. Physics, Copenhagen.

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700014-6

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700014-6

MAILING, L.; NEUDACHIN, V. G.; SMIRNOV, Yu. F.

"Maximal Values of Derived Alpha Widths for Nuclear States with Large Spins."

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

MGU (Moscow State Univ)

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700014-6

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700014-6

UDOYAN[illegible], Yu. A.; MATIKHIZ, Z.; NEUDACHIN, V. G.; SMIRNOV, Yu. F.

"Determination of the Degree of Isolation of Alpha Clusters in Nuclei of the p-shell by E[illegible] Transitions."
"Inelastic Scattering of Electrons on Be^9 in the Nucleon Cluster Model."

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

Moscow State Univ.

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700014-6

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700014-6

NEUDACHIN, V. G.

"The Formation of Nuclear Quasi-Molecules."

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

Moscow State Univ.

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700014-6

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700014-6

L 10896-63

ACCESSION NR: AP3005258

9

increases exponentially with increasing excitation energy, whereas for the OH radical (H atom knocked out) the excitation energy decreases. In conclusion, the conditions for the appearance of resonances described by the Breit-Wigner formula are considered for atomic collisions. It is noted that such a possibility exists for the scattering of neon by neon. "In conclusion, the authors are grateful to V. I. Goldanskiy, A. S. Davy*dov, V. N. Leonas, S. A. Losev, Ya. Ye. Nikitin, A. I. Osipov, N. D. Sokolov, and Ye. V. Stupochenko for valuable advice and interesting discussions." Orig. art. has 8 figures, 17 formulas, and 2 tables.

ASSOCIATION: Institut yadernoy fiziki Moskovskogo gosudarstvennogo universiteta (Nuclear Physics Inst. Moscow State Univ.)

SUBMITTED: 28Nov62 DATE ACQ: 06Sep63 ENCL: 00

SUB CODE: PH NO REF SOV: 004 OTHER: 014

Card 2/2

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APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700014-6

L 16894-63 EPF(n)-2/EWT(m)/BDS AFFTC/ASD/ESD Pn-4
ACCESSION NR: AP3001258 S/0056/63/045/002/0131/0142
68
59

AUTHOR: Matthias, Z.; Neudachin, V. G.

TITLE: Application of some methods of nuclear theory to molecular collisions

SOURCE: Zhur. eksper. i teoret. fiz., v. 45, no. 2, 1963, 131-142

TOPIC TAGS: molecular collisions, excitation energy, vibration level, rotation level, fast-particle knock-on, Breit-Wigner resonance

ABSTRACT: A method is presented for calculating the relative excitation intensities of various vibrational and rotational levels corresponding to definite states of a radical produced when an atom or an ion is knocked out by a fast particle from a molecule. The purpose of the study is to apply the molecular vibration theory and the alpha-model of the nucleus, previously developed by the authors and Smirnov (Izv. AN SSSR, ser. fiz. v.26, 1199, 1962), to an investigation of molecular collision. The concept of reduced width is introduced into the theory. The method is illustrated with the H_2O molecule as an example. The intensity of excitation of the vibrational levels of the H_2 molecule remaining after the O atom is knocked out

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L 16899-63

ACCESSION NR: AP3005234

discussed by way of examples. Some complications arising in the alpha-model interpretation of light nuclei are discussed. Orig. art. has 3 formulas and 1 figure.

ASSOCIATION: Institut yadernoy fiziki Moskovskogo gosudarstvennog universiteta (Nuclear Phys. Inst. Moscow State University)

SUBMITTED: 26Jul62 DATE ACQ: 06Sep63 ENCL: 00

SUB CODE: PH NO REF SOV: 009 OTHER: 034

Card 2/2

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APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700014-6

L 16024-63 EWT(m)-2/EWT(m)/BDS AFFTC/ASD Pu-4

ACCESSION NR: AP3005254 S/0056/63/045/002/0107/0115

61
60

AUTHOR: Mattkhis, Z.; Neudachin, V. G.; Smirnov, Yu. F.

TITLE: Determination of the mutual arrangement of nucleon clusters in a nucleus with the aid of the directed orbital method 19

SOURCE: Zhur. eksper. i teoret. fiz., v. 45, no. 2, 1963, 107-115

TOPIC TAGS: alpha cluster, shell model, resonant group model, alpha particle model, directed orbital method

ABSTRACT: Some general rules, which can be used to determine the geometric arrangement of alpha-clusters in a nucleus from a given Nilsson orbit series or shell configuration, are derived from a modified version of the directed orbital method of quantum chemistry. The study is evoked by the limitations of the previously employed alpha-particle model and of the later Wheeler resonant-group model which in turn has developed into the cluster model, particularly for given states of nuclei with a Young tableau [44...4], which have not been discussed in general form to date. The analysis is limited to light nuclei, and some excited states of O-16 and C-12, as well as the geometric arrangement of alpha-clusters in Ca-40, are

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MATTKHIZ. Z.; NEUDACHIN, V.G.; SMIRNOV, Yu.F.

Amplification of E2 and E3 transitions in the nuclear p-shell as a indication of the spatial isolation of α-associations. Izv. AN SSSR. Ser. fiz. 27 no.10:1273-1276 O '63. (MIRA 16:10)

1. Nauchno-issledovatel'skiy institut yadernoy fiziki Moskovskogo gosudarstvennogo universiteta im. M.V. Lomonosova.

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shell 1d - 2s contain contributions from the states of the subsequent shell 1f - 2p. The orbitals have the symmetries A_1 (mixed 2s and f states) E(1d), and F_2 (1d, 2p, 1f). The best agreement between calculations and experiments was attained with δ = 0.8 - 0.9. Professor A. S. Davydov is thanked for advice. V. Orlin (V. G. Neudachin, V. N. Orlin, ZhETF, 41, 874 1961) is mentioned. There are 1 table and 15 references: 5 Soviet and 10 non-Soviet. The four most recent references to English-language publications read as follows: I. V. Kane et al. Phys. Rev., 120, 162, 1961; M. A. Melvin, Rev. Mod. Phys., 28, 18, 1960; A. M. Lane, Rev. Mod. Phys. 32, 519 1960 and M. H. Macfarlane, J. B. French, Rev. Mod. Phys. 32, 567 1960; P. D. Kunz, Ann. of Phys. 11, 275, 1960.

ASSOCIATION: Institut yadernoy fiziki Moskovskogo gosudarstvennogo universiteta (Institute of Nuclear Physics of Moscow State University)

SUBMITTED: September 8, 1961

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700014-6

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700014-6

S/056/62/042/002/041/055
B108/B104

AUTHORS: Mattkhiz, Z., Neudachin, V. G., Smirnov, Yu. F

TITLE: Single-particle levels in O^{17} and F^{17} nuclei with assumed strong coupling of nucleon and core with tetrahedral symmetry

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 42, no. 2, 1962, 592 - 596

TEXT: In order to find additional evidence for the nuclear α model the authors calculated the low-energy levels of O^{17} and F^{17} considering strong coupling between the outer nucleon and the tetrahedral core. This symmetry allows also rotational levels with small nuclear spin and negative parity. In fact, such states have been observed in experiments. A nonspherical potential similar to the Nilsson potential is used in the Hamiltonian of the internal motion: $V = (m\omega^2(\delta)r^2/2)\left[1 - \delta\frac{1}{\sqrt{2}}(Y_{3,-2} \quad Y_{3,2})\right]$. This potential V is invariant with respect to transformations of the group T_d (symmetry A_1). For this reason the wave functions of the states of the

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ANDREYEV, Ye.I.; NEUDACHIN, G.I.; SALOV, L.V.; PETUKHOVA, R.I.; LIPINA, I.P.

Spectral analysis of iron ores. Zav.lab. 28 no.8:938-940 '62. (MIRA 15:11)

1. Beloretskiy metallurgicheskiy zavod.
(Iron ores--Spectra)

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700014-6

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700014-6

MATTKHIZ, Z.; NEUDACHIN, V.G.; SMIRNOV, Yu.F.

Reduced alpha-widths in the alpha-model of the nucleus. Izv. AN SSSR. Ser. fiz. 26 no.9:1199-1208 S '62. (MIRA 15:9)
(Nuclear models)

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700014-6

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700014-6

The lower levels of O^{17} and ... S/048/62/026/008/017/028
B104/B102

binding energy between nucleons and vibrating core. A nuclear level diagram (Fig.) is plotted, and the level shifts due to core vibrations are examined. The quadrupole moment of the O^{17} ground state with a coupling constant $\beta = 0.7$ is determined to be -0.027 barn. The lifetime of the first excited state ($1/2^+$) is $1.6 \cdot 10^{-10}$ sec. These data agree well with experimental results (Ref. 9, F. Ajzenberg-Selove, T. Lauritsen, Nucl. Phys., 11, 1(1959); R. A. Kamper et al., Proc. Phys. Soc. A, 70, 897 (1957)). The nucleon is weakly coupled with the core. There are 1 figure and 1 table.

ASSOCIATION: Nauchno-issledovatel'skiy institut yadernoy fiziki Moskovskogo gos. universiteta im. M. V. Lomonosova (Scientific Research Institute of Nuclear Physics of the Moscow State University imeni M. V. Lomonosov)

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APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700014-6

S/048/62/026/008/017/028
B104/B102

AUTHORS: Mattkhiz, Z., Neudachin, V. G., and Smirnov, Yu. F.

TITLE: The lower levels of O^{17} and F^{17} in the α-nuclear model

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya, v. 26, no. 8, 1962, 1060 - 1069

TEXT: The O^{17} nucleus is considered to be a tetrahedron having α-particles in its four corners there and with the last neutron moving in its field. The Hamiltonian of this system has the form $H = H_{rot} + H_{vibr} + H_p + H_{v-p}$, where $H_{rot} = \frac{\hbar^2}{2\mathcal{J}} (\vec{J} - \vec{j} - \vec{\zeta}L)^2$ is the rotation energy of the nucleus, J the total angular momentum in the given state, j the angular momentum of the neutron, ζL the mean angular momentum of the F_2 vibrations of the α-particles of the core; H_{vibr} is the vibration energy of the core, H_p the single-particle Hamiltonian. $H_{v-p} = V_0 \delta(r - R_0) \sum_{\rho} Q_{\beta\rho} Y^{l=2}_{\beta\rho}(\theta, \varphi)$.

(A) gives the

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On the nature of giant resonance... S/903/62/000/000/035/044
B102/B234

distance for Pb and the distance of the single-particle proton levels whose orbital angular momenta differ by unity; the complexity of the proton excitation spectra in the case of γ-quantum quadrupole absorption; the Pb integral (γ,p) reaction cross section (60 mb·Mev) which is by 1 order of magnitude too small to satisfy the sum rule for quadrupole absorption; the causes of the increased shift of (γ,p) dipole maximum with respect to that of (γ,n) with increasing A. This is illustrated on comparing the E_γ, E_n, and E_p values for a series of transitions in Ca^{40} and Pb^{208}. There is 1 table.

ASSOCIATION: Nauchno-issledovatel'skiy institut yadernoy fiziki MGU im. M. V. Lomonosova (Scientific Research Institute of Nuclear Physics, MGU imeni M. V. Lomonosov)

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APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700014-6

S/903/62/000/000/035/044
B102/B234

AUTHORS: Neudachin, V. G., Shevchenko, V. G., Yudin, N. P.

TITLE: On the nature of giant resonance of the (γ,p) reaction on lead and bismut

SOURCE: Yadernyye reaktsii pri malykh i srednikh energiyakh; trudy Vtoroy Vsesoyuznoy konferentsii, iyul' 1960 g. Ed. by A. S. Davydov and others. Moscow, Izd-vo AN SSSR, 1962, 495-497

TEXT: The facts responsible for presence and position of (γ,p) giant resonance with Pb and Bi is discussed on the basis of the present literature. It is shown that giant resonance at $E_\gamma \approx 22$ Mev with Bi and Pb is complex, i.e. it is due to the superposition of two maxima: the giant resonance of γ-quantum quadrupole absorption and of the dipole maximum of the (γ,p) reaction; for Pb the latter lies at energies greater by 8 Mev than the energy of the maximum of dipole absorption of γ-quants. The arguments speaking in favor of this statement are discussed in detail. They are: Virtual equality of the quadrupole and dipole transition amplitudes in the proton angular distributions of Pb and Bi; virtual equality of the (γ,n) - (γ,p) peak

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1p state. The σ(E)dE formula applied is taken from Racah (Phys. Rev., 63, 367, 1943). Numerical results are given for 5 transitions of Li^7, 4 of C^{12} and 7 of C^{13}. Besides the transition characteristics also the cross sections and the level positions are estimated. The results are particularly discussed for each case and furthermore a series of experimental problems to be solved in the future are enumerated. There are 1 figure and 1 table.

ASSOCIATION: Nauchno-issledovatel'skiy institut yadernoy fiziki, MGU im. M. V. Lomonosova (Scientific Research Institute of Nuclear Physics, MGU imeni M. V. Lomonosov)

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APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700014-6

S/903/62/000/000/034/044
B102/B234

AUTHORS: Neudachin, V. G., Shevchenko, V. G., Yudin, N. P.

TITLE: Mechanism of γ-quantum absorption on nuclear p-shells

SOURCE: Yadernyye reaktsii pri malykh i srednikh energiyakh; trudy Vtoroy Vsesoyuznoy konferentsii, iyul' 1960 g. Ed. by A. S. Davydov and others. Moscow, Izd-vo AN SSSR, 1962, 486-494

TEXT: The authors calculate the γ-quantum E1-absorption cross sections for Li^7, C^{12} and C^{13} nuclei and compare the results with those of experiments. First a detailed discussion is given of the excited states as to position, characteristics and transitions of these nuclei on the basis of the present literature. The calculations are based on simplifying assumptions: (1) Young's orbital part of the wave function of the initial state is considered a good quantum number (in the case of the nuclei investigated it corresponds to LS-coupling) and (2) the coupling between the s- and d-nucleons with the p-core is assumed to be weak. The E1-absorption mechanism and the energy dependence of its cross section is investigated for the transition of a 1p-nucleon to the states $2s_{1/2}$, $1d_{5/2}$, $1d_{3/2}$, and of the 1s nucleon into the

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APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700014-6

Direct nuclear reactions. Theory

S/903/62/000/000/004/044
B102/B234

tive results of the formal considerations. There are 1 figure and 82 references.

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APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700014-6

S/903/62/000/000/004/044
B102/B234

AUTHOR: Neudachin, V. G.

TITLE: Direct nuclear reactions. Theory

SOURCE: Yadernyye reaktsii pri malykh i srednikh energiyakh; trudy Vtoroy Vsesoyuznoy konferentsii, iyul' 1960 g. Ed. by A. S. Davydov and others. Moscow, Izd-vo AN SSSR, 1962, 58-73

TEXT: A review is given covering the most important theoretical investigations of the main problems of direct nuclear reactions especially stripping and similar reactions at low energies (30-40 Mev), published in the last two or three years. The discussions are mainly based on the considerations of A. S. Davydov (Teoriya atomnogo yadra - Theory of the atomic nucleus - Fizmatgiz, 1958) S. Butler (Stripping reactions) and a review of A. G. Sitenko (UFN, 67, 377, 1959). The article consists of four chapters; the first deals with stripping reactions (Conditions of suitable description of stripping reactions in Born's approximation; stripping reaction with spin flip of the proton; polarization effects in the stripping reaction) the second with other direct nuclear reactions, the third with the spectroscopic utilization of direct nuclear reactions and the fourth reviews the qualita-

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APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700014-6

NEUDACHIN, V. G.

"Some Experimental Problems of Interest for the Theory of Light Nuclei"

Report presented at the Conference on Nuclear Reactions produced by light nuclei, Dubna, December 1962.

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700014-6

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700014-6

NEUDACHIN, V.G.; ORLIN, V.N.

Compatibility of single-particle excited states with a modeling description of light nuclei. Zhur.eksp.i teor.fiz. 41 no.3: 874-876 S '61. (MIRA 14:10)

1. Institut yadernoy fiziki Moskovskogo gosudarstvennogo universiteta.

(Nuclear models)

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700014-6

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700014-6

S/048/61/025/002/001/016
B117/B212

Structure of light nuclei

Table 2

1 Ядро	2 Конфигурация	T, J	3 $\mu_{одночаст}$	μ_{ij}	1 Ядро	2 Конфигурация	T, J	3 $\mu_{одночаст}$	μ_{ij}
Li^7	$(p_{3/2})^3$	1/2, 3/2	3,79	3,04	F^{19}	$(s_{1/2})^3$	1/2, 1/2	2,79	2,79
Be^9	$(p_{3/2})^{-3}$	1/2, 3/2	−1,91	−1,16	Mg^{25}	$(d_{5/2})^5$	1/2, 5/2	−1,91	−0,64
	$(p_{3/2})^{-1}$		3,79	3,79		$(d_{5/2})^{-1}$		4,79	4,79
B^{11}	$(p_{3/2})^{-3}(p_{1/2})^3$	1/2, 3/2	3,79	3,04	Al^{27}	$(d_{5/2})^{-3}(s_{1/2})^2$	1/2, 5/2	4,79	3,52
C^{13}	$(p_{1/2})^1$	1/2, 1/2	0,64	0,64	Cl^{35}	$(d_{3/2})^3$	1/2, 3/2	0,13	0,26
N^{15}	$(p_{1/2})^{-1}$	1/2, 1/2	−0,26	−0,26	Cl^{37}	$(d_{3/2}^{-3})$	3/2, 3/2	0,13	0,13
O^{17}	$(d_{5/2})^1$	1/2, 5/2	−1,91	−1,91	Sc^{45}	$(f_{7/2})^5$	3/2, 7/2	5,79	5,10

Legend to Table 2: 1) Nucleus; 2) configuration; 3) $\mu_{single\ particle}$

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Structure of light nuclei

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1 Ядро	J, T	Классификация в схеме LS 2	Классификация в схеме jj 3	Ядро 1	J, T	Классификация в схеме LS 2	Классификация в схеме jj 3
He^5	$^3/_2$, $^1/_2$	$p[1]:^{22}P_{3/2}$	$p_{3/2}:^3/_2\ ^1/_2$	B^{11}	$^3/_2$, $^1/_2$	$p^7[43]:^{22}P_{3/2}$	$p^7_{3/2}:^3/_2\ ^1/_2$
He^6	0,1	$p^2[2]:^{31}S_0$	$p^2_{3/2}:01$	C^{12}	0,0	$p^8[44]:^{11}S_0$	$p^8_{3/2}:00$
Li^6	1,0	$p^2[2]:^{13}S_1$	$p^2_{3/2}:10$	C^{13}	$^1/_2$, $^1/_2$	$p^9[441]:^{22}P_{1/2}$	$p_{1/2}:^1/_2\ ^1/_2$
Li^7	$^3/_2$, $^1/_2$	$p^3[3]:^{22}P_{3/2}$	$p^3_{3/2}:^3/_2\ ^1/_2$	N^{14}	1,0	$p^{10}[442]:^{13}S_1$	$p^2_{1/2}:10$
Be^8	0,0	$p^4[4]:^{11}S_0$	$p^4_{3/2}:00$	N^{15}	$^1/_2$, $^1/_2$	$p^{11}[443]:^{22}P_{1/2}$	$p^3_{1/2}:^1/_2\ ^1/_2$
Be^9	$^3/_2$, $^1/_2$	$p^5[41]:^{22}P_{3/2}$	$p^5_{3/2}:^3/_2\ ^1/_2$	O^{16}	0,0	$p^{12}[444]:^{11}S_0$	$p^8_{1/2}p^4_{1/2}:00$
Be^{10}	3,0	$p^6[42]:^{13}D_3$	$p^6_{3/2}:30$				

Таб. 1

Legend to Table 1:
1) Nucleus; 2) classification in the LS-scheme; 3) classification in the jj-scheme.

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perform a systematic investigation of light nuclei. This is necessary for a precise explanation of the shell model and a determination of its relation to other models. At first, such an investigation might be limited to a small number of nuclei, but the results obtained should be very complete. From a theoretical point of view, and regarding the present experimental possibilities, the nuclei at the end of the p-shell with A = 13, 14 and 15, and also the B^{10} nuclei, up to now already thoroughly enough studied, are of special interest. According to the authors, the following special problems seem to be promising: 1) Levels in Li^7; 2) calculation of levels in Li^7; 3) nature of the excited 0^+ levels in C^{12}, O^{16}, Ne^{20}, and other nuclei; 4) investigations of E2-transitions near Mg when T is changed; 5) experimental spectrometric problems which are of interest for the theory of photonuclear reactions (Ref. 44): a) stripping (d,p) and (d,n) reactions forming single-body levels of the final nucleus; b) inverse stripping (p,d) reactions during which the nucleon is "pulled out" from the inner shell of the nucleus, i.e., Mg^{24} etc.; c) elastic proton scattering on up to 8-Mev nuclei. Ref. 45 brings an example for such experiments. G. Lipkin, Yu. M. Shirokov, K. A. Tumanov, V. Yu. Gonchar, Ye. V. Inopin, and S. P. Tsytko are mentioned. There are 2 tables and 45 references: 11 Soviet-bloc.

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states. The authors discuss various elementary questions concerning the formalism of the shell model, i.e., introducing concepts and symbols which are generally used in publications on this subject, but have not yet entered the Russian literature. The first chapter deals with the following questions: Construction of wave functions belonging to the shell theory (Refs. 2-7), application of the shell model to calculate energy spectra of light nuclei (Refs. 5-8); electromagnetic moments and transitions in light nuclei (Refs. 16-22). The second chapter deals with the alpha association and shell model (Refs. 2,23-28); it is shown that the alpha-particle model of nucleus and the shell model are much closer interrelated than has hitherto been assumed, and that they do not exclude each other. In chapter three ("Collective motion and shell model"), the authors mention papers (Refs. 29-40) which deal with the creation of new and more complicated models. They had to be developed from the collection model (drop model) and the shell model, since the range of application of the two aforementioned models alone is rather narrow. Finally, the authors deal with a number of experimental problems. The solution of such problems has become urgent since the theory of light nuclei develops steadily and rapidly. In order to clarify the characteristics of nucleon interactions it is, above all, necessary to

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