KOPACKA, Miroslav, inz.; BURCAR, Jaroslav

Prospects of radio communication in Czechoslovak power engineering. Energetika Cz 15 no.3:146-147 Mr '65.

1. Research Institute of Power Engineering, Worksite Ceske Budejovice.

CZECHOSLOVAKIA

KOPACOVA, L.; BOROVANSKY, A.; BENES, L.; Chair of Pharmacodynamics and Toxicology, and Chair of Pharmaceutical Chemistry, Pharmaceutical Faculty, Comenius University (Katedra Farmakodynamiky a Toxikologie a Katedra Farmaceuticke Chemie Farmaceuticka Fakulta UK), Bratislava.

"Study of Local Anesthetics. XXXII. Relationship Between Local Anesthetic and Spasmolytic Effect in the Series of Substituted Basic Carbanilates."

Prague, Ceskoslovenska Farmacie, Vol 15, No 8, Oct 66, pp 420-422

Abstract [Authors' English summary modified]: In a series of 15 esters of 2,6-dichlorocarbanil acid with methoxy- to pentoxy- substitution of the aromatic ring in the fourth position and diethylamino-, dimethylamino-, and piperidinoethanol spasmolytic effect was evaluated in vitro using rabbit ileum. All the substances had a spasmolytic activity exceeding that of adiphenine. A distinct connection between the effect and the size of the alkoxysubstituent in the aromatic ring was found. A close relationship between the spasmolytic activity and local anesthetic effect was also found. 2 Figures, 3 Tables, 1 Western, 7 Czech references.
1/1

KOPACOVA, Libuse, PhMr., ScS. (Bratislava, Kalinciakova 8); VRBA, Genek; PIVNIK, Ladislav; SKARDA, Rudolf.

Histological changes in the muscle and nerve tissue after application of depot local anesthetics. Acta pharmac 6: 113-125 '62

1. Katheder fur Pharmakodynamik and Toxikologie, Pharmazeutische Fakultat, Bratislava (for Kopacova). 2. Katheder fur Pharmakologie, Fakultat der veterinaren Medizin, Brno (for all others).

CZECHOSLOVAKIA

MEDVECKY, R.; DURINDA, J.; ZACKOVA, P.; KOPACOVA, L.; Chair of Pharmaceutical Chemistry, and Chair of Pharmacodynamics and of Toxicology, Pharmaceutical Faculty, Comenius University (Katedra Farmaceutickej Chemie a Katedra Farmakodynamiky a Toxikologie Farmaceutickej Fakulty UK), Bratislava.

"Relation Between the Chemical Structure, Antipyretic Activity, and Toxicity of Some Cinchophen Analogues."

Prague, Ceskoslovenska Farmacie, Vol 15, No 6, Jul 66, pp 291-293

Abstract [Authors' English summary modified]: Isomeric acids 6-methyl-2-[2-(or 3- and 4-)pyridyl]-cinchoninic and 2-[2-(or 3-and 4-)-pyridyl]-cinchoninic were tested for antipyretic activity and toxicity. Antipyretic activity was determined in grey rabbits, toxicity in mice. 2-(2-pyridyl)-cinchoninic acid has a very strong antipyretic activity, 2-(3-pyridyl)-cinchoninic acid a very pronounced one, 6-methyl-2-(3-pyridyl) cinchoninic acid has a weak activity. Toxicity of these substances is lower than that of cinchophen, but higher than antipyrine. The most active substance is the most toxic one, its LD 50 is 470 mg/kg. 3 Figures, 1 Table, 12 Western, 4 Czech, 2 Egyptian, 1 East German reference. (Manuscript received 20 Dec 65).

1/1

Topical tolerance to local anesthetic effect of prolonged-action benzocaine solution behaving as a microcrystalline implant. Cesk. fysiol. 9 no.1:84-85 Ja 60.

1. Odd. farmakodynamiky a toxikologie farmaceuticke fak. MU, Ustav farmakologie a Ustav patologicke anatomie vet. fak. VSZL, Brno.

(ANESTHETICS LOCAL pharmacol.)

LUKAS, A.; BOROVANSKY, A.; KOPACOVA, L.

Study of local anesthetics 27. Basic aryloxy- and aralkoxy-acetyl xylidine. Cesk. farm. 13 no.5:225-228 Je'64.

1. Kafedra farmaceuticke chemie a katedra farmakodynamiky a toxikologie farmaceuticke fakulty UK, [University Komenskeho], Bratislava.

KOPACOVA, L.; VRBA, C.

Studies on local anesthetics. Part 28. Cesk. farm. 14 no.6: 322-328 Ag '65.

1. Katedra farmakodynamiky a toxikologie farmaceuticke fakulty Univerzity Komenskeho, Bratislava a Statni veterinarni ustav, sekce kontroly leciv, Brno. Submitted November 14, 1964.

KOPACOVA, L.; VRBA, C.

CSSR

Chair of Pharmodynamics and toxicology of the pharmaceutical faculty, Komenius University, Bratislava, and State Veterinary Institute, section for the control of veterinary drugs, Brno (Katedra farmakodynamiky a toxikologie farmaceuticke fakulty UK v Bratislave, Statni veterinarni ustav, sekce kontroly veterinarnich leciv v Brno) (for both)

Bratislava, Farmaceuticky Obzor, No 1, 1963, pp 1-6

"A Short Summary of Laboratory Methods to Evaluate the Depot-Local Anestesia"

(2)

KOPACOVA, L.

Review of laboratory and clinical findings on long-acting local anesthetics. Cas. lek. cesk. 101 no.42:Lek Veda Zahr: 201-208 19 O '62.

1. Katedra farmakodynamiky a toxikologie farmaceuticke fakulty Komenskeho university v Bratislave.

(ANESTHETICS LOCAL)

CIZ, K.; KOPACOVA, O.; PRIHODA, J.; SVOBODA, A.; DRETSCHNEIDER, R.

Technological properties of decolorized liquors. Listy cukrovar 80 no. 3:58- 68 Mr '64.

KOPACZ, J., major navigator

Soviet aerial reconnaissance in the [redacted] National War. Wojsk przegl 13 no.8:54-67 Ag '60.

1. Redaktor naczelny miesiecznika "Wojskowy Przeglad Lotniczy."

KOPACZ, Jozef, pplk. nawig.

Development of aeronautical technological thought in People's Poland. Przegl techn 85 no.34:3, 6 23 Ag'64.

KOPACZ, J., major nawigator

Very important quality of a pilot. Wojsk przegl 13 no.10:27-30 O '60.

1. Redaktor miesiecznika "Wojskowy Przeglad Lotniczy"

KOPACZ, J., major nawigator

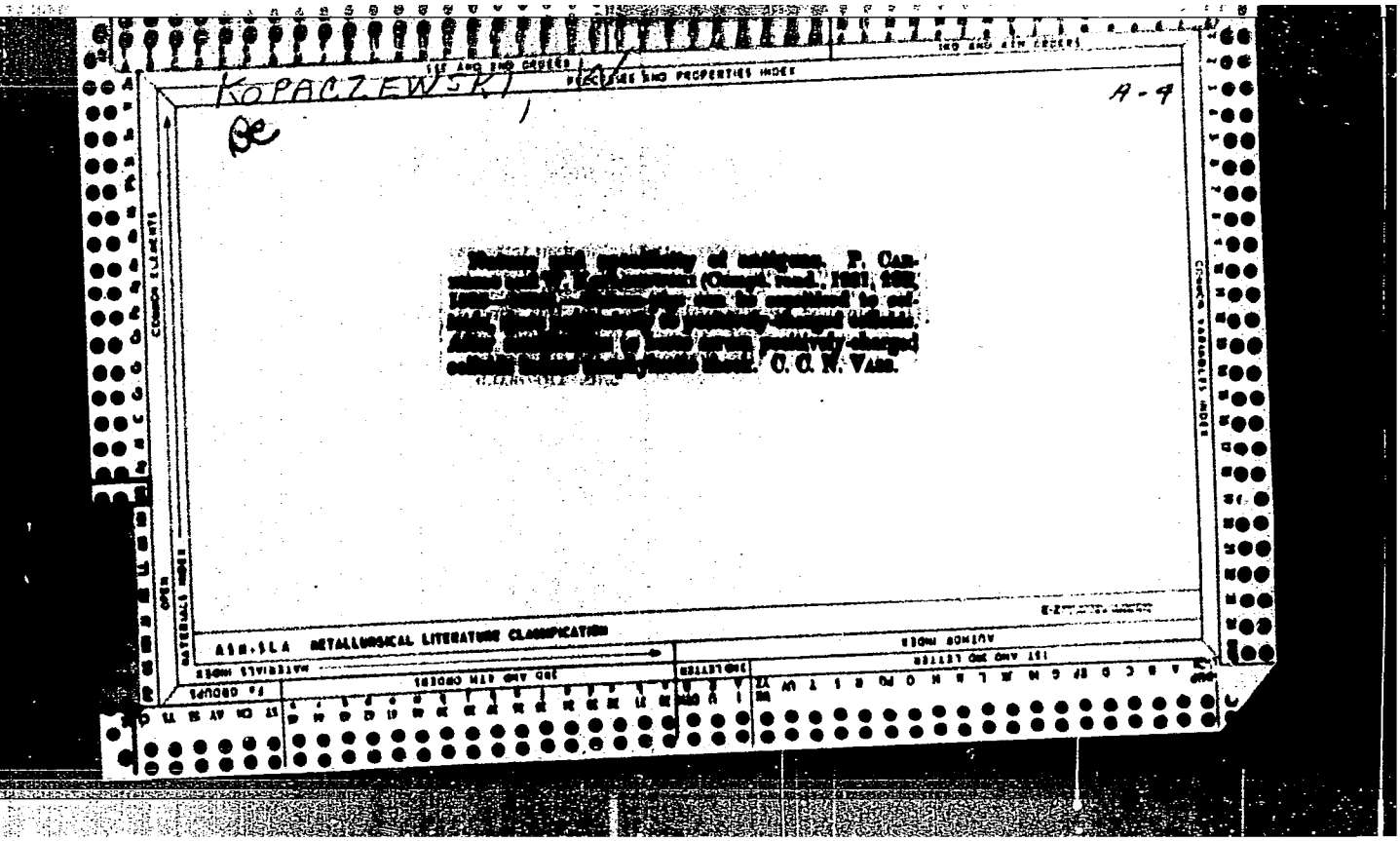
Elimination of land transport by aviation; based on experiences in World War, 1939-1945. Wojsk przegl 15 no.8:50-58 Ag '61.

1. Redaktor miesiecznika "Wojskowy Przeglad Lotniczy."

KOPACZ, Jozef; KRAKOWSKI, Stefan

Figures and the safety of aviation. Przegl techn no.33:7 18 Ag '62.

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000824430001-9"



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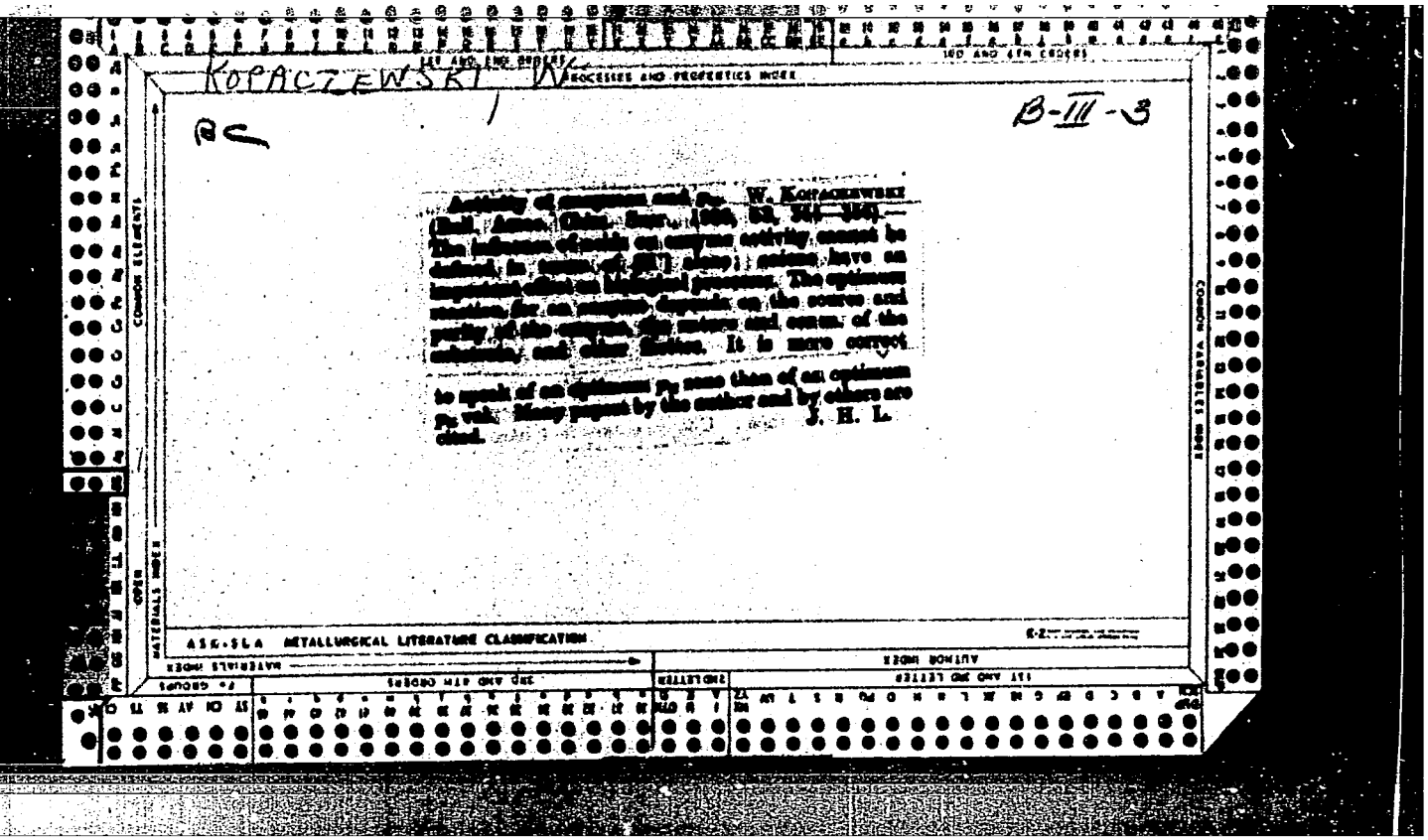


EA KOPACZEWSKI, W.

Physical conditions for the penetration of coloring matter into vegetable tissues. W. Kopaczewski. *Ann. inst. nat. recherche agron.*, Ser. A, Phytotechnie, 1, 29–40(1958).—The penetration of dyes into filter paper and into white flowers was investigated by the method of electrocapillary analysis (C.A. 43, 3126b). The degree of dispersion and the elec. charge on 73 dyes previously studied (C.A. 24, 3027) and on 10 new dyes were detd. Only acid dyes and some indicator dyes penetrate into white flowers (giant daisies); 22 dyes in all. No basic dyes would penetrate into daisies. Only highly dispersed and dialyzable dyes penetrated into vegetable tissues; no colloids, even electroneg. colloids, penetrated. Dialyzable or slightly dialyzable dyes, acid or electroneg., which are strongly adsorbed by animal charcoal do not penetrate easily into the tissues. There is a close analogy between the coloration of white flowers and the penetration of dyes into the capillaries of filter paper, except for some details in the behavior of the ions. E. R. R.

PISKORZ, Adam; MIETKIEWSKI, Kazimierz; KOPACZYK, Franiszek; HRYNIEWIECKI, Jan; JURCZYK, Witold; STENGERT, Krzysztof

Studies on the secretory activity of hypothalamic nuclei in experimental shock. Pol. przegl. chir. 36 no.3:349-356 Mr '64.

1. Z III Kliniki Chirurgicznej Akademii Medycznej w Poznaniu (Kierownik: prof. dr A. Piskorz) i z Zakladu Histologii Prawidlowej i Embriologii Akademii Medycznej (Kierownik: prof. dr K. Mietkiewski).

WALCZAK, Mieczyslaw; KOPACZYK, Franciszek

Changes in the ovaries of the guinea pig during experimental study. Folia morphol. 22 no.3:225-231 '63

1. Zaklad Histologii Prawidlowej i Embriologii, Akademia Medyczna, Poznan. Kierownik: prof.dr. K.Miekiewski.

*

MIETKOWSKI, Kazimierz; WOJCIECHOWSKI, Kazimierz; KOPACZYK, Franciszek

Histological and histochemical studies on undescended testes.
Pol. przegl. chir. 35 no.10/11:1027-1029 '63.

1. Z Zakladu Histologii Prawidlowej i Embriologii AM w Poznaniu Kierownik: prof. dr K. Mietkiewski i z I Kliniki Chirurgicznej AM w Poznaniu Kierownik: prof. dr S. Nowicki.
(CRYPTORCHISM) (PATHOLOGY)
(HISTOCHEMISTRY) (GONADOTROPINS, PITUITARY)
(TESTOSTERONE)

STAINICKI, J.; GLADYSZ,B.; KOPACZYK,F.; KRAJNIK, J.; MOCZKO, W.

Radiological and histological studies on osteogenesis experimental bone defect of the mandible filled up by transplants of sustentacular tissue. Bull. soc. amis. sci. Poznan [med.] 13: 35-45 '64

ANTONIN, B., Dr.; KOPAJTIC, B., Dr.

Aspiration cytodiagnosis of lymph nodes. Lijec. vjes. 78 no. 5-6:240-246 May-June 56.

1. Iz Interne klinike Medicinskog fakulteta na Rijeci.
(LYMPH NODES, neoplasms
cytodiag., aspiration technic (Ser))

KOGOJ-BAKIC,V.,dr.; KOPAJTIC,B.,dr.

Significance of erythrocyte sedimentation in pregnancy. Med. glasn. 13 no.5:329-331 My '59.

1. Ginekolosko-opstetricki i Interni odjel Opce bolnice Susak u Rijeci.
(PREGNANCY blood)
(BLOOD SEDIMENTATION in pregn.)

YUGOSLAVIA

Dr Verena KOPAJTIC and Dr Velinka SVALBA, Department of Internal Diseases of General Hospital (Interni odjel Opce bolnice) "Susak" and Medical Faculty (Medicinski fakultet) Rijeka.

"Regional Pathology of Hypothyroidism in the Hrvatsko Primorje and Gorski Kotar."

Zagreb, Liječnički Vjesnik, Vol 84, No 12, Dec 62; pp 1201-1208.

Abstract [French summary modified]: Data on 144 patients with various types of hypothyroidism from among 6[illegible] patients with all diseases seen between 1956 and 1959; 117 were female. Percentage of hypothyroid patients was highest (3.7%) in the intermediate zone than either on the Adriatic coast itself (1.9%) or further in the hinterland (1.8%). In coastal areas young people with diffuse lymphoplastic goiters were most frequent in the other two zones, cleva nodose and toxic types predominated. Two maps, 3 tables, chart; 15 Western and 1 Yugoslav reference.

KOGOJ-BAKIC, Verena; KOPAJTIC, Bosko

Pronto — a new method for the rapid determination of erythrocyte sedimentation. Srpski arh. celok. lek. 88 no.6:701-704 Je '60.

1. Ginekolosko-opstetricki odjel Opce bolnice "Susak" u Rijeci. Sef: doc. prim. dr Davor Perovic.

(BLOOD SEDIMENTATION)

KOPAJTIC, B.; SVALBA, V.; NOVAK, V.

Endemic goiter in the Grobnik region. Acta med. iugosl. 17 no.2: 195-210 '63.

1. Klinika za unutarnje bolesti, Opca bolnica "Dr.Zdravko Kucic" u Rijeci.

S

KOPAJTIC, N.

Studies on the effect of warming up intensity on working capacity. Arh. hig. rada 7 no.1:13-21 1956.

1. Institut za medicinska istrazivanja Jugoslavenske akad. znanosti i umjetnosti, Zagreb.
(WORK, physiol.
capacity, eff. of warming up intensity on (Ser))

KOPAL, F.

"Development of new machinery for mining." Strojirenstvi, Praha, Vol. 3, No. 7, July 1954, p. 538.

SO: Eastern European Accessions List, Vol. 3, No. 11, Nov. 1954, L.C.

KOPAL, F.

Suggestions intended to simplify documentation on architectural design and building estimates, p. 317, ZA SOCIALISTICKOU VEDU A TECHNIKU (Pripravny vybor vedeckych technickch spolecnosti pri eskoslovenske akademii ved) Praha, Vol. 5, No. 7, July 1955

SOURCE: East European Accessions List (EEAL) Library of Congress, Vol. 4, No. 12, December 1955

KOPAL, J.

Rehabilitation following injuries. Rozhl. chir., 29:6, 1950. p. 238-44

1. Of the Surgical Department of the State District Hospital in Prague VIII-Bulovce (Head--Prof. Jan Knobloch, M. D.

CLML 19, 5, Nov., 1950

KOPAL, Jiri; PASEK, Josef; RUZICKA, Vlastimil

Some problems of hydrogenation in liquid phase. Chem prum 15 no.4:219-223 Ap '65.

1. Higher School of Chemical Technology, Prague. Submitted October 9, 1964.

KOPAL, Josef

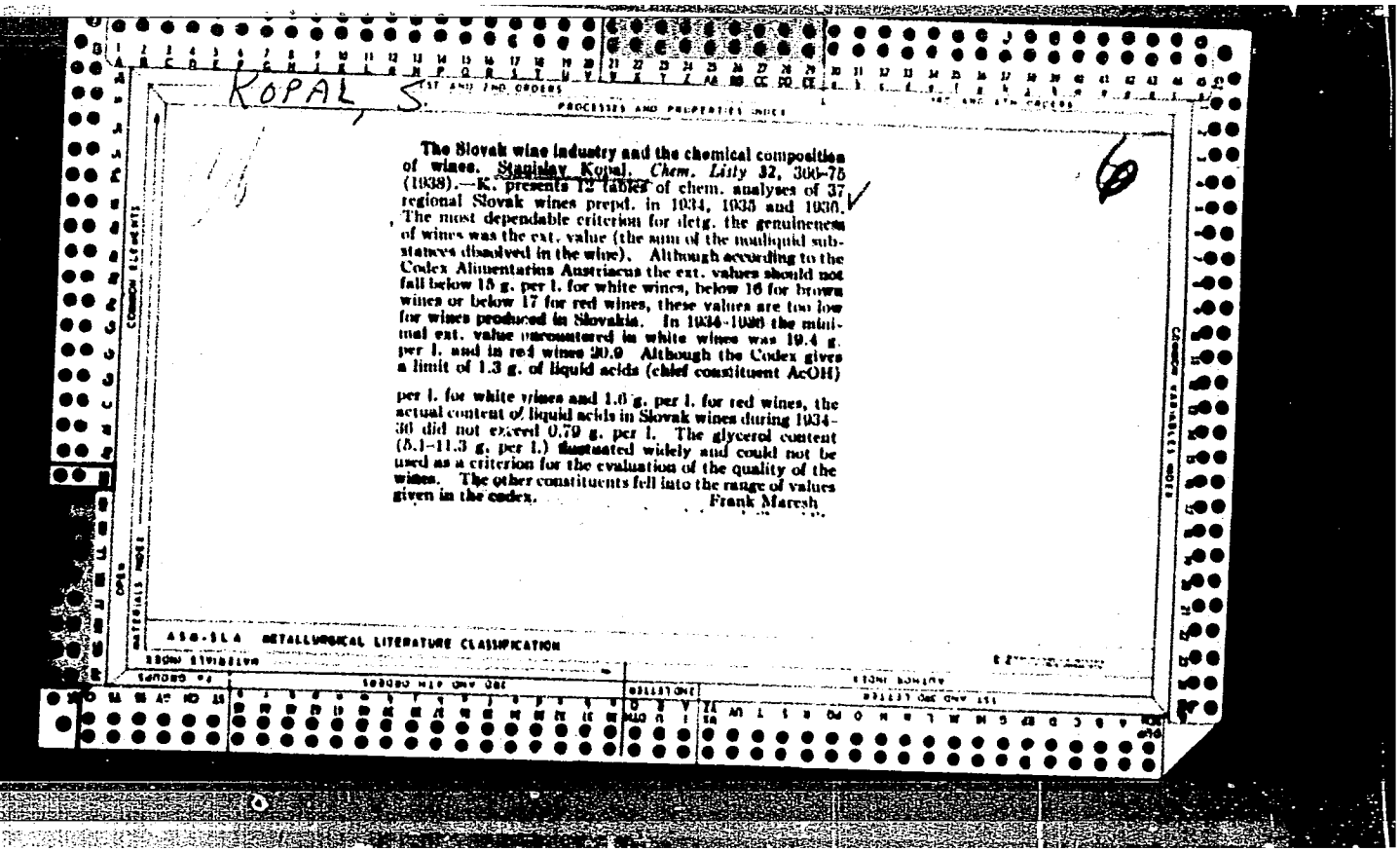
Jewelery for the whole world. Sklar a keramik 12 no.7:205-206 Jl '62.

1. Vyrobni hospodarska jednotka Sdruzeni podniku jablonecke bizuterie, Jablonec nad Nisou.

KOPAL, Pavel, inz.

Production of shoe heels from synthetic materials. Tech praca 15 no.8:605-606 Ag '63.

1. Zavody 29. augusta, n.p., Partizanske.

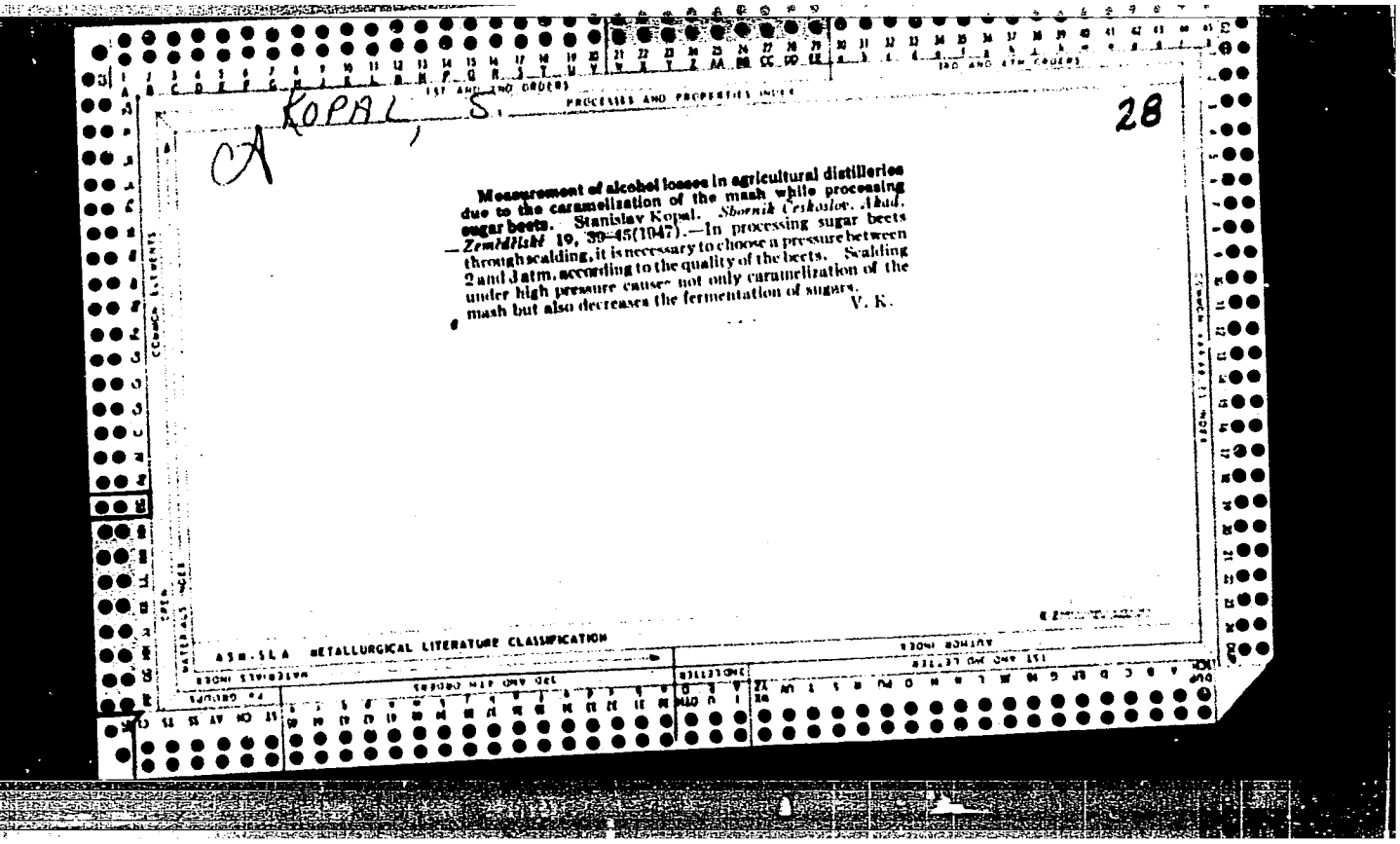


KOPAL, S.

The Slovak wine industry and the chemical composition of wines. Stanislav Kopal. *Chem. Listy* 32, 300-78 (1938).—K. presents 12 tables of chem. analyses of 37 regional Slovak wines prepd. in 1934, 1935 and 1936. The most dependable criterion for detg. the genuineness of wines was the ext. value (the sum of the nonliquid substances dissolved in the wine). Although according to the Codex Alimentarius Austriacus the ext. values should not fall below 15 g. per l. for white wines, below 16 for brown wines or below 17 for red wines, these values are too low for wines produced in Slovakia. In 1934-1936 the minimal ext. value encountered in white wines was 19.4 g. per l. and in red wines 20.9. Although the Codex gives a limit of 1.3 g. of liquid acids (chief constituent AcOH) per l. for white wines and 1.6 g. per l. for red wines, the actual content of liquid acids in Slovak wines during 1934-36 did not exceed 0.79 g. per l. The glycerol content (5.1-11.3 g. per l.) fluctuated widely and could not be used as a criterion for the evaluation of the quality of the wines. The other constituents fell into the range of values given in the codex.

Frank Maresh

A56-5L4 METALLURGICAL LITERATURE CLASSIFICATION



KOPAL, S.

CA

28

Measurement of alcohol losses in agricultural distilleries due to the caramelization of the mash while processing sugar beets. Stanislav Kopal. *Sbornik Ceskoslov. Akad. Zemedelske* 19, 39–45(1947).—In processing sugar beets through scalding, it is necessary to choose a pressure between 2 and 3 atm. according to the quality of the beets. Scalding under high pressure causes not only caramelization of the mash but also decreases the fermentation of sugars.

V. K.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

KOPAL, S.

CZECHOSLOVAKIA / Chemical Technology. Chemical Products and Their Application. Fermentation Industry. I-29

Abs Jour : Ref Zhur - Khimiya, No 3, 1957, No 10224

Author : Kopal, S.
Inst : Not given
Title : A Method for the Evaluation of the Alcohol Yield from Potatoes.

Orig Pub : Sbor. Ceskosl. akad. zemed. ved. Rostl. vyroba, 1955, Vol 28, No 1, 69-80

Abstract : A laboratory method has been developed for the evaluation of the characteristics of potatoes with particular reference to the properties of alcohol-forming substances present in the various types of potatoes, including the quality of the starch, and their effect on the alcohol yield. The method has been verified by tests on a number of potato grades of different origin from the 1951-1954 harvest. The method is designed for application in scientific research and quality control work.

Card : 1/1

ACCESSION NR: AP4012493 Z/0034/64/000/002/0147/0147

AUTHOR: Vyklicky, M. (Engineer); Lobl, K. (Engineer); Kopal, V. (Engineer)

TITLE: Stainless austenitic-ferrite steel

SOURCE: Hutnicke listy, no. 2, 1964, 147

TOPIC TAGS: austenitic-ferritic steel, intercrystal corrosion, corrosion-resistant steel

ABSTRACT: The object of the invention is the forming and casting of austenitic-ferritic steels resistant to inter-crystal corrosion. These steels contain from 30 to 50 percent ferrite, the remainder is austenite and type $M_{23}C_6$ carbide. The ferrite contains from 22.5 to 25% chrome, and from 3 to 5% nickel, and the austenite contains from 19.5 to 22.5% chrome and from 5 to 8% nickel, with a total contant of carbon in the alloy of up to .25%, a silicon content up to 1%, a 6% manganese content by weight, and with the usual content of inclusions.

A close study of the properties of steel with two-phase austenitic-ferritic structure, either stabilized (about 0.5% titanium) or non-stabilized, was con-

Card 1/2

ACCESSION NR: AP4012493

ducted with material having a carbon content of about 0.1%, a silicon content of about 0.5%, manganese, about 0.5%, chrome, about 20%, and nickel, about 4%. In some cases, these were alloyed with about 2% molybdenum. With heat treatment at 1,050°C air temperature, the following average mechanical properties of steel were determined:

Type of Steel	σ_{Kt} kp/mm^2	σ_{Pt} kp/mm^2	10 %	R mkg/cm^2
Cr20Ni14	41.8	85.8	37.5	13.2
Cr20Ni14Ti	49.7	78.0	30.8	8.6
Cr20Ni14Mo2	47.6	72.0	43.1	14.2
Cr20Ni14Mo2Ti	54.1	60.1	18.5	3.6

The nonstabilized steels have considerably better plastic properties than any stabilized steel alloyed in the same way.

ASSOCIATION: None

Card 2/2

ACCESSION NR: AP4042272 Z/0032/64/014/007/0509/0517

AUTHOR: Vyklicky, M.(Engineer); Mericka, M., Kabrhel, A. (Engineer); Tuma, H. (Engineer); Kopal, V.(Engineer); Mursec,M.(Engineer);Dvorak,K.(Engineer); Valtr,V.

TITLE: Corrosion resistance of steel with a two-phase structure of the type Cr21Ni5

SOURCE: Strojirenstvi, v. 14, no. 7, 1964, 509-517

TOPIC TAGS: chromium steel, nickel steel, stainless steel, corrosion resistance, phase structure, alloy steel, alloying, phosphorus, titanium

ABSTRACT: Extensive experiments have been carried out to test corrosion resistance of newly introduced non-rusting steels with a two-phase structure of the type Cr21Ni5, which are mainly utilized in equipment of the chemical industry. The tests were carried out in the laboratory and confirmed by experiments in industrial plants, and included comparisons with classical steels which the new types

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ACCESSION NR: AP4042272

were to replace. Laboratory tests of the usual type were carried out on 30 x 80 x 2 mm (and also 1 mm) samples and plant tests on 20 x x 100 x 2 mm samples. The results of the experiments are in agreement with corrosion theory. Increased phosphorus content lowers the corrosion resistance. The varying effect of titanium added to Cr21Ni5 and Cr18Ni9 in different acids is discussed. In general it is found that the optimal types of two-phase steels have a corrosion resistance similar to that of classical austenite steel while being more economical than the corrosion resistant CSN 17460 and 17471 steels, and exhibiting a much higher intercrystalline-corrosion resistance. It was found that in the food-processing industry Cr21Ni5Ti can almost fully replace CSN 17246 steel. Orig. art. has: 6 figures and 13 tables.

ASSOCIATION: SVUMT, Prague

SUBMITTED: 00 ENCL: 03

SUB CODE: MM NR REF SOV: 001 OTHER: 006

Card 2/5

KOPAL, VLADIMIR

40 Q

L 41519-65 ARG/EEO-2/EWG(j)/EWT(d)/FBD/FSS-2/EWG(r)/EWT(l)/FBO/EWP(c)/EWA(c)/EWT(m)/FS(v)-3/EPF(c)/EEC(k)-2/EWG(s)-2/EWP(i)/EWP(f)/EWG(v)/EWP(c)/EWP(v)/EWA(l)/EPR/EWP(j)/T-2/EWG(a)-2/EWP(h)/EPA(bb)-2/EEC(c)-2/EED-2/EWG(c)/FCS(k)/EWP(b)/ Pl-4/Pw-4/Pk-4/Pn-4/ Pi-4/Ph-4/Pac-2/Ps-4/Pr-4/Po-4/Po-5/Pq-4/Pac-4/Pr-4 IJP(c) AST/TT/WW/DD/RM/GW/BC/WH

AM4045110 BOOK EXPLOITATION 21 163 141 B+1

Barvir, Miroslav, (Engineer); Benes, Konrad, (Professor, Doctor); Bouska, Jiri, (Doctor); Budil, Ivo, (Graduate in Philosophy); Ceplecha, Zdenek, (Candidate of Physical and Mathematical Sciences); Codr, Milan, (Doctor); Dolezal, Vladimir, (Doctor); Dvorak, Antonin, (Candidate of Medical Sciences); Dvorak, Josef, (Doctor); Guth, Vladimir, (Candidate of Medical Sciences, Docent, Doctor); Horak, Zdenek, (Doctor of Physical and Mathematical Sciences, Corresponding Member of the Czechoslovak Academy of Sciences, Professor, Doctor); Hospodar, Jan, (Doctor of Physical and Mathematical Sciences, Doctor); Kleczek, Josip, (Doctor); Klest, Emil, (Candidate of Physical and Mathematical Sciences); Kolodovsky, Milan; Kopal, Vladimir (Doctor); Kopecky, Miloslav, (Candidate of Legal Sciences); Krivsky, Ladislav, (Candidate of Physical and Mathematical Sciences); Kviz, Zdenek, (Candidate of Physical and Mathematical Sciences); Ledvina, Milan, (Engineer); Malcik, Vladimir, (Doctor); Moravek, Milan, (Candidate of Medical Sciences); Mrazek, Jaroslav, (Candidate of Medical Sciences, Engineer); Mrazek, Jiri, (Candidate of Technical Sciences); Neuzil, Ludek, (Doctor); Novotny, Zdenek, (Candidate of Physical and Mathematical Sciences); Novotny, Zdenek, (Doctor); Pernegr, Jaroslav, (Doctor, Candidate of Physical and Mathematical Sciences); Pesek, Rudolf, Professor, Doctor, Engineer); Pipal, Miloslav, (Doctor of Technical Sciences, Corresponding member, of the Czechoslovak Academy of Sciences); Plavec, Miroslav, (Doctor); Pokorny, Zdenek, (Candidate of Physical and Mathematical Sciences, Docent, Doctor);

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14

Ruml, Vladimir, (Candidate of Medical Sciences, Doctor); Sadil, Josef, (Doctor of Physiological Sciences); Sehnal, Ladislav; Stverak, Jiri, (Doctor); Svestka, Zdenek, (Doctor); Tuma, Jaroslav, (Candidate of Physical and Mathematical Sciences, Doctor); Tysl, Vaclav, (Docent, Engineer); Ulehla, Ivan, (Candidate of Technical Sciences, Professor, Doctor); Valnicek, Boris, (Candidate of Physical and Mathematical Sciences, Doctor); Vanysek, Vladimir, (Candidate of Physical and Mathematical Sciences, Docent, Doctor); Vlasak, Marian, (Candidate of Physical and Mathematical Sciences; Doctor); Voda, Miloslav, (Engineer)

Principles of astronautics (Zaklady kosmonautiky) Prague, Orbis, 1964. 445 p. illus., biblio. 5000 copies printed.

TOPIC TAGS: cosmonautics, rocket, satellite, space flight, missile

PURPOSE AND COVERAGE: This publication is a popular scientific reference book for people working in cosmonautics. The book presents a survey of cosmonautics and space flight up to 1 June 1963.

TABLE OF CONTENTS:

Card 2/8

KOPAL, Vladimir, inz.

Metallurgical semiproducts finished by plastics. Tech praca 16 no.12:932-934 D '64.

1. Research Institute of Iron Metallurgy, Prague.

Kopal, Zdeněk

Kopal, Zdeněk and Kurth, Rudolf

$$M(E+1)-M(E)=P(E)$$

relates the period P of a variable star at epoch E to the times of maximum [illegible] epochs E and $E+1$. This equation has the [illegible] solution

$$M(E)-M(0)=\int_0^E P(E)\,dE+\tfrac{1}{2}\{P(0)-P(E)\}+\sum_{j=1}^{n}\frac{B_{2j}}{(2j)!}\{P^{(2j-1)}(E)-P^{(2j-1)}(0)\}+R_n,$$

where the B's are the Bernoulli numbers. The authors point out that the error involved in neglecting [illegible] terms following the [illegible] by astronomers — may be considered [illegible] certain circumstances, and illustrate [illegible]

ZVEREV, M.S.; SHARONOV, V.V., prof.; MAGNITSKIY, V.A., prof.; SHRUTKA, Guntram [Schrutka, Guntram], prof.; YURI, Garol'd [Urey, Harold C.], laureat Nobelevskoy premii (SShA); KOPAL, Zdenek, prof.; KOZEL, Karol, prof.; ROSH, Zhan [Rösch, J.]

Twenty-two answers to three questions. Nauka i zhizn' 28 no.3:23,25, 29, 30-32 Mr '61. (MIRA 14:3)

1. Chlen-korrespondent AN SSSR (for Zverev). 2. Direktor astronomicheskoy observatorii Leningradskogo universiteta (for Sharonov). 3. Moskovskiy gosudarstvennyy universitet imeni M.V. Lomonosova (for Mangitskiy). 4. Venskiy universitet (Avstriya) (for Shrutka). 5. Manchesterskiy universitet (Angliya) (for Kopal). 6. Krakovskiy universitet (Pol'sha) (for Kozel). 7. Observatoriya Pik-dyu-Midi (Frantsiya) (for Rosh).

(Moon)

POZIN, M.Ye., KOPALEV, B.A., ZINYUK, R.Yu.

Investigation of the posibility of separating, by flotation, a precipitate-calcium sulfate mixture obtained from Kara-Tau phosphorites. Trudy LTI no.58:59-64 '59. (MIRA 13:7)

1. Leningradskiy tekhnologicheskiy institut im. Lensoveta.
(Calcium sulfate) (Flotation) (Phosphorites)

KOPALEYSHVILI, A.D.

Lithology and feeding substrate of the coal-bearing series of the chala coal bed. Soob. AN Gruz. SSR 27 no.3:285-292 S '61.
(MIRA 15:3)

1. Akademiya nauk Gruzinskoy SSR, Geologicheskiy institut, Tbilisi. Predstavleno akademikom G.S.Dzotsenidze.
(Sachkhere District--Petrology)

GRDCHKLASHVILI, I.D.; KOPALEYSHVILI, A.D.

Rudaceous rocks in the carbonate flysh of Racha-Cvanetiya. Soob. AN Gruz. SSR 36 no.3:617-624 D '64.

(MIRA 18:3)

1. Geologicheskiy institut AN GruzSSR, Tbilisi. Submitted May 14, 1964.

KOPALEYSHVILI, A.D.

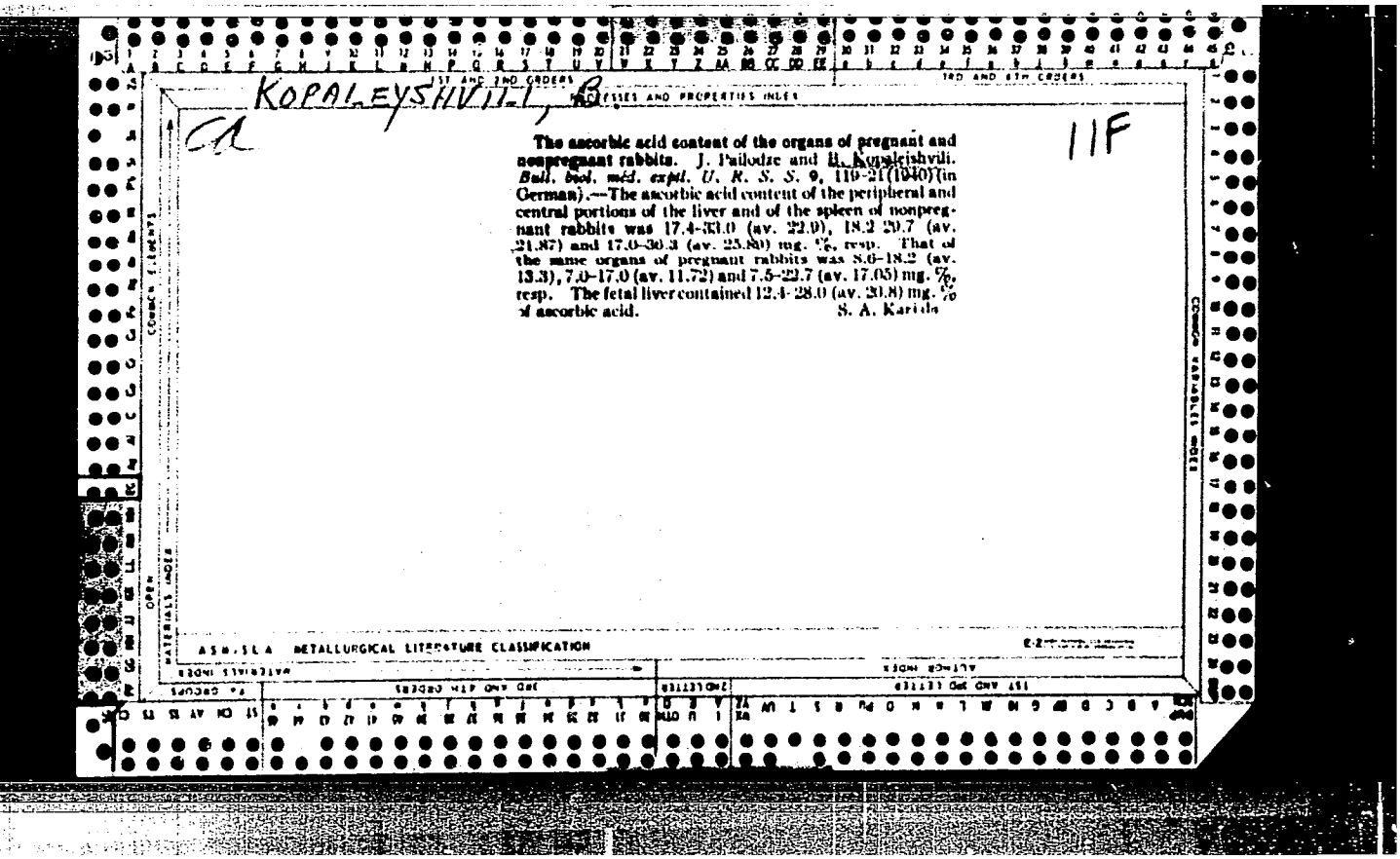
Materials on the lithology of flysch sediments in the Upper Racha. Soob. AN Gruz. SSR 38 no. 3:583-586 Je '65.
(MIRA 18:12)

1. Geologicheskiy institut AN GruzSSR. Submitted Dec. 7, 1964.

MEL'NIKOV, K.A., inzh.; KOPALEYSHVILI, A.K., inzh.

Three cycles per day with the UKR-1 cutter-loader. Ugol' Ukr. 5 no.4:32-33 Ap '61. (MIRA 14:4)

1. Kombinat Stalinugol' (for Mel'nikov). 2. Shakhta No.8-a im. Stalina tresta Kalininugol' (for Kopaleyshvili).
(Coal mining machinery)
(Coal mines and mining—Labor productivity)



KOPALEYSHVILI, B

CA

11F

The ascorbic acid content of the organs of pregnant and nonpregnant rabbits. J. Pailodze and B. Kopaleishvili. *Bull. biol. méd. expl. U. R. S. S.* 9, 119-21(1940)(in German).—The ascorbic acid content of the peripheral and central portions of the liver and of the spleen of nonpregnant rabbits was 17.4-33.0 (av. 22.0), 18.2-29.7 (av. 21.87) and 17.0-30.3 (av. 25.80) mg. %, resp. That of the same organs of pregnant rabbits was 8.0-18.2 (av. 13.3), 7.0-17.0 (av. 11.72) and 7.5-22.7 (av. 17.05) mg. %, resp. The fetal liver contained 12.4-28.0 (av. 20.8) mg. % of ascorbic acid. S. A. Kariida

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

KOPALEYSHVILI, B.,-Paylodze, Yu. i-Gotsiridze, T.

22763 Kopaleyshvili, B., Paylodze, Yu. i Gotsiridze, T. A. Vitamiin Karotin Krovi Pri Abortakh I Prezhdevremennykh Rodakh. Trucy (Tbilis. Gos. Med. Ii-T), T. V, 1948, S. 205-14-Na Gruz. Yaz. - Rezfme Na Rus. Yaz.

SO: Letopis', No. 30, 1949

CA KOPALEYSHVILI, B. 11F

The role of folliculin in parturition. P. Shushanya, B. Kopaleishvili, and Yu. Paikidze (Tbilissi Med. Inst.). *Akusherstvo i Ginekol.* 1950, No. 2, 18-22.—The concn. of urinary folliculin rises with duration of pregnancy (300 γ/l. at 2 months to 1600 at 8 months). Immediately after birth a sharp drop occurs (to 90-200). In multiple births the max. levels are higher. The rise of folliculin stimulates uteral activity and its administration may be used to alleviate birth pains to some extent. It is possible that folliculin is elaborated by the placenta during pregnancy. G. M. Kosolapoff

DZNELADZE, A.G.; KOPALEYSHVILI, B.I., prof., red.; VANIDZE, TS.V., red. izd-va; KHUTSISHVILI, V.V., tekhn. red.

[Pathology and treatment of displaced organs in the female pelvis minor] Patologiia i terapiia smeshchenii organov malogo taza zhenshchiny. Tbilisi, Gos. izd-vo "Sabchota Sakartvelo," 1961. 225 p. (MIRA 15:6)
(GENERATIVE ORGANS, FEMALE—ABNORMITIES AND DEFORMITIES)

KOPALEYSHVILI, Grigoriy Trofimovich; KOSHELEV, V.A., redaktor; KOGAN, F.L., tekhnicheskiy redaktor

[Special structures for mountain roads] Spetsial'nye sooruzheniia na gornykh dorogakh. Moskva, Nauchno-tekhn. izd-vo avtotransp. lit-ry, 1956. 29 p. (MLRA 9:8)
(Mountain roads)

KOPALEYSHVILI, Grigoriy Trofimovich; YAKOVLEVA, A.I., red.; NIKOLAYEVA, L.N., tekhn. red.

[Study of the functioning of elements of a reinforced concrete arched bridge with a tie rod and oblique suspension rods] Issledovanie raboty elementov zhelezobetonnogo arochnogo mosta s zatiazhkoi i naklonnymi podveskami. Moskva, Nauchno-tekhn. izd-vo M-va avtomobil'nogo transporta i shosseinykh dorog RSFSR, 1961. 38 p. (MIRA 14:9)

(Bridges, Arched)

KOPALEYSHVILI, G.T., inzhener; BISSEYSHVILI, M.I., inzhener.

Wintertime road maintenance in high mountains. Avt.dor. 19 no.9: 16-17 S '56. (MLRA 9:11)
(Georgia--Mountain roads)

Kopaleyshvili, T. I.

C-5

Category : USSR/Nuclear Physics - Nuclear Reactions

Abs Jour : Ref Zhur - Fizika, No 3, 1957, No 6063

Author : Mamasakhlisov, V.I., Kopaleyshvili, T.I.
Inst : Tbilisi University
Title : Investigation of the Nuclear Reaction O^{17} (d,n)F^{18}.

Orig Pub : Coobshch. AN GruzSSR, 1955, 16, No 9, 673-680.

Abstract : The cross section of the reaction O^{17} (d,n) F^{18} is calculated under the assumption that the "breaking up" deuteron enters into the nucleus and the neutron of O^{17} is ejected to the outside. The energy of the deuteron-neutron interaction in O^{17} is chosen in the form $V = g \int \delta(\underline{r}_1 - \underline{r}) + \delta(\underline{r}_2 - \underline{r}))$, where $\underline{r}_1$ and $\underline{r}_2$ are the radius vectors of the neutron and proton entering into the deuteron, $\underline{r}$ the radius vector of the neutron of the nucleus, and $g = (4\pi\hbar^2/M)\, a_0'$ (a_0' is the amplitude of the np scattering). The calculation is carried out in the Born approximation. The potential of the interaction between the particles and the nuclear remnant is chosen in the form of a rectangular well. In the calculations, the authors take into

Card : 1/2

Category : USSR/Nuclear Physics - Nuclear Reactions C-5

Abs Jour : Ref Zhur - Fizika, No 3, 1957, No 6063

account only three orbital momenta: $l = 0$, 1, and 2. Under the assumption that F^{18} is formed in the ground state, the resultant total effective cross section of the reaction at $E_d = 3.45$ Mev is $\sigma = 0.75$ mb (the experimental value is 0.77 mb). However, the theoretical value of the cross section at $E_d = 3.25$ Mev is barely smaller than this quantity, while the experimental value is 0.60 mb.

Card : 2/2

KOPALEYSHVILI, T.I.

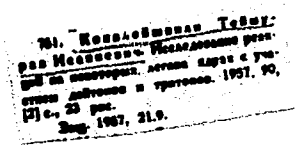
CARD 1 / 2 PA - 1412

SUBJECT USSR / PHYSICS
AUTHOR KOPALEJŠVILI, T.I.
TITLE On the Nuclear Reaction Be^9(pd)Be^8.
PERIODICAL Žurn.eksp.i teor.fis, 30, fasc.6, 1145-1146 (1956)
Issued: 8 / 1956 reviewed: 10 / 1956

The Be^8 nucleus remainder in the field of

KOPALEYSHVILI, T. I., Cand of Phys-Math Sci -- (diss) "Study of the reaction on certain light nuclei with the participation of deuterons and tritons." Tbilisi, 1957, 11 pp (Tbilisi State University im Stalin), 100 copies

(KL, 31-57, 103)



KOPALEYSHVILI, T. I., MAMASAKHLISOV, V. I.

"Angular Distribution of Inelastic Scattered Deuterons,"

Inst. for Physics. Georgian Acad. Sci.

paper submitted at the A-U Conf. on Nuclear Reactions in Medium and Low Energy Physics, Moscow, 19-27 Nov 1957.

KOPALEYSHVILI, T.I.

4132

973-4(1957) Jan

AUTHOR KOPALEYSHVILI, T.I.

TITLE The Nuclear Photo-Effect At Be^9 at High Energies.
(Yadernyy fotoeffect na Be^9 pri bol'shikh energiyakh -Russian)

PERIODICAL Zhurnal Eksperim.I Teoret.Fiziki,1957,Vol 32,Nr 5,pp 1249-1250(USSR)

ABSTRACT H.Ueberall (ZS.Naturforsch.,8a,p.142 (1953)) investigated on basis

the γ-quanta from 20 to 200 MeV.There the curve of the interaction energy of the system (Be^8,n) is assumed in the form of a potential pot with spherical symmetry.In his paper,Ueberall obtains in Born's approximation an angular distribution of the photoprotons that is proportional to $\sin^2\theta$ and the energy dependence of the total effective cross section.In general,this energy dependence decreases as the energy increases, and it has zeros at certain energy values,but it is not in agreement with the relevant experimental data.According to Ueberall,this a fluctuation of the curve of the total cross section is caused by the particular selection of the potential in the form of a potential was selected differently,it would be possible that the total cross section would not fluctuate.In order to examine this assumption,the author of the paper under review investigated the same reaction while selecting as interaction potential of the system (Be^8,n) the potential of an oscillator which breaks off in the point $r=r_0$.If the potential is selected in this way,it is possible to represent the wave function of the system (Be^8,n) with satisfactory approximation in the form $R(r)=\sqrt{2/3}(2\pi)^{-1/4}(r_0)^{-3/2}$

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Card 2/2

KOPALEYSHVILI, T. I.

56-3-34/59

AUTHOR: Kopaleyshvili, T.I.

TITLE: On the Nuclear Reaction Li^6(nt) He^4 (O yadernoy reaktsii Li^6(nt) He^4) (Letter to the Editor)

PERIODICAL: Zhurnal Eksperim. i Teoret. Fiziki, 1957, Vol. 33, Nr 3 (9), pp. 788 - 790 (USSR)

ABSTRACT: First, a short report is given on two previous works dealing with the same subject. The present paper investigates the energy dependence of the total cross section of the cross section mentioned in the title. The interaction of the deuteron with the α-particle in the Li^6-nucleus is here not selected in form of a potential well but in form of an oscillator potential breaking off in a finite distance. Further, the energy of the interaction between the neutron and deuteron in the matrix element is not replaced by the energy of the interaction between the deuteron and the α-particle, but is selected in explicit form. Strictly speaking, this interaction has to consist of two terms: of the interaction of the inciding neutron with both of the nucleons contained in the deuteron. However, instead of these two terms the author chooses a certain average

Card 1/2

KOPALEYSHVILI, T.

USSR/Chemical Chemistry. Some Questions Concerning Subatomic Structure B-2
of Matter.

Abs Jour: Referat. Zhurnal Khimiya, No 2, 1958, 3479

Author : T. Kopaleyshvili.
Inst : Tbilis University im Stalin; Chair of Theoretical Physics
Title : Reactions in Some Light Nuclei with Participation of Deuterons and Tritons.

Orig Pub: Tr. Tbilissk. un-ta, 1957, 62, 83-102.

Abstract: Stripping reactions in light nuclei (dp) and (dn) are investigated. A computation method taking the inner nucleus region into consideration is offered. Reactions with deuteron participation, as well as (dt) reactions for Be^9 and C^{13} are discussed. As far as Be^9, C^{13}, O^{17}, N^{13} and F^{17} nuclei are concerned, they are considered as consisting of skeleton nuclei + one unpaired nucleon connected with each.

Card : 1/1

with respect to the multipoles $V' = \Sigma V'_e$. After the interaction the nucleus is in the state 2^+ which is the first excited level of even - even nuclei. Then the authors give a (rather long) expression for the matrix element of the investigated process. Formulae are given, moreover, for the wave functions of the deformed nucleus in the excited state and in the ground state and also for the differential cross section of the investigated process.

The authors then compare the theoretical distributions found in this paper with the experimental data for the nuclei Mg^{24} and C^{12}. In the case which is investigated in this paper, the rôle of the electric interaction is as important as the nuclear interaction. A figure shows the angular distribution calculated in this paper. A way of attaining the best possible agreement between theoretical and experimental results is discussed with a few words. The remaining differences between theory and experiment may be caused by the inadequacy of the assumption, that the discussed process causes a one-phonon excitation in the nucleus C^{12}.

24(5)

AUTHORS: Kopaleyshvili, T. I., Mamasakhlisov, V. I. SOV/56-35-4-32/52

TITLE: On the Inelastic Scattering of Deuterons on the Mg^{24} Nucleus (O neuprugom rasseyanii deytronov na yadre Mg^{24})

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1958, Vol 35, Nr 4, pp 1017 - 1019 (USSR)

ABSTRACT: In their introduction the authors discuss experimental work carried out earlier in connection with this subject. In England (Ref 1) results were published concerning the inelastic scattering of 8.9 MeV deuterons on Mg^{24} with excitation of the levels $2^+, 4^+, 2^+$ with the energies 1.37, 4.12 and 4.23 MeV (angular distribution, scattering probability). The authors themselves already investigated (Ref 2) the scattering of deuterons on Mg^{24}-nuclei with excitation of the 1.37 MeV level; in the present paper the same is done with respect to the excitation of the 4.23 MeV level (2^+). First, the conditions are discussed ($K = 2$, $I = 2$, $n_\beta = 0$, $n_\gamma = 1$) and an ansatz is made

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On the Inelastic Scattering of Deuterons on the Mg^{24} Nucleus SOV/56-35-4-32/52

for the interaction potential and the matrix elements of the investigated transition (Born's approximation). Both nuclear interaction and the electric interaction between the deuteron and the nucleus are taken into account. Finally, a formula is derived for the differential inelastic scattering cross section, and the experimental (Ref 4) and theoretical results obtained for $d\sigma/d\Omega$ are compared in a diagram. The theoretical calculated values partly deviate considerably from experimental ones, which is attributed to the manner of approximation used in calculation. There are 1 figure and 4 references, 1 of which is Soviet.

ASSOCIATION: Institut fiziki Akademii nauk Gruzinskoy SSSR (Physics Institute of the Academy of Sciences of the Georgian SSR)

SUBMITTED: May 20, 1958

Card 2/2

21(7). SOV/56-37-1-21/64

AUTHORS: Mamasakhlisov, V. I., Kopaleyshvili, T. I.

TITLE: Inelastic Scattering of Nucleons on Mg^{24} and Si^{28} Nuclei (Neuprugoye rasseyaniye nuklonov na yadrakh Mg^{24} i Si^{28})

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1959, Vol 37, Nr 1(7), pp 131-136 (USSR)

ABSTRACT: The present paper deals with the theoretical investigation of inelastic scattering of nucleons on Mg^{24}- and Si^{28} nuclei. The one-particle- and the collective excitation are considered. In contrast to T. Sawicki (Ref 3), the authors also consider the Coulomb interaction, and they investigate the dependence of the nature of angular distribution and of the amount of the scattering cross section on the amount and sign of the deformation. In the calculation of one-particle excitation, it is assumed that of the nucleons present beyond a closed shell only one is excited which moves in the field of the deformed nucleus. An expression for the differential cross section of inelastic scattering is derived. These formulas are then applied to the proton scattering on Mg^{24}- and Si^{28} nuclei with excitation of the first level. In a deformed

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Inelastic Scattering of Nucleons on Mg^{24} and Si^{28} Nuclei SOV/56-37-1-21/64

3) The relative angular distribution which is connected with the collective excitation does not depend on the amount and sign of the deformation. Such a dependence, although weak, exists however in the case of one-particle excitation. There are 6 references, 1 of which is Soviet.

ASSOCIATION: Institut fiziki Akademii nauk Gruzinskoy SSR (Institute of Physics of the Academy of Sciences of the Gruzinskaya SSR)

SUBMITTED: January 17, 1959

Card 3/3

AUTHORS: Vashakidze, I. Sh., Kopaleyshvili, T. I., Chilashvili, G. A. SOV/56-37-3-24/62

TITLE: Resonance Scattering of γ-Quanta on the Mg^{24} Nucleus

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1959, Vol 37, Nr 3(9), pp 750-755 (USSR)

ABSTRACT: The present paper deals theoretically with the resonance scattering of γ-quanta on the Mg^{24} nucleus with excitation of the level 2^+ (1.37 Mev) and 2^+ (4.23 Mev). F. Metzger (Ref 2), N. A. Burgov, and Yu. V. Terekhov (Ref 3) determined experimentally the width of the level 2^+ (1.37 Mev) by the method of resonance scattering. If the Mg^{24} nucleus is assumed to be weakly deformed, the level 2^+ (1.37 Mev) may be regarded either as a collective (rotational) level with the momentum I = 2 (and with the projection K = 0 to the axis of symmetry of the nucleus) or also as a simple particle level (which is due to the excitation of a single nucleon in the field of the deformed nucleus). The nucleus in the shell N = 2 may be on the levels

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$\Omega = \pm 1/2, \pm 3/2,$ and $\pm 5/2$. In this connection three different levels correspond to the case $\Omega = \pm 1/2$, to the case $\Omega = \pm 3/2$ two, and to the case $\Omega = \pm 5/2$ one level (Ω denotes the projection of the momentum of the nucleon to the axis of symmetry of the nucleus). The distance between these levels depends on the value $\hbar\omega$ and on the parameter of deformation δ. According to the selection rules, only the transitions $1/2 \longrightarrow 1/2$ and $3/2 \longrightarrow 3/2$ are possible in Mg^{24}. The value $\delta = \pm 0.2$ is found for the Nilsson parameter in the transition $1/2 \longrightarrow 1/2$, in the transition $3/2 \longrightarrow 3/2$, however, it holds that $\delta = 0$. The widths of the excited 1.37 Mev level are tabulated. The case with $\delta = -0.2$ is out of question. At $\delta = 0.2$, the theoretical value of the width is considerably higher than the experimental one. If the value of δ (i.e. 0.3) is higher, the agreement with the experiment will probably be better. Angular distribution does not depend on the choice of the nuclear model as far as pure E2 transition is concerned. A different result with respect to the dependence of angular distribution on the nuclear model is, however, obtained if the resonance scattering of γ-quanta on the Mg^{24} nucleus with excitation of the second level

2^+ (4.23 Mev) is considered. From this level γ-transition to the ground level and to the first excited level is possible. In the transition to the ground level, the distribution of γ-quanta again does not depend on the choice of the nuclear model. In the transition to the first excited level, the transitions E2 and M1 are possible. The following relations hold for the probabilities: $W[E2(2\rightarrow 1) \sim W[E2(2\rightarrow 0)]$, $W[M1(2\rightarrow 1)] \sim W[E2(2\rightarrow 1)]$. The figures 0.1, and 2 denote the ground level and the first and second excited level. Moreover, it holds that $W[E2(2\rightarrow 1)] \,/\, W[E2(2\rightarrow 0)] \sim 1$, $W[M1(2\rightarrow 1)] \,/\, W[E2(2\rightarrow 1)] \sim 10^{-2}$. Transition $2\rightarrow 1$ is no pure E2 transition. A formula is written down for the computation of the correlation function. After fairly extensive computations $I(\theta) \sim (1 + A \cos\theta + B \cos^2\theta + C \cos^3\theta + D \cos^4\theta)$ is obtained, where A = 0.11; B = -1.5; C = -0.3; D = 0.7 .

θ denotes the angle between the absorbed and the emitted γ-quantum. Experimental investigation of the correlation of the γ-quanta in the excitation of the Mg^{24}-nucleus with the energy 4.23 Mev may lead to certain conclusions on the character of excitation of this nucleus. Unfortunately, such experiments have not yet been made. The authors thank V. I. Mamasakhlisov for his supervision and constant interest. There are 2 figures, 1 table, and 12 references, 7 of which are Soviet.

ASSOCIATION: Institut fiziki Akademii nauk Gruzinskoy SSR
(Physics Institute of the Academy of Sciences of the Gruzinskaya SSR)

SUBMITTED: March 31, 1959

MAMASAKHLISOV, V.I.; KOPALEYSHVILI, T.I.

Rotational level of the Li^7 nucleus. Zhur.eksp.i teor.fiz. 37 no.4:1134-1136 O '59. (MIRA 13:5)

1. Institut fiziki Akademii nauk Gruzinskoy SSR.
(Lithium--Isotopes)

85683

S/056/60/038/006/025/049/XX
B006/B070

24.6100

AUTHORS: Kopaleyshvili, T. I., Vashakidze, I. Sh., Mamasakhlisov, V. I., Chilashvili, G. A.

TITLE: The Alpha - Deuteron Model of the Li^6 Nucleus

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960, Vol. 38, No. 6, pp. 1758-1764

TEXT: A detailed discussion is given of the possibility of considering the Li^6 nucleus to be made of an alpha particle and a deuteron. The energy of the relative motion of these subsystems of alpha and deuteron is calculated on the basis of one of the assumptions, and it is shown that this energy has a minimum in the region of negative values. Among others, a paper by Biel (Ref. 7) is discussed in the introduction; Biel has studied the binding energies of Be^8 and C^{12} nuclei on the alpha-particle model and obtained a good agreement with the experiment by a proper choice of a mixture of Serber-type and symmetric forces. In following Biel, the present authors assume that both the forces between two nucleons and their

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The Alpha - Deuteron Model of the Li^6 Nucleus

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B006/B070

wave functions have a Gaussian form. It is further assumed that the six-nucleon system of the Li^6 nucleus consists of two coupled subsystems, an alpha particle and a deuteron, which continually exchange nucleons, and that this system has an energy minimum. Parameters are defined which characterize the Li^6 nucleus in the ground and the excited states. The eight possible states of a nucleon are defined by its spin, isospin, and belonging to one of the two subsystems, and have the form (a, b, c) where a, b, c, = 1, 2. These states are numbered from 1 to 8, and these numbers are used to characterize, for example, the wave functions. Thus, for example, the spatial part of the wave function of the Li^6 nucleus is represented by $\psi(1234;56)$, where the first four indices refer to the nucleons of the alpha subsystem and the last two to the d-subsystem. Since an analytical determination of the energy is not possible on account of the complicated expressions, a numerical calculation is suggested. Energy curves for the ground state of Li^6 are found and shown in Fig. 1 (Serber-type forces, Curve 1; symmetric forces, Curve 2). The ordinate of the curves is taken to be the difference $E(\lambda)-E(0)$, where $E(0)$ is the energy of the system when the alpha particle and the deuteron are separated by an

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The Alpha - Deuteron Model of the Li^6 Nucleus

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infinite distance. The fact that these curves have a minimum shows that the nucleon system considered is stable. The minimum in both the cases is found for $\lambda = 0.0316 \cdot 10^{26} cm^{-2}$; the energy minima are at -1.58 Mev (Serber-type) and -1.42 Mev (symmetric forces). Finally, the excited state 0^+ (T=1) of the Li^6 nucleus is studied. Fig. 3 shows the curve $E^*(\lambda) - E^*(0)$ as a function of λ for a mixture of Serber-type and symmetric forces. This curve has also a minimum (0.66 Mev) for the same value of λ as in the ground state; it has also a maximum at $0.0158 \cdot 10^{26} cm^{-2}$. The value of excitation energy is found to be 4.77 Mev, which does not agree well with the experimental value of 3.57 Mev. The origin of this divergence is discussed. D. A. Kveselav and Ye. N. Dekanosidze of the Vychislitel'nyy tsentr AN Gruzinskoy SSR (Computation Center of the AS Gruzinskaya SSR), and R. A. Aleksandryan and F. M. Ter-Mikaelyan of the Vychislitel'nyy tsentr AN Armyanskoy SSR (Computation Center of the AS Armyanskaya SSR) are thanked for the calculations. There are 3 figures and 11 references: 3 Soviet, 3 British, 2 US, 1 French, 1 Italian, and 1 Dutch.

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85683

The Alpha - Deuteron Model of the Li^6 Nucleus S/056/60/038/006/025/049/XX
B006/B070

ASSOCIATION: Institut fiziki Akademii nauk Gruzinskoy SSR (Institute of Physics of the Academy of Sciences Gruzinskaya SSR)

SUBMITTED: December 19, 1959

Card 4/4

VASHAKIDZE, I.Sh.; KOPALEYSHVILI, T.I.; MAMASAKHLISOV, V.I.; CHILASHVILI, G.A.

Structure of the Be^9 nucleus. Zhur.eksp.i teor.fiz. 38 no.3:936-941 Mr '60. (MIRA 13:7)

1. Institut fiziki Akademii nauk Gruzinskoy SSR.
(Nuclei, Atomic) (Beryllium--Isotopes)

83189

S/056/60/039/002/026/044
B006/B056

24.6600

AUTHORS: Vashakidze, I. Sh., Kopaleyshvili, T. I., Chilashvili, G. A.

TITLE: Investigation of the (n,p) Reaction on the Li^6 Nucleus

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960, Vol. 39, No. 2(8), pp. 393-396

TEXT: It was the purpose of the present paper theoretically to determine the proton angular distribution in the (n,p) reaction on Li^6 in consideration of the neutron-proton correlation in the Li^6 nucleus. The authors investigated the (n,p) reaction on the Li^6 nucleus on the basis of the alpha-deuteron model of this nucleus, which had been worked out in earlier papers (Refs. 4, 5). They assume that the use of this model may lead to a better agreement between theory and experiment. It is assumed in this connection that the neutron and the proton, which are above the closed shell, form a bound state, so that the characteristic of the departure of the proton caused by the incidence of a neutron is due not only to direct interaction between these two particles (as assumed in the generally accepted

Card 1/2

S/056/60/039/003/018/045
B004/B060

AUTHORS: Vashakidze, I. Sh., Kopaleyshvili, T. I., Mamasakhlisov, V. I., Chilashvili, G. A.

TITLE: Resonance Scattering of Gamma Quanta on the Li^7 Nucleus

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960, Vol. 39, No. 3 (9), pp. 666-668

TEXT: The authors studied the resonance scattering of gamma quanta on the Li^7 nucleus with the excitation of levels $1/2^-$ (0.477 Mev) and $5/2^-$ (7.46 Mev) (Fig. 1). The calculation of the $5/2^-$ level by means of a model of the oscillator potential, and with the spin-orbit interaction taken into account, is first discussed along with the conception of this level as the rotation of a rigid rotator consisting of an α-particle and a triton ($Li^7 = \alpha + t$), and the equation obtained in a previous paper (Ref. 2) concerning the quadrupole moment of Li^7 is then written down: $Q_0 = (68/49)\overline{r^2}$ (1), where $\overline{r^2}$ denotes the mean square distance between

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Resonance Scattering of Gamma Quanta on the Li^7 Nucleus

alpha particles and triton. The following relation is written down for an ellipsoid of revolution equivalent to this rotator:

$3ZR^2\beta/\sqrt{5\pi} = (68/49)\overline{r^2}$ (2). Z = 3, R = radius of the equilibrium sphere, β = deformation parameter of the Li^7 nucleus. Data supplied in a paper by A. S. Davydov and G. F. Filippov (Ref. 3) are made use of to write down equation (3) for the magnetic moment, and from (1) and (3) the following correlation function is obtained by substituting the data found by V. Yu. Gonchar, Ye. V. Inopin, S. P. Tsytko (Ref. 4):

$I(\theta) \sim \left[1 + 1.22P_2(\cos\theta) + 2.77P_4(\cos\theta)\right]$ (4). θ is the angle between the absorbed and emitted γ-quanta. Fig. 2 shows this function on the assumption of a single-particle- and a collective excitation. The value $1.5 \cdot 10^{-13}$ sec was calculated for the lifetime of the state $1/2^-$ (0.477 Mev) of the Li^7 nucleus, when single-nucleon excitation was assumed, and the value $0.96 \cdot 10^{-13}$ was found when the alpha particle - triton pattern was assumed. The value found experimentally is $1.09 \cdot 10^{-13}$ sec. The assumption of the level $1/2^-$ (0.477 Mev) being caused by spin reversal

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B102/B202

24.6600

AUTHORS: Vashakidze, I.Sh., Kopaleyshvili, T.I., Chilashvili, G.A.

TITLE: Neutron polarization on disintegration of Be^9 nuclei by circularly polarized gamma quanta

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 40, no. 2, 1961, 491 - 492

TEXT: As is known, circular polarization of gamma quanta can be determined from the polarization of photoprotons or photoneutrons which are emitted by nonpolarized nuclei. This is of interest in connection with the discovery of the non-conservation of parity in weak interactions. The best targets for low quantum energies proved to be H^2 or Be^9. No photoneutron polarization has hitherto been observed in Be^9; for this reason, the authors theoretically studied the polarization of photoneutrons which are released by circularly polarized quanta. They obtained the following expression for the z-component (in the direction of the inciding quantum) of the polarization vector of photoneutrons from Be^9:

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Neutron polarization on disintegration...

$$P_z(\pm 1) = \pm \frac{0{,}5\left\{1{,}28A_2^2 - A_0^2 - [2A_0 A_2 \cos(\eta_0 - \eta_2) + 1{,}53A_2^2]P_2(\cos\theta)\right\}}{A_0^2 + 2A_0 A_2 \cos(\eta_0 - \eta_2) P_2(\cos\theta) + 2{,}14A_2^2 - 0{,}76A_2^2 P_2(\cos\theta)}, \quad (1)$$

$$A_0 = \int R_{0\,1/2} R_{1\,1/2} r^3 dr, \quad A_2 = \int R_{2\,3/2} R_{1\,1/2} r^3 dr,$$

where $\eta_0 = \eta_{0\,1/2}$, $\eta_2 = \eta_{2\,3/2} = \eta_{2\,5/2}$ are the scattering phases, and is the scattering angle of the photoneutrons; the upper and the lower sign correspond to right- and left-handed quantum polarization, respectively. Since the direction of the axis can be arbitrarily chosen P_x and P_y coincide after averaging over φ. Formula (1) contains the scattering phases η_0 and η_2, and the radial integrals A_0 and A_2. These quantities can be easily determined with the aid of the potential parameters of the neutron in the Be^9 nucleus, i.e., $V_{1\,3/2} = 12.16$ Mev, $V_{0\,1/2} = 3$ Mev and $r_0 = 5 \cdot 10^{-13}$ cm if the quantum energy is known. Thus, the angular dependence of the z-component of the polarization vector of the photoneutron can be determined. It is shown in the figure for quantum energies of 2, 3, 4, and 20 Mev. These energies

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VASHAKIDZE, I. Sh.; KOPALEYSHVILI, T.I.; CHILASHVILI, G.A.

Polarization of neutrons in the disintegration of Be^9 nuclei by circularly-polarized γ- quanta. Zhur. eksp. i teor. fiz. 40 no.2:491-492 F '61.0 (MIRA 14:7)

1. Tbilisskiy gosudarstvennyy universitet i Institut fiziki AN Gruzinskoy SSR.
(Beryllium—Isotopes) (Neutrons)

3h6h2
S/056/62/042/002/025/055
B108/B104

24.6600

AUTHORS: Kopaleyshvili, T. I., Dzhibuti, R. I.

TITLE: The photonuclear reaction $He^4(\gamma,np)D^2$

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 42, no. 2, 1962, 467 - 470

TEXT: The reaction $He^4(\gamma,np)D^2$ is studied on the basis of direct interaction between the gamma quanta and all nucleons of He^4. It is assumed that the neutron-proton pair with spatial correlation at the moment of interaction with the gamma quantum is the one to fly off. The other pair forms the final deuteron. Magnetic interaction is neglected since at a gamma energy of some 100 Mev its contribution to the total photonuclear reaction cross section is only a few per cent. Interaction of the photonucleons with recoil nuclei can be neglected as well as neutron-proton interaction in the final state since the latter interaction is considerable only near the reaction threshold; the maximum of the total cross section versus energy curve, however, is far off the threshold. On the basis of these assumptions the wave function of the final state becomes

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B108/B104

The photonuclear reaction...

$$\Psi_f = \Phi(r_{34}) \exp(ik_d R_{34}) Y_{1m'}(\sigma_3\sigma_4) Y_{00}(\tau_3\tau_4) \exp(iKR_{12}) \times \times [Y_{10}(\tau_1\tau_2)\psi_{-k} + Y_{00}(\tau_1\tau_2)\psi_k] Y_{1m}(\sigma_1\sigma_2)/\sqrt{2}, \quad (4)$$

with

$$\psi_{\pm k} = (\exp(ikr_{12}) \pm \exp(-ikr_{12}))/\sqrt{2}, \quad (5)$$

$$r_{ij} = r_i - r_j, \quad R_{ij} = (r_i + r_j)/2, \quad k = (k_1 - k_2)/2, \quad K = k_1 + k_2,$$

The subscripts 1 and 3 indicate protons, 2 and 4 neutrons. The Y's are the spin and isospin functions of the respective pairs. The transition matrix element is then

I. Sh. Vashakidze, and G. A. Chilashvili are thanked for discussions. A. N. Gorbunov and V. M. Spiridonov (ZhETF, 34, 866, 1958) are mentioned. There are 2 figures and 6 references: 2 Soviet and 4 non-Soviet. The references to the English-language publications read as follows: M. Matsumoto. Progr. Theor. Phys., 23, 597, 1960; B. H. Bransden et al. Phil. Mag., 2, 1211, - 1957.

ASSOCIATION: Institut fiziki Akademii nauk Gruzinskoy SSR (Institute of Physics of the Academy of Sciences of the Gruzinskaya SSR)

SUBMITTED: June 27, 1961 (initially) October 12, 1961 (after revision)

KOPALEYSHVILI, T.I.; VASHAKIDZE, I.Sh.; MAMASAKHLISOV, V.I.; CHIIASHVILI, G.A.

Alpha-deuteron model of the Li^6 nucleus. Trudy Inst. fiz. AN Gruz. SSR 7:231-245 '60. (MIRA 14:10)
(Nuclear models)
(Lithium)

KOPALEYSHVILI, T.I.; RATISHVILI, I.G.

Angular distribution of deuterons inelastically scattered on Mg^{24} nuclei with excitation of the 4^+ -level (4.12 Mev.)
Trudy Inst.fiz.AN Gruz.SSR 8:197-202 '62. (MIRA 16:2)
(Deuterons--Scattering) (Magnesium)

ACCESSION NR: AR4040819 S/0058/64/000/005/V021/V021

SOURCE: Ref. Zh. Fizika, Abs. 5V160

AUTHOR: Kopaleyshvili, T. I.; Ratishvili, I. G.

TITLE: Research on the reaction (alpha, delta) on certain light nuclei

CITED SOURCE: Tr. In-ta fiz. AN GruzSSR, v. 9, 1963, 97-109

TOPIC TAGS: nucleus, alpha reaction, delta reaction

TRANSLATION: The angular distribution of knocked-out deuterons is calculated for target nuclei, which can be described with the help of the model "core + deuteron." There is considered the interaction of incident alpha-particles both with the core and also with the "outer" deuteron of the target nucleus. There are given the results of numerical calculations for nuclei Li^6, B^{10}, and N^{14}. Theoretical angular distributions agree well with experiment at small angles.

SUB CODE: NP ENCL: 00

Card 1/1

DZHIBUTI, R. I.; KOPALEYSHVILI, T. I.; MAMASAKHLISOV, V. I.

"Nucleonic Clusters in Light Nuclei and some Photonuclear Reactions."

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

Tbilisi State Univ.

DZHIBUTI, R. I.; KOPALEYSHVILI, T. I.

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KOPALEYSHVILI, T. I.

"Reactions (π,nn) and (γ,np) and Models of the Nucleus Li^6."

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DZHIBUTI, R.I.; KOPALEYSHVILI, T.I.

Interpretation of a threshold characteristic of the (γ,d) reaction on the B^9. Soob. AN GruzSSR 37 no.2:297-300 F '65.
(MIRA 18:3)

1. Institut fiziki AN GruzSSR. Submitted April 30, 1964.

KOPALEYSHVILI, T.I.

Absorption of gamma quanta and stopped π^--mesons by nuclei with emission of two nucleons, and the structure of light nuclei. 1Ad. fiz. 1 no.6:961-970 Je '65. (MIRA 18:6)

1. Tbilisskiy gosudarstvennyy universitet.

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Testing tea harvesting apparatus. Sel'khozmashina no.8:16-19 Ag '57.
(MIRA 10:8)

1.Gosudarstvennoye spetsial'noye konstruktorskoye byuro po chayu.
(Tea machinery--Testing)

Dissertation: "An Investigation of the Pulling Power, Speed, and Optimum Period of Work for Teams of Artels under conditions Prevailing in the Georgian S.S.R." Cand Tech Sci, Georgian Agricultural Inst, 30 Jun 54. (Zarya Vostoka, Tbilisi, 16 Jun 54)

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Device for fumigation with methyl bromide. Zashch. rast. ot vred. i bol 10 no.9:49 '65. (MIRA 18:11)

1. Starshiy toksikolog Abkhazskoy karantinnoy laboratorii.

KOPALIN, A.P., direktor lespromkhoza.

The workers' collective of the Verkhne-Toemsk Forestry Industry Enterprise strives for an increase in labor productivity.
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(Archangel Province--Lumbering)

1. KOPALIN I.P.

2. USSR (600)

4. Social conditions--Albania

7. In the People's Republic of Albania, Nauka i zhizn' 19 no.12, 1953.

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1. L. P. KOPALIN

2. USSR (600)

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KOPALIN, S. (Lt Col)

"Vertical Take-off and Landing of Aircraft," by Engineer Lt. Col S. Kopalin. Krasnaya Zvezda, June 12, p. 3, 1955

SO: Current Digest of the Soviet Press, Vol VII, #24, 27 July 55, Unclassified.

KOPALIN. S., Eng. Lt. Col.

"Aircraft with Vertical Takeoff and Landing," from the book Modern Military Technology, 1956, page 98.

Translation 1114585

KOPALIN, S. Lt. Col. Eng.

"Ways of Overcoming the 'Heat Barrier' at Supersonic Flights," Krasnaya Zvezda, No.20, page 2, 25 January 1956

The author outlines some possible ways of overcoming the "Heat Barrier" which in his opinion are worth exploring.

D 471943

KOPALIN, S. Eng., Lt. Col.

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Summary of article 1107819

KRICHKO, A. A.; SOVETOVA, L. S.; Prinimala uchastiye: KOPALINA, K. I.

High temperature destructive hydrogenation of trimethylbenzenes. Trudy IGI 17:246-249 '62. (MIRA 15:10)

(Benzene) (Hydrogenation)

L 13175-66 EWT(d)/EWP(v)/EWP(k)/EWP(h)/EWP(l)

ACC NR: AP6001517 SOURCE CODE: UR/0302/65/000/004/0039/0042

AUTHOR: Sher, A. V.; Kopan, V. M.

ORG: None

TITLE: A device for distributive sorting of ferrite rings into classes according to magnetic permeability

SOURCE: Avtomatika i priborostroyeniye, no. 4, 1965, 39-42

TOPIC TAGS: ferrite, electronic measurement, magnetic permeability, inductance bridge, automation

ABSTRACT: The authors describe a special device for completely automatic sorting of ferrite rings according to magnetic permeability. The principles on which the unit is based are suitable for use in sorting other electronic components (capacitors, resistors, coils) according to value. The core to be checked is connected to the measuring part of the instrument by a special lead-in device. This lead-in is a plug made up of a socket and a rod. There are five spring-return contacts in the socket which are connected by flexible wire to five corresponding ring contacts rigidly fastened along the rod. Thus, if the ferrite ring to be measured is put over the rod, and the rod is then pushed all the way into the socket, the contacts

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ACC NR: AP6001517

in the socket and on the rod are closed making five turns of wire around the ferrite ring. Thus an inductance is set up which is connected in one arm of a measurement bridge made up of four inductances. The output signal from the bridge is fed to a voltage amplifier and from there to a phase detector. A schematic diagram of the instrument is given and explained in detail. The device is designed for rings with μ = 2000 and an external diameter of 18 mm. If the connecting rod is made small enough in diameter, it may accommodate rings of various diameters. In this case, the comparison elements need only be switched into the bridge circuit for the various rings to be measured. If the rings are identical in diameter, but vary as to μ, only the elements of the input bridge need be switched. The sorting process may be fully automated and the accuracy of the instrument can be improved by increasing the sensitivity of the null indicator. Orig. art. has: 3 figures.

SUB CODE: 09 / SUBM DATE: none

Card 2/2