Enigmatite from Khibinsk tundra. K. K. Kostyleva. Trav. Mus. Min. Acad. Sci. (U. R. S. S.) 4, 87-107(German Summary, p. 108)(1930). Mineralog. Abstracts 5, 45.—Four new analyses of enigmatite are given. These support the formula $(p)R''Si_2(Ti, O)_5(q) R''_2SiO_4$, with a small amt. of Al_2O_3 replacing $MgSiO_3$ and $CaSiO_3$. J. F. Schairer

Khibin catapleiite. E. E. KOSTYLEVA. *Bull. acad. sci. U. S. S. R., Classe sci. math. nat.* 1932, 1109–25.—Deposits of catapleiite were discovered in typical pegmatite veins in the Khibin tundra in 1930. Analysis showed that the mineral has the formula $(Na_2O.3CaO).ZrO_2.3SiO_2.2H_2O$. The color varies from dark brown to almost colorless, sp. gr. = 2.38.

S. I. MADORSKY

Uxporite from Chibine tundras. E. E. Kostuileva. (Compt. rend. acad. sci. U. R. S. S.) 1932A, 71-R.—The formula for uxporite is 2R₂O 4RO 7SiO₂ 2TiO₂ + H₂O or 6(R₂',R″)O·7SiO₂·2TiO₂·H₂O, where R₂' = Na or K and R″ = Ca, Sr or Ba. The hardness is 5 and sp. gr. 3.06. Location of deposits and phys. and chem. properties of the mineral are given.   JAMES SORREL

Kostylyeva, B. E., and Vladimirova, M. E. Minerals of the Union. II, Zircon. Lomonosov's Institute of Geochemistry, Crystallography, and Mineralogy. Publishing House of Academy of Sciences of U.S.S.R., Leningrad, 1934. 81 pp., 18 figs. Price 2 R. —This book is the second of a series of books published by the Academy of Science on minerals. In Part I are given historical data, synonyms, and classifications of zircons, their physical and chemical properties, and genesis. Part II deals with deposits of zircon in U.S.S.R., their properties and industrial uses. The Ilmen Mountains in the Ural district have the most interesting and important occurrences. The zircons of the Ilmen Mountains are noted for their beauty and extraordinary dimensions from microscopical crystals to large ones weighing 3000 gm. A crystal was found weighing 3500 gm. An 8-page index of more than 300 reference sources is given. This publication will serve as a reliable and useful book for those interested in resources of zircon and its numerous applications in the refractory, metallurgical, chemical, and other industries.

METALLURGICAL LITERATURE CLASSIFICATION

Kostyleva, E. E. Causes of the specific weight
variations of zircons. *Iron and Lumenescent creation,
...al mineral No. 7, 307-23 (1936) (in English 223-24).
Low density, luminescence, index of refraction, and vari-
ation of density on ignition, etc., are explained by meta-
mict decomposition of zircon. The decomposition prod-
ucts appear as zirconoid, which is a compact physical mix-
ture of submicroscopic aggregates of ZrO₂ and SiO₂ (E. L.)

The problem of the chemical composition of zircons. K. Konylева. *Compt. rend. acad. sci. U. R. S. S.* **23**, 147-0 (1939) (in English).—No analytical evidence for large alkali content or trivalent Zr (cf. Jakob, *C. A.* **31**, 6145[a]) was found for various S. Ural, Khibin or Ceylon zircons. The presence of 1.48% CaO is reported for a Khibin zircon; others from the same region gave up to 0.75% sulfate, assumed present as $CaSO_4$, and by x-ray analysis showed Cb, Y, Sr, Hf and Th. The varying soly. of zircons in HF is believed to be mainly due to variations in the extent of metamict state: green Ceylon zircon, highly metamict, is practically completely decompd. by HF; on the other hand, some crystals from Khibin, with normal zircon powder grain, are also considerably sol. Some zircons react with HF to show zonal differences in crystal structure; some luminesce heterogeneously under ultraviolet light, brown and black zones alternating with bright yellow ones. Three Ceylon zircons, light, green and black, showed U equiv. to 0.21, 0.61 and 1.19% U_3O_8, resp. The metamict state (cf. *C. A.* **31**, 2895[a], 4915[a], 7759[a]) probably arose, in these latter cases, by α-radiation from U^{++} isomorphously enclosed in the mineral, the proportionally increased color being due to an increased number of metallic atoms in the lattice (cf. Lietz, *C. A.* **32**, 4404[a], 8272[a]).   D. W. Pearce

ASM SLA METALLURGICAL LITERATURE CLASSIFICATION

Genetic relation of zircon and zirconium silicates in alkaline rocks. E. E. Kostyleva. *Bull. acad. sci. U. R. S. S., Sér. géol.* 1940, No. 2, 118-24.—An excess of R_2O over Al_2O_3 does not always det. formation of Zr silicates instead of zircon as well as the agpaite form of crystn. The nepheline syenites of the Mariupol Zr deposits (Ukraine) having R_2O greater than Al_2O_3 contain only zircon while in the Lovozero tundras where $R_2O < Al_2O_3$ the agpaite form of crystn. is observed. The chief cause of the crystn. of both is also due to the considerable amt. of volatile matter in the magma.   B. Z. Kamich

Zirfesite- a new zirconium mineral of the zone of hypergenesis. E. E. Kostyleva. *Compt. rend. acad. sci. U.R.S.S.* 48, 512-4(1945)(in English).--The new mineral is an alteration product of eudyalite of the formula (ZrO₂, Fe₂O₃).SiO₂.aH₂O. Zirfesite is pale yellow, light in weight, powdery, smeary, sticking to the tongue, with a faint smell resembling that of clay. The mineral is found also in flakes and lamellae and then has a distinct pearly luster. A microscopic study of the mineral in immersion liquids reveals the flaky structure of the mineral, its poor transparency, the turbidity of the flakes, and isotropism. Index of refraction is 1.620. The mineral is readily sol. in dil. HCl and gelatinizes if heated. When the powder of the mineral is treated in 5% Na₂CO₃ soln., appreciable SiO₂ is extd. Treatment in the presence of tartaric acid causes Fe and Zr to go into soln. The ZrO₂ to Fe₂O₃ ratio seems to vary in the same way it does in eudyalite. The mineral was found at the endo-contact zone, at a height of 200-250 m. at the contacts of Mannepachk, Khibina Tundras. Chem. analyses are given. John E. Husted

KOSTYLEVA, E. K.

nuclear sci, abs.

V-8 Jan 15, 1954

Mineralogy, Metallurgy
and Ceramics

ON METAMICTIC DISINTEGRATION OF THE ZIRCON
GROUP OF MINERALS. E. K. Khvostleva. Translated by
Talala Stadnichenko from p.27-35 of Voprosy mineralogii
geokhimii i petrografii, Akademii Nauk S.S.S.R., Moscow
(1946). 16p. (TEI-369)

C A

Allanite of the Hektau-Ata deposits in Kazachstan
E. E. Kostyleva and M. E. Kazakova. Doklady Akad.
Nauk S.S.S.R. 56, 283-7(1947). Chem. Zentr. 1948, I,
23. The rare earth mineral contained SiO₂ 30.47, TiO₂
1.30, Al₂O₃ 12.83, Fe₂O₃ 7.29, FeO 10.93, MgO 0.50,
MnO 1.88, CaO 9.09, Cr₂O₃ 12.70, (La, Di)₂O₃ 12.96,
and H₂O 0.29%. D. = 4.10. This analysis corresponds
to the formula of Machatschki (C.A. 25, 3273) for allanite.
The heating curve shows no break.   M. G. Moore

KOSTYLEVA, Ye. Ye.; SUKHASHINA, T.K.

The importance of pH of ore quartz suspension [with summary in
English]. Geokhimiia no.7:621-625 '57.   (MIRA 11:1)

1. Institut geologii rudnykh mestorozhdeniy, petrografii, mineralogii
i geokhimii AN SSSR, Moskva.
            (Hydrogen ion concentration) (Quartz)

SOSEDKO, Aleksandr Fedorovich. Prinimali uchastiye: SOSEDKO, T.A.; KOSTYLEVA,
    Ye.Ye., doktor geologo-mineralog. nauk; RUB, M.G., red.; SOLOMATINA,
    Z.D., red. izd-va; IVANOVA, A.G., tekhn. red.

[Materials on the mineralogy and geochemstry of granitic pegmatites]
Materialy po mineralogii i geokhimii granitnykh pegmatitov. Moskva,
Gos. nauchno-tekhn. izd-vo lit-ry po geol. i okhrane nedr, 1961. 152 p.
                                                    (MIRA 14:10)
                (Pegmatites)

KOSTYLEVA, Yekaterina Yevtikhiyevna; FERSOT'YEV, K.K., kand.
geol.-min. nauk, otv. red.

[Some methods for studying ore-bearing quartz and practice
in applying them] Nekotorye metody izucheniia rudonosnogo
kvartsa i opyt ikh primeneniia. Moskva, Nauka, 1964. 97 p.
(MIRA 17:8)

KOZOREZOV, Yu.I.; KAMAKIN, N.M.; KOSTYLEVA, Z.A.; PROKHOROV, G.V.

Oxidation of n-butane-isobutane mixtures. Zhur. prikl. khim.
38 no.5:1183-1185 My '65.   (MIRA 18:11)

1. Institut khimii polimerov i monomerov AN UkrSSR.

KOZOREZOV, Yu.I.; KAMAKIN, N.M.; KOSTYLEVA, ...; PROKHOROV, G.V.

Obtaining oxygen-containing compounds from technical C_3-C_5 hydrocarbon mixtures. Neftekhimiia 4 no.2:270-293 Mr-Ap'64

(MIRA 17:8)

1. Institut khimii polimerov i monomerov AN UkrSSR, Kiyev.

L 23064-65   EWG(j)/EWT(m)/EPF(c)/EPF(n)-2/EWP(j)/T/EWA(h)/EWA(1)   Pc-4/Pr-4/
Pu-4/Peb GG/RM
ACCESSION NR: AP5004249   S/0021/65/000/001/0064/0066

AUTHOR: Kostyl'ova, Z. O. (Kostyleva, Z. A.); Kornyev, K. A. (Kornev, K. A.)
(Corresponding member UkrRSR); Kachan, O. O. (Kachan, A. A.); Chervyatsova, L. L.;
Pazenko, Z. H. (Pazenko, Z. N.)

TITLE: The radiation chemical linking of polystyrene by linking agents

SOURCE: AN UkrRSR. Dopovidi, no. 1, 1965, 64-66

TOPIC TAGS: triallyl isocyanurate, irradiation in air, elastic state cross
linking

ABSTRACT: The efficacy of using triallyl isocyanurate (TAIC) in radiational
chemical cross linking of polystyrene was established. It is shown that poly-
styrene is practically completely linked on adding 20 p.c. TAIC and irradiating
in air with a dose of 50 megarads. The cross-linked polymer retains a highly
elastic state up to a temperature of 300°C. Orig. art. has: 3 figures and 1
table.

ASSOCIATION: Instytut khimiyi vysokomolekulyarnykh spoluk (Institute of Chemis-
try of High Molecular Compounds)

Card 1/2

L 23064-65
ACCESSION NR: AP5004249

SUBMITTED: 26Mar64   ENCL: 00   SUB CODE: OC, GC

NO REF SOV: 005   OTHER: 002

O

Card 2/2

FEDORCHUK, V.P.; KOSTYLEVA-LABUNTSOVA, Ye.Ye.; MASLOVA, I.N.

Genesis of mercury-antimony deposits. Geol. rud. mestorozh.
5 no.2:91-99 Mr-Ap '63.   (MIRA 16:6)

1. Sredneaziatskiy nauchno-issledovatel'skiy institut
geologii i mineral'nogo syr'ya, Tashkent, i Institut geologii
rudnykh mestorozhdeniy, mineralogii, petrografii i geokhimii
AN SSSR, Moskva.
            (Mercury ores)   (Antimony ores)

KOSTYLOW, M. A.

Kostylov, M. A.: ...
Katowice: National Technical Publishing House, 1952. 146 pg.
Reviewed in Hutnik 20: 35(1953).

KOSTYLYUK, K. F., NOVOSELOV, Ye. I., and GONTAYEVA, A. A.

"Treatment of Malaria With Bigumal (p-chlorophenyl-N-isopropylbiguanide)", Med. Paraz. i Paraz. Bolez., Vol. 17, No. 4, pp 289-98, 1948.

KOSTYNIUK, M.

From the actual problems of paleobotany. p. 3

WIADOMOSCI BOTANICZNE. (Polskie Towarzystwo Botaniczne)
Krakow. Vol. 3, no. 1, 1959
Poland/

Monthly List of East European Accessions Index (EEAI), LC, Vol. 8, no. 6, June 1959
Uncl.

KOSTYNIUK, M.

Again on Glossopteris. p. 155.

WIADOMOSCI BOTANICZNE. (Polskie Towarzystwo) Krakow, Poland.
Vol. 3, no. 3, 1959.

Monthly List of East European Accessions (EEAI) LC, Vol. 9, no. 1, Jan. 1960.

Uncl.

KASTYRA, J.

POL.A

Vena azygos in sheep. J. Kostyra (Agr. Univ., M. Curie
Sklodowska, 1953. B. 97% of sheep have a left azygos
vein, 26% a right azygos, and 7.3% both azygos veins. Details of
their origin and their branching are given.
R. M. Rattenbury.

L 29763-66

ACC NR: AP6020895   (A)   SOURCE CODE: PO/0071/65/000/008/0453/0458

AUTHOR: Kostyra, Julian (Doctor; Lublin)

ORG: Department of Surgery, Veterinary School, WSR, Lublin/headed by Prof.-Dr. Mieczyslaw Lewandowski/ (Katedra Chirurgii Wydzialu Wet. WSR)

TITLE: Status of dentition of cattle as revealed in slaughter cattle examination in Lublin

SOURCE: Medycyna weterynaryjna, no. 8, 1965, 453-458

TOPIC TAGS: commercial animal, veterinary medicine

ABSTRACT: Very comprehensive review of various types of dental anomalies and conditions seen in about ten thousand cattle slaughtered in the Lublin slaughter house 1958-1962: 22 different types of dental defects are tabulated by age, detailed discussion of caries, calculus fluorosis, traumatic defects and various other types of dental and periodontal disease. Orig. art. has: 16 figures and 1 table. [JPRS]

SUB CODE: 02 / SUBM DATE: none / ORIG REF: 006 / OTH REF: 009

Card 1/1

KOSTYRA, J.

Morphogenesis and morphology of joints in the light of studies in recent years.
p. 243. (MEDYCYNA WETERYNARYJNA. Vol. 9, no. 6, June 1953)

SO: Monthly List of East European Accessions, L. C., Vol. 3, No. 4, April, 1954

EXCERPTA MEDICA Sec 8 Vol 12/8 Neurology Aug 59

3594. MYELINIZATION OF NERVE FIBRES IN THE SPINAL CORD OF THE COW - Mielinizacja włókien w rdzeniu kręgowym krowy - Kostyra J. Kat. Anat. Zwierząt Wydz. Wet WSR, Lublin - ANN. UNIV. M. CURIE-SKLO-DOWSKA, D 1956, 11 (119-146) Tables 3 Illus. 22 Rec'd Aug. 1958

Studies were conducted on 23 foetuses of from 77 to 770 mm. (9 to 36 weeks), on a new-born calf, and on 10-day-, 8-month-, 12-month-, and 7-year-old animals. Immediately following slaughter, the material was fixed in 10% formol for 2 days and for 6 weeks in Müller's solution, and finally embedded in celloidin. Sections 30 microns thick were stained by Kultschitzky's method, which gave the best results. The methods of Pal, Spielmeyer, and Schultze were also used. Myelin granules were first found to appear in the 17-week-old embryo, on the fibres of the ventral roots in the cervical and thoracic cord. The first period was marked by the appearance, on the external surface of the fibres, of a brownish-yellow, and later a greyish-brown pigmentation. The second period, from the 17th to the 23rd week, was marked by the appearance of myelin sheaths in fibre-bundles. The third period, lasting until birth, was characterized by a rapid increase in the number of myelin sheaths, which also became thicker and more intense in colour. The fourth period began after birth and ended before the eighth month of extra-uterine life. This was the period of myelin maturation. In older animals no noticeable changes appeared. Myelin appeared in the following order: motor fibres, sensory fibres, and finally association fibres. In the course of myelinization, separate bundles were visible, corresponding to the septomarginal fasciculus, the dorsolateral fasciculus, and the longitudinal bundles of what would be the ventral grey commissure in other mammals. Other myelinated fibres formed no clearly-defined bundles. The myelinization in the spinal cord of the newborn calf attained a high degree of development, as shown by the appearance of myelin sheaths in all fibre-bundles, by the thickness of the myelin sheaths, and by their dark blue colour in staining. (I, 8)

KOSTYRA, Julian
SURNAME, Given Names

Country: Poland

Academic Degrees: Dr.

Affiliation: Surgical Clinic (Klinika Chirurgiczna), Veterynary Division (Wydzial Veterynarji), College of Agriculture (WSR—Wyzsza Szkola Rolnicza), Lublin; Director: Acting Professor Franciszek

Source: KLEPACZKO, Dr.

Source: Warsaw, Medycyna Weterynaryjna, Vol XVII, No 6, June 1961 Data: pp 348-350.

Data: "Diagnosis and Treatment of Oesophageal Occlusion in Hogs."

GPO 981643

264

POLAND

KOSTYRA, Julian, Dr., Chair of Surgery (Katedra Chirurgii), Veterinary Division (Wydzial Weterynarji), WSR [Wyzsza Szkola Rolnicza, Higher School of Agriculture] in Lublin (Director: Docent, Dr. Mieczyslaw LEWANDOWSKI)

"Congenital Absence of Kneecaps in a Foal."

Warsaw-Lublin, Medycyna Weterynaryjna, Vol 19, No 2, Feb 63, pp 95-97.

Abstract: Author describes rare, evidently not hereditary and possibly atavistic case of agenosia ptellarum bilateralis in a foal, with accompanying disorders in its movements. Some improvement was noted with sun baths and special vitamin D per os diet, but foal was killed by owner before further observations could be made. Author recalls some cases described in the literature for humans. Of the seven (7) references, two (2) are Polish and the others German.

1/1

KOSTYRA, Wladyslaw

Introduction of labor standards which are technically reasonable.
Przegl kolej mechan 13 no.3:70-73 Mr '61.

1. Dyrektor Departamentu Zatrudnienia i Plac, Ministerstwo
Komunikacji, Warszawa.

DRUTMAN, Z.S.; PAMFILOV, A.V., prof., retsenzent; KRAVETS, I.P.,
    prof., retsenzent; SIVER, P.Ya., dots., retsenzent;
    GRITSENKO, A.P., dots., retsenzent; KOSTYREV, A.I., prof.,
    retsenzent; KOTLYAROV, Yu.L., red.

[Structure of molecules] Stroenie molekul. L'vov, Izd-vo
L'vovskogo univ., 1962. 213 p.   (MIRA 18:6)

SHIROKOV, A.P., kand.tekhn.nauk; KUZ'MIN, G.P., inzh.; KOSTYREV,
A.P., inzh.

Using chain saws in mechanical coal mining. Mekh.i avtom.
proizv. 15 no.8:37-38 Ag '61.   (MIRA 14:9)
(Coal mining machinery)

OVCHININSKIY, N.N., dots.; KOSTYREV, A.S.; YELINEVSKAYA, N.S.

> Surgical treatment of stab wounds of the heart (analysis of clinical cases). Khirurgiia, Moskva 34 no.11:36-41 N '58.   (MIRA 12:1)
>
> 1. Iz kafedry obshchev khirurgii (zav. - prof. V.A. Ivanov) II Moskovskogo meditsinskogo instituta im. N.I. Pirogova (dir. - prof. O.V. Kerbikov).
> > (HEART, wds. & inj.
> > > stab wds., surg. (Rus))

Kustyrev GLB

15-1957-10-14145

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 10,
                   p 124 (USSR)

AUTHORS: Starik, I. Ye., Starik, F. Ye., Atrashenkok, L. Ya.,
           Kostyrev, G. B., Kosyakov, V. N., Krylov, A. Ya.

TITLE: The Influence of Different Elements on the Fluorescence
           of Uranium in Sodium Fluoride (Vliyaniye razlichnykh
           elementov na lyuminestsentsiyu urana vo ftoristom natrii)

PERIODICAL: Tr. Radiyev. in-ta AN SSSR, 1956, vol 7, pp 114-125

ABSTRACT: The principal merits of the fluorescent method of deter-
           mining U are its simplicity, speed, and high sensitivity.
           It is possible to determine up to 1×10^{-10} grams of U
           in the bead. The precision of the determination is gen-
           erally close to 20%. In any method using different ac-
           tivators, measuring devices, and sources of ultraviolet
           light, impurities exert considerable influence by alter-
           ing the fluorescence of the Uranium or by extinguishing
           it. The influence of 45 elements on the fluorescence of
Card 1/3   U in NaF was studied. The investigations were made on

15-1957-10-14145

The Influence of Different Elements on the Fluorescence of Uranium in Sodium Fluoride

beads of NaF weighing 5 mg and containing 5×10^{-9} g of U. The elements were introduced into the bead either by mixing with NaF or with the corresponding salt, in different proportions, in case of soluble compounds, by dipping the bead of NaF, which contains a definite quantity of U, into the quenching salt solution. When using the dipping method, it is necessary to know the precise weight of the bead, inasmuch as beads of different weights take up different amounts of solution. The intensity of fluorescence is strongly influenced by the surface of the bead, which is a function of the quality of fusion, of the cooling of the bead, and also of the quantity of NaF. The elements investigated may be divided approximately into five groups, according to their influence on the fluorescence of uranium. 1) Na, K, Rb, Zn, Tl, S, Mo, W, Cl, Br, and J show essentially no effect, even in relatively large quantities. 2) Be, Ce, La, Th, P, Ni, Fe, Mn, Cu, Sr, Cd, Mg, B, Se, Cs, Zn, Ba, Li, and Si extinguish fluorescence when present in the bead in large quantities (on the order of several per cent of the weight of the bead). 3)

Card 2/3

15-1957-10-14145

The Influence of Different Elements on the Fluorescence of Uranium in Sodium Fluoride

Ag, Hg, Pb, Bi, Cr, and Co sharply extinguish the fluorescence when present in quantities several times ten per cent of the weight of the bead. 4) Ca, Al, Tl, and Sn strengthen the fluorescence or produce changes in the color. When the relative concentration of U to Ca is 1:10,000, U fluoresces green. With higher Ca content, the intensity of fluorescence begins to increase and then decrease. The fluorescent color changes from yellow-green to blue. When the concentration of Al is $5 \cdot 10^{-5}$ g in the bead, it does not fuse to transparency. Tl and Sn strengthen the fluorescence when their concentration in the bead is $1 \cdot 10^{-5} - 5 \cdot 10^{-5}$ g. 5) Ce, V, Nb, Ta, and Sb produce distinctive fluorescence in NaF. Ce and V give a red color, Sb a medium blue. The fluorescence of Nb and Ta is very similar to that for uranium. Some elements have a two-fold effect, depending on their concentration: with low concentrations they increase the fluorescence; with high they extinguish it.

Card 3/3

A. A. Rozbianskaya

8 (6)   SOV/91-59-4-18/28

AUTHOR: Kostyrev, L. N., Technician

TITLE: The Improvement of the Connection Circuit of the Self-
               Registering Frequency Meter Type N-335 (Ob usovershenst-
               vovanii skhemy vklucheniya registriruyushchego
               chastotomera tipa N-335)

PERIODICAL: Energetik, 1959, Nr 4, pp 25 - 26 (USSR)

ABSTRACT: The frequency meter N-335 has a deficiency in its design
               which causes frequent damage to the tape winder coil.
               When performing repairs on the 400 volt panel for internal
               use, the switch from which the synchronous motor of the
               pulse transducer is fed is disconnected. The motor stops
               at the moment when a direct current pulse is fed to the
               coil of the tape spooling mechanism, which burns after
               several minutes, since it is not designed for prolonged
               operation. The possibility that the coil will burn is a
               fault of the manufacturer and the author has designed a
Card 1/2   modification which prevents the coil from damage by

SOV/91-59-4-18/28

The Improvement of the Connection Circuit of the Self-Registering
Frequency Meter Type N-335

> connecting a capacitor between the transducer motor and the
> coil. For high-speed recording, the speed of the capacitor
> is inadequate and therefore the author installed a relay of
> type EO-103, as shown in Figure 1.
> There is 1 circuit diagram.

Card 2/2

KULIK, I.L.; PLECHOVA, Z.N.; KHRAMEYEVA, A.V.; KOSTYREV, V. \.; BEBESHKO, S.V.;
    KUZ'MINA, N.K.

Zoological premises for the existence of natural tularemia foci in
the Chuvash A.S.S.R. Zool. zhur. 44 no.1:17-25 '65.

(MIRA 18:4)

1. Institut epidemiologii i mikrobiologii AMN SSSR, Moskva,
Respublikanskaya sanigarno-epidemiologicheskaya stantsiya,
Cheboksary, Moskovskiy gosudarstvennyy universitet i
Cheboksarskiy pedagogicheskiy institut.

KOSTYREV, O.

Remote liquid level indicator for tanks. Neftianik 6 no.11:16-
17 N '61.   (MIRA 14:12)

1. Nachal'nik tsekha perekachki neftepromyslovogo upravleniya
Prizovneft'.

                (Tanks)
                (Remote control)
                (Liquid level indicators)

KOSTYREV, O.L.

Controlled depth valve. Mash. i neft.obor. no.11:3-4
'64.   (MIRA 19:1)

1. Ob"yedineniye "Krasnodarneftegaz".

ACC NR: AP6029038   (A)   SOURCE CODE: UR/0413/66/000/014/0055/0055

INVENTORS: Mikhalov, I. I.; Novikov, A. N.; Bogdanov, A. S.; Kostyrev, V. A.; Mikhaylova, M. P.

ORG: none

TITLE: A method for producing an elastic heat-resisting glued joint in metals and in nonmetallic construction materials. Class 22, No. 183858

SOURCE: Izobret prom obraz tov zn, no. 14, 1966, 55

TOPIC TAGS: metal gluing, glue welding, glue, construction material, rubber

ABSTRACT: This Author Certificate presents a method for producing elastic heat-resisting glued joints in metals and in nonmetallic construction materials, with pressure applied in the course of gluing, and with the use of two different heat-resisting glues. To insure the elasticity of a glued joint under low gluing pressure, a mixture of two types of glues is used. One of the glues is characterized by low viscosity and frangibility (for instance, phenol polyvinylacetal), while the lower layer is made of an elastic glue (such as phenolic rubber).

SUB CODE: 13, 11/ SUBM DATE: 27Jan65

Card 1/1

UDC: 621.792.4.05

L 41155-66   EWP(m)/EWT(1)/EWT(m)/EWP(t)/ETI   IJP(c)   WW/JD

ACC NR: AP6020557   SOURCE CODE: UR/0414/66/000/001/0100/0104

AUTHOR: Batsanov, S. S. (Novosibirsk); Deribas, A. A. (Novosibirsk); Kutolin, S. A. (Novosibirsk); Kostyreva, I. V. (Novosibirsk)

ORG: none

TITLE: Effect of an explosion on a substance. Dynamic compression of sodium nitrate

SOURCE: Fizika goreniya i vzryva, no. 1, 1966, 100-104

TOPIC TAGS: sodium nitrate, compression shock wave, compressive stress, spectrophotometric analysis

ABSTRACT: The properties of polycrystalline sodium nitrate subjected to dynamic compression were investigated. Dynamic compression of $NaNO_3$ was accomplished by exploding 70-150 g of trimethylene trinitramine in the presence of 1.40 g of the investigated substance in a standard ampule, 5 mm in diameter and 40 mm long. After detonation and opening of the ampules the appearance of a red-brown color along the axis of the ampules was noted in all cases. A special analysis of this portion of the specimen showed the presence of up to 1% iron, consequently the red color of the crystals can be due to admixtures of iron compounds. The optical density of the specimens of sodium nitrate subjected to dynamic compression was mea-

Card 1/2   UDC: 662.215.2

L 41155-66

ACC NR: AP6020557

sured on a spectrophotometer. The specimens were pressed into tablets (4 mg of the investi-
gated substance per 200 mg of KBr). The red-brown color of the substance from the bottom
and middle of the ampules corresponded to the gentle slope of the optical density curve in the
400—600 mμ region. No peaks characteristic for iron oxide were noted on the curve. For com-
pressed sodium nitrate from any part of the ampule, a fine structure of the optical density
spectrum in the 320—400 mμ region in the form of more than 20 peaks was characteristic. The
presence of the fine structure can be explained by the development of defects in the sodium
nitrate after dynamic compression. Heating of the compressed sodium nitrate at 225C for 2 hr
did not change the optical density spectrum. A chemical analysis of the red-brown phase for
the content of sodium and nitrogen revealed a satisfactory agreement between determinations.
Sodium was determined by the flame photometry method and nitrogen by Reich's and Kjeldahl's
methods with preliminary reduction of the nitrate to ammonia. The deviation of the results
of the analysis from stoichiometry were within 1—2%, i.e., at the level of defects. A physical
examination of the nature of the defects was not carried out, but it was assumed that the de-
fects in the compressed sodium nitrate were formed as a result of the transfer of a charge from
the nitrate ion to the sodium ion. It is concluded that as a result of the dynamic compression
of $NaNO_3$ defects, electroneutral atoms, or groups of atoms of sodium occur. The hypothesis
of the transport of a charge to the sodium ion is attested to by the increase of the dielectric
constant: in a specimen with a density of 2.05 the dielectric constant in 8.1 as opposed to 7.1
for the original $NaNO_3$. The investigation of defects in $NaNO_3$ subject to compression will be
continued. Orig. art. has: 3 tables and 3 figures.

Card 2/2 SUB CODE: 19,20/ SUBM DATE: 28Sep65/ ORIG REF: 005/ OTH REF: 001

KOSTYRIN, A.M.

Raise norms for repair work. Sakh. prom. 32 no.2:51-54 F '58.
(MIRA 11:3)

1. Sakharnyy zavod imeni Kalinina.
(Sugar industry--Production standards)

1. KOSTYRIN, A. P.

2. USSR (600)

4. Valves

7. Valuable suggestions. Sakh.prom. 26 no 10, 1952.

9. <u>Monthly</u> <u>List</u> <u>of</u> <u>Russian</u> <u>Accessions</u>, Library of Congress, *JANUARY* 1953. Unclassified.

KOSTYRIN, A. P., inzhener.

Mechanization and automatization of operations at the Kalinin
sugar plant. Mekh.trud.rab. 11 no.1:37-38 Ja '57.   (MLRA 10:5)
(Sugar industry--Equipment and supplies)

KOSTYRIN, A.P.

Improve the utilization of machines and equipment. Sakh. prom.
31 no.2:35-38 F '57.   (MLRA 10:4)

1. Sakharnyy zavod imeni Kalinina.
   (Sugar industry--Equipment and supplies)
        (Material handling)

KOSTYRIN, A.P.

Shorter workday in sugar factories. Sakh.prom. 34 no.6:44-47
Je '60.   (MIRA 13:7)

1. Sakharnyy zavod imeni Kalinina.
    (Sugar industry)   (Hours of labor)

KOSTYRIN. P.

KOSTYRIN, P.; VYSOCKII, S.

Advanced work methods with a shovel-type loader. p. 114 (Mechanisace. Praha. Vol. 2,
no. 2/3, Feb./Mar. 1953)
SO: Monthly List of East European Accession, (EEAL), LC, Vol. 4, No. 6,
June 1955, Uncl.

Kostyrko, Andrzej

21.1920

82270

P/046/60/005/03/02/006

AUTHOR: Kostyrko, Andrzej

TITLE: Investigations on Radiolytic Decomposition of Water in the
          Primary Cooling Circuit of the "Ewa" Reactor

PERIODICAL: Nukleonika, 1960, Vol. 5, No 3, pp 133 - 142

TEXT: The author introduces the article with the principles of ra-
diolysis in water, in conjunction with nuclear reactor engineering. The
rest of the article deals with measurements of radiolytic water decomposi-
tion in the primary cooling system of the nuclear reactor "Ewa". The in-
vestigations had the purpose of 1) establishing the amount of oxyhydrogen
mixture formed, 2) defining the dependency of cooling gases on water and
air flow through the deaerator, 3) defining the dependency of the gas quan-
tity on reactor power, 4) defining the influence of cooling water tempera-
ture on the quantity of radiolysis products, and 5) establishing the fea-
sibility of the deaerator. On the assumption that an average of two H_2
particles are evolved in the radiolysis per one O_2 particle, the investi-
gation was restricted to establishing the H_2 concentration in the air a)
from the deaerator and b) from above the water shield of the reactor. Va-

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Investigations on Radiolytic Decomposition of Water in the Primary Cool-
ing Circuit of the "Ewa" Reactor

riable parameters were a) water flow through the deaerator, b) air flow
through the deaerator, c) reactor power, d) water temperature in the pri-
mary cooling system. The concentration of H_2 (in volume %) was established
by means of a thermoconductometric analyzer calibrated for the range 0-2%
H_2. The lowest perceptible concentration of H_2 was 0.01%. Further on, re-
sults of measurements are presented. The dependency of H_2 concentration
(in %) in the deaerator air on the air flow through the deaerator is shown
in Figure 1, and that of H_2 (in liters per hour) evolved in the deaerator
on the air flow through the deaerator in Figure 2. The figures show that
the H_2 concentration varies between 0.53 and 0.1% at a variation of air
flow from 4 to 160 m^3/h. The quantity of H_2 evolved in the deaerator is
constant at an air flow higher than 45 m^3/h and amounts to an average of
237 liters per hour. At an air flow lower than 45 m^3/h, the rate of the
evolved H_2 decreases linearly in conformity with the decrease of air flow.
The dependency of H_2 concentration (in %) and the quantity of H_2 evolved
(in liters per hour) in the deaerator on water flow is shown in Figure 3.
The figure shows that the concentration varies from 22 to 210 m^3/h. The

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Investigations on Radiolytic Decomposition of Water in the Primary Cool-
ing Circuit of the "Ewa" Reactor

H_2 concentration increase for a water flow variation from 22 to 100 m^3/h is
only approximately 0.1%, whereas it doubles in the range of 100 - 210 m^3/h.
The variation in the quantity of H_2 evolved is analogous. The results show
that withdrawal of radiolysis products noticeably influences the equilibri-
um between radiolysis reactions and resynthesis only after the water flow
through the deaerator exceeds 100 m^3/h. The dependency of H_2 concentration
(in %) and the quantity of H_2 evolved (in liters per hour) on the reactor
power is presented in Figure 4, and the dependency of H_2 evolvement yield
(in liters per kwh) on the reactor power in Figure 5. It also shows that
the evolvement efficiency of radiolysis is highest at low reactor power (at
70 kw it amounts to 0.533 liters per kwh). As the reactor power grows to
0.3 Mw, the yield drops to 0.22 liters per kwh and in the range from 0.3 to
1.4 Mw amounts to 0.12 liters per kwh. Further growth in power does not
exert any noticeable influence on the hydrogen evolvement efficiency. These
data confirm that the resynthesis conditions are most unfavorable at low
reactor power though the quantities of radiolysis products are low. As the
reactor power grows, radiolysis is intensified (greater amount of H_2), yet
resynthesis increases as well, which phenomenon results in a decrease in H_2

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Investigations on Radiolytic Decomposition of Water in the Primary Cooling Circuit of the "Ewa" Reactor

evolvement per kwh of thermal reactor power. No presence of H_2 in air samples from above the reactor water pool has been detected, while water flow through the deaerator was continuously reduced at full reactor power (2 Mw). No traces of H_2 were detected, even after the water flow through the deaerator was entirely stopped. The conclusion to be drawn is either that resynthesis at a shut-off deaerator gives full protection against hydrogen emanation, or that minute quantities of H_2 evolved are diluted by the air of technological ventilation to a concentration not perceptible to the test instrument involved. A comparison of the quantity of hydrogen evolved (240 liters per hour), with the quantity required to form a saturated H_2 solution in the 20 m^3 of water in the primary circuit (360 liters) supports the first notion, i.e. that no H_2 emanation should be expected at a closed water flow. Tests showed that water temperature within 15-35.5°C has no effect on the quantity of H_2 evolved. Figure 6 shows that traces of H_2 in air from the deaerator, measurable by the analyzer used, entirely vanished within 20 minutes after the reactor was shut off (with the circulation going on). The conclusions drawn by the author are: 1) The quan-

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Investigations on Radiolytic Decomposition of Water in the Primary Cool-
ing Circuit of the "Ewa" Reactor

tity of H_2 evolved in the "Ewa" reactor is too low to form an explosive
oxyhydrogen mixture; 2) resynthesis conditions in the "Ewa" reactor are fa-
vorable; 3) a shut-off deaerator does not induce any danger of H_2 accumu-
lation and emination in the reactor circuit, and merely might speed up cor-
rosion of steel parts by H_2O_2 and aluminum parts by H_2; 4) the yield of
H_2 within operable temperatures in the primary circuit is independent from
temperature; 5) the primary circuit of the "Ewa" reactor can be switched
off 20 minutes after the reactor has been stopped to ensure entire elimina-
tion of H_2 from the primary circuit: 6) the same efficiency of radiolysis
product removal, as is achieved under the present operation parameters of
the deaerator(water flow about 90 m^3/h, air flow about 60 m^3/h), can be
achieved at a water flow of 40 m^3/h; H_2 concentration in air from the de-
aerator should then not exceed 0.6%. At the close of the article the author
acknowledges the courtesy of those who assisted him in his study. They are:
Master of Engineering P. Szulc, a team of the Służba Operatorska Zakladu
Eksploatacji Reaktora IBJ (Operator Service, Reactor Maintenance Department
at the Institute of Nuclear Research), Master of Engineering K. Żarnowiecki,
and Master of Engineering J. Waclawik of the Instytut Chemii Ogólnej (Insti-

Card 5/6   X

82270

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Investigations on Radiolytic Decomposition of Water in the Primary Cooling Circuit of the "Ewa" Reactor

tute of General Chemistry). There are 6 figures and 8 references: 4 English, 2 Soviet, 1 Polish and 1 French.

ASSOCIATIONS: Instytut Badań Jądrowych. Warszawa (Institute of Nuclear Research, Warsaw), Zakład Eksploatacji Reaktora (Department of Reactor Maintenance)

SUBMITTED: February 1960

X

Card 6/6

BEGUSHEVSKI, Zygmunt [Bieguszewski, Zygmunt]; ZHARNOVETSKI, Krzhyshtof
[Zarnowiecki, Krzysztof]; KOSTYRKO, Andrzhey [Kostyrko, Andrzej]

Analysis of the water of the primary cooling circuit of the WWR-S
reactor in Poland. Nukleonika 5 no.9:541-550 '60.

1. Institut yadernykh issledovaniy, Varshava, Otdeleniye
ekspluatatsii reaktora

L 21913-66   EWT(m)   DIAAP

ACC NR: AP6014472

SOURCE CODE: PO/0046/65/010/011/0738/0738

AUTHOR: Kostyrko, Andrzej; Jaworowski, Zbigniew

ORG: Department of Radiobiology and Health Protection, Institute of Nuclear Research, Warsaw-Zeran

TITLE: Scintillation cell for the determination of sup 222 Rn

SOURCE: Nukleonika, v. 10, no. 11, 1965, 738

TOPIC TAGS: radon, scintillation detector, chloroform, zinc, silver

ABSTRACT: A method was developed for preparing scintillation cells, which consists of dry deposition of Zn(Ag) phosphors on wetted inner surfaces of methyl-polymethacrylate plates, and fixation by the action of chloroform vapors. The parameters of the cells show the possibility of efficient determination of 222_{Rn} in samples containing less than one picocurie. [NA]

SUB CODE: 18 / SUBM DATE: 15Sep65 / ORIG REF: 001 / OTH REF: 001

Card 1/1

P/046/62/007/006/003/005
D204/D307

AUTHORS: Bieguszewski, Zygmunt, Zarnowiecki, Krzysztof, and
             Kostyrko, Andrzej

TITLE: Characteristics of the ion-exchange unit in the pri-
             mary cooling system of the 'Ewa' reactor

PERIODICAL: Nukleonika, v. 7, no. 6, 1962, 407 - 417

TEXT: The performance of mechanical and ion-exchange filters is
described, particular attention being paid to the ionite unit which
had been used successfully over 18 months, operating for 1-2 hours
2-3 times a month. The mechanical porous glass filter was used to
remove colloids and macro-molecular compounds from the water and
the deposits were found to contain extremely fine particles of the
anionite (from the ionite unit), Fe and Al hydroxides and silica,
i.e. coagulated corrosion products of the primary cooling system.
The filter was cleaned 2-3 times a year, by repeated successive
washing with H_2SO_4 and NaOH and finally with deionized water. The
ion-exchange filter was produced with a mixture of strongly acidic

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Characteristics of the ion-exchange ...   P/046/62/007/006/003/005
D204/D307

cationite MK-3 and strongly basic anionite IMAK-S4, and was used
only when the reactor was not in operation. The flow of water through
the unit was 7-10 m3/hr, at ∼ 25°C. The resin bed was changed af-
ter 18 months although no difficulties had been observed after this
period. The new packing consisted of MK-3 and IMAK-S4, washed pre-
viously with 1N HCl and 1N NaOH and mixed in the ratio of 5:6.5 by
volume. The resultant packing was extremely effective and could be
used for only ∼ 5 hours every 1-2 months. The original packing was
analyzed, by spectroscopy, for radioactive contamination, 12 months
after removal from the unit. The original activities of the mecha-
nically separated resins could be largely reduced by a treatment
with aq-NaCl, washing with water, regeneration with an acid or alka-
li and washing with water again. The resins fully maintained their
physical and chemical properties and working exchange after regene-
ration. After separation of the resins in saturated aq. NaCl rege-
neration, the anionite retained a greater activity than the cationi-
te, owing to the adsorbed cations complexing in the separating solu-
tion, to form negatively charged ions which were then adsorbed on
the anionite. The spectroscopic measurements were carried out by
L. Adamski and S. Pazon. There are 3 tables.
Card 2/3

Characteristics of the ion-exchange ...   P/046/62/007/006/003/005
                                           D204/D307

ASSOCIATION: Instytut badań jądrowych, PAN (Institute of Nuclear
             Research, PAS)

SUBMITTED: April 1962

Card 3/3

KOSTYRKO,A.   (Lengyelorszag)

Experiments on binding J-131 from aqueous solutions by means
of peat preparates. ATOMKI kozl 5 no.2:107-109 '63

P/046/62/007/006/005/005
D204/D307

AUTHORS: Kostyrko, Andrzej, Wiśniewski, Artur, and
Żarnowiecki, Krzysztof

TITLE: A method of preparation of scintillating ZnS layers
for detecting α-particles

PERIODICAL: Nukleonika, v. 7, no. 6, 1962, 425 - 429

TEXT: The described method was aimed at producing α-detectors
possessing the highest possible efficiency. Scintillator layers of
predetermined, even thickness (2-20 mg/cm²) with the correct grain
distribution may be successfully prepared by sedimentation. The re-
sulting delicate coatings (deposited on methyl polymethacrylate)
are best bonded firmly onto the base by exposing the coatings to
chloroform vapor, which dissolves the outermost layer of the plexi-
glass. As a result the scintillating layer sinks in to a shallow
depth, so that the top of the layer remains perfectly free of the
bonding agent. The best results were obtained with Grade 256/1 ZnS,
produced by Derby of Gt. Britain, deposited to a thickness of
4 mg/cm² on an organic glass base. The optimum performance was ob-
Card 1/2

BIEGUSZEWSKI, Zygmunt; ZARNOWIECKI, Krzysztof; KOSTYRKO, Andrzej

Characteristics and operational data obtained from experiments
during the operation of the ion exchange unit in the primary
cooling system of the "Ewa" reactor. Nukleonika 7 no.6:407-
417 '62.

1. Institute of Nuclear Research, Polish Academy of Sciences, Warsaw.

KOSTYRKO, Andrzej; WISNIEWSKI, Artur; ZARNOWIECKI, Krzysztof

A method of producing scintillation layers ZnS for the detection
of α particles. Nukleonika 7 no.6:425-428 '62.

1. Instytut Badan Jadrowych, Dzial Dozymetrii, Polska Akademia
Nauk, Warszawa.

KOSTYRKO, Andrzej; PSZONA, Stanislaw; ZARNOWIECKI, Krzysztof

Method of producing standard sources of contaminations for the
calibration of dosimetric instruments. Nukleonika 7 no.6:428-
429 '62.

1. Instytut Badan Jadrowych, Dzial Dozymetrii, Polska Akademia
Nauk, Warszawa.

KOSTYRKO, D.R.

Seeding methods for perennial and annual grasses grown for seed production in irrigated regions. Izv. AN Azerb. SSR. Ser. biol. i med. nauk no.2:45-48 '61.   (MIRA 14:6)
        (AZERBAIJAN—GRASSES)   (SOWING)
                (SEED PRODUCTION)

KOSTYRKO, D.R.

Perennial grass mixtures for the Kuba-Khachmass zone now
under irrigation. Izv. AN Azerb. SSR. Ser. biol. i med. nauk
no.11:38-46 '61.   (MIRA 15:3)
                    (AZERBAIJAN--GRASSES)

ABDULLAYEV, I.K.; KOSTYRKO, D.R.

Studying the food value of leaves in recently developed mulberry
varieties; results of spring experiments in rearing silkworm larvae
in the Kuba-Khachmas zone. Dokl.AN Azerb.SSR 17 no.9:819-824
'61.   (MIRA 15:3)

1. Institut genetiki i selektsii AN AzSSR.
                        (Azerbaijan--Mulberry--Varieties)

ACC NR: AP6030152
L 43923-66   EWT(m)/EWP(t)/ETI   IJP(c)   JD

SOURCE CODE: UR/0120/66/000/004/0169/0170

AUTHOR: Galavanov, V. V.; Kostyrko, G. P.

ORG: Physico-technical Institute, AN SSSR, Leningrad (Fiziko-tekhnicheskiy institut AN SSSR)

TITLE: Cooled high-sensitivity InSb Hall transducer

SOURCE: Pribory i tekhnika eksperimenta, no. 4, 1966, 169-170

TOPIC TAGS: Hall effect, Hall transducer

ABSTRACT: The characteristics of an n-type InSb Hall transducer with an impurity concentration of 8×10^{13} cm^{-3} and an electron mobility of $(2-3) \times 10^5$ cm^2/v-sec at 78K are presented. The transducers were made from crystals 10—12 mm long, 4—6 mm wide, and 0.5—1 mm in thickness, which was later reduced to 0.15—0.25 mm by polishing. Since the tests were made using temperature cycling with the lowest temperature reaching 78 K, it was necessary to select a substrate material whose coefficient of expansion would match that of InSb. Glass with an intermediate 10—15 μ layer of mica was considered suitable. The test results at constant current using two samples show that the resistance between the current and Hall electrodes are 15—25 and 40—90 ohms, respectively. The Hall voltage as a function of control current at constant magnetic force (H = 100 Oe) behaves linearly up to the value of 15 ma. Experimentally, it was established that the measurement error when measuring

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UDC: 621.382.61

L 43983-66

ACC NR: AP6030152

weak magnetic fields (such as the Earth's) is minimum when the control current is equal to 40 ma. The absolute measurement error or the sensitivity threshold of this transducer at the above value of the control current is 2 x 10^{-3} Oe. Magnetic fields with intensities > 1 Oe may be measured with an accuracy of ± 0.1%. Orig. art. has: 3 figures.

[BD]

SUB CODE: 09/ SUBM DATE: 12Jul65/ ORIG REF: 001/ OTH REF: 001/ ATD PRESS: 5070

Card   2/2 ULR

$2\,4\,.\,\,1500\,(1538,\,1057,\,1138)$

AUTHOR: Kostyrko, I. I.

TITLE: Analytical properties of contributions from diagrams with
               five outer momenta

PERIODICAL: Ukrainskiy matematicheskiy zhurnal, v. 13, no. 4, 1961, 98-104

TEXT: A method of J. G. Taylor (Annals of Physics, 10 (1960), 516-535)
was used to determine additional conditions for the applicability of
energy dispersion relations with respect to inelastic processes
corresponding to outer momenta with a closed contour.   J. G. Taylor had
found the conditions for the existence of dispersion relations with
respect to energy.   Every diagram regarded as function of energy offers
the contribution

$$M_p(\omega, \Delta^2) = \lim_{\varepsilon \to 0+} \int \prod_{i=1}^{n} dx_i \, \delta \left(\sum_{i=1}^{n} x_i - 1 \right) \left[A(x) + B(x)\omega + i\varepsilon \right]^{n-2\alpha} \quad (1),$$

where $A(x)$, $B(x)$ functions of Feynman parameters, and α denotes the number
of independent inner parameters.   The retarded amplitude is obtained by
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Analytical properties of ...

transforming $\mathcal{E}$ into $\mathcal{E}(B)$, i.e., by changing the sign of $B(x)$ from Eq. (1) and by changing the advanced amplitude. The following lemma is given: If there is such a positive number a that $|A(x)|>a$ holds for all x, in which

$$B(x) = 0, \quad \sum_{i=1}^{n} x_i = 1 \quad (a \text{ being independent of } x), \text{ the retarded amplitude is}$$

continuable into the upper semi-plane. The masses of the particles involved in the process are equal to m. The diagram (Fig. 1) contributes

$$M_P = \text{const} \int \frac{\delta\left(1 - \sum_{i=1}^{5} x_i\right) \prod_{i=1}^{5} dx_i}{U^2(x)\{V(x) - i\varepsilon\}^3}. \qquad (2),$$

where $U(x) = \sum_{i=1}^{5} x_i = 1$ (3) and $V(x) = m^2(x_1^2 + x_2^2 + x_3^2 + x_4^2 + x_5^2 + x_1 x_2$

$+ x_2 x_3 + x_3 x_4 + x_4 x_5 + x_5 x_1) + 2(P_p x_1 x_3 + Qq x_1 x_4 - pq' x_2 x_4 - Pq x_2 x_5$

$+ qq' x_3 x_5$ (4). (4) is represented by means of G. R. Screaton's (Nuovo

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Analytical properties of ...

Cimento, 19 (1961), 77-89) kinematics in the form $Y(x) = \left[A(x) + B(x)\omega + i\epsilon\right]$. M_F depends upon the invariants ω, Δ^2, ν, Δc, and $d^2 + c^2$;

$M_F(Q,q,q',p,P) = M_F(\omega, \Delta^2, \nu, \Delta c, d^2 + c^2)$ (11). In metrics where $p^2 = -m^2$,

$$B(x) = -2\sqrt{m^2 + \Delta^2}\,(x_3 + \nu x_4)\,x_1,$$

$$A(x) = m^2(x_1^2 + x_2^2 + x_3^2 + x_4^2 + x_5^2 + x_1 x_2 + x_2 x_3 + x_3 x_4 + x_4 x_5 + x_5 x_1) +$$

$$+ \frac{1}{2\nu(1-\nu)\Delta^2}\{[-3\nu\Delta^4 + 4\nu^2\Delta^4 + \nu\Delta^2(d^2+c^2) - 2\nu\Delta^3 c + \nu\Delta^2 m^2(1-\nu+\nu^2)]\times$$

$$\times x_1 x_4 + 4[2\nu\Delta^4(1-\nu) + m^2\nu\Delta^2(1-\nu)]x_2 x_5 - [2\Delta^4(2\nu-1)^2 + \Delta^2 m^2(2\nu-1)^2 +$$

$$+ \Delta^2 m^2 + 2\Delta^2(d^2+c^2) + 4\Delta^3 c(1-2\nu)]x_3 x_5 + [4\nu\Delta^2 m^2(1-\nu) + 2\nu^3 m^2\Delta^2 +$$

$$+ 2\nu\Delta^4 + 2\nu\Delta^2(d^2+c^2) - 4\Delta^3 c\nu]x_2 x_4 - [\Delta^2 + c^2 + d^2 + 2\Delta c(1-2\nu) +$$

$$+ (1-\nu+\nu^2)m^2]\Delta^2 x_1 x_3\}.$$

(12)

holds. The conditions on which the dispersion relations
Card 3/5

30834

S/041/61/013/004/005/007
B125/B112

Analytical properties of ...

read as follows: K. Symanzik, Prog. Theor. Phys., 20 (1958), 69; N.
Nakanishi, Progr. Theor. Phys., 22 (1959), 128-144; J. G. Taylor, Annals
of Physics, 10 (1960), 516-535.

SUBMITTED: July 10, 1961 (Kiyev)

Fig. 1

Card 7/7

KOSTYRKO, I.I.

Analytical properties of a graph with one circuit and five external mamenta. Dop. AN URSR no.2:161-164 '62.   (MIRA 15:2)

1. Institut matematiki AN USSR. Predstavleno akademikom AN USSR
Yu. A.Mitropol'skim [Mytropol's'khi, IU.O.]
            (Geometry, Analytic—Graphic methods)

S/185/62/007/010/002/020
D234/D308

AUTHOR: Kostyrko, I. I.

TITLE: Taking into account the selection rules for scattering
               of particles with different masses, in determining the
               analyticity domains of the diagram contribution

PERIODICAL: Ukrayins'kyy fizychnyy zhurnal, v. 7, no. 10, 1962,
               1046-1049

TEXT: Starting from an integral representation of the general con-
tribution of Feynman's diagram, the author determines the domain
of analyticity in the scattering of π mesons by π mesons (deter-
mined in a different way by T. Wu), of.nucleons by nucleons and of
π and K mesons by nucleons. It is sufficient to substitute in the
denominator of each integrand the lower limit of the corresponding
function and to find the set of (s, t) points for which the deno-
minator is larger than 0 when all x, y, z belong to the interval
(0,1); the intersection of the domains obtained in this way de-
fines the domain of analyticity of the total contribution. The

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Taking into account ...   S/185/62/007/010/002/020
                                            D234/D308

most important English-language reference reads as follows: N. Na-
kanishi, Prog. Theor. Phys., 23, 337, 1960.

ASSOCIATION: Instytut matematyky AN UkrSR (Institute of Mathema-
                tics, AS UkrSSR)

SUBMITTED: March 13, 1962

Card 2/2

AUTHOR: Kostyrko, I. I. (Kiyev)

TITLE: Determination of the analyticity regions of Feynman integrals corresponding to the nucleon-nucleon, pion-nucleon, and K-meson-nucleon scattering

PERIODICAL: Ukrainskiy matematicheskiy zhurnal, v. 14, no. 4, 1962, 411 - 417

TEXT: The analyticity regions are determined on the basis of the general integral representation of N. Nakanishi (Prog. Theor. Phys., v. 26, 1960, 337 - 355)

$$\int_{-\infty}^{\infty} d\alpha \int_0^1 dx \frac{\rho_{12}(\alpha,x)}{\alpha-xs-(1-x)t-i\varepsilon} + \int_{-\infty}^{\infty} d\beta \int_0^1 dy \frac{\rho_{23}(\beta,y)}{\beta-yt-(1-y)u-i\varepsilon} +$$

$$+ \int_{-\infty}^{\infty} d\gamma \int_0^1 dz \frac{\rho_{31}(\gamma,z)}{\gamma-zu-(1-z)s-i\varepsilon} ,$$

where α, γ and β must satisfy certain inequalities e. g. $\alpha \geqslant (2m_\pi)^2$, $\beta \geqslant (2m_\pi)^2$, $\gamma \geqslant (2m_\pi)^2$ for the case of pions. All invariants s, t for which no denominator in (2) vanishes belong to the
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Determination of the analyticity ...

S/041/62/014/004/004/007
B172/B112

analyticity region. Inequalities are derived for the regions mentioned in the title.

SUBMITTED: February 22, 1962

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L 17134-63   ENT(m)/BDS   AFFTC/ASD

8/0185/63/008/005/0549/0554

ACCESSION NR: AP3000233

AUTHOR: Kostyrko, I. I.

TITLE: Some analytic properties of the amplitudes of inelastic processes

SOURCE: Ukrayins'kyy fizychnyy zhurnal, v. 8, no. 5, 1963, 549-554

TOPIC TAGS: strong coupling, invariant, external pulse, scattering amplitude, perturbation theory, complex plane, matrix element, inelastic process, analytic property

ABSTRACT: The theory of strong coupling in recent years has been developed mainly by investigating the analytic properties of matrix elements as invariant functions. The major accomplishment in this field was the development of double representation of the amplitude of elastic processes by Mandelstam, S. (Phys. Rev. 112, 1344, 1958), but the presence of many independent invariants in the case of inelastic processes considerably complicates the investigations. In this connection, the author investigates the analytic properties of scattering amplitudes with five and six external pulses and determines the conditions for the invariants and masses.

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L 17184-63

ACCESSION NR: AP3000233

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of external particles, under which the amplitudes of scattering with five and
six external pulses in any order of perturbation theory are analytical in complex
planes with sections. Orig. art. has 23 equations.

ASSOCIATION: Insty*tut matematy*ky* AN UkrSSR(Institute of Mathematics, AN UkrSSR)

SUBMITTED: 19 Nov 62   DATE ACQ: 18 Jun 63   ENCL: 00

SUB CODE: PH   NO REF SOV: 001   OTHER: 007

Card 2/2

KOSTYRKO, I.I.

Some analytic properties of the amplitudes of inelastic
processes. Ukr. fiz. zhur. 8 no.5:549-554 My '63.
(MIRA 16:8)

1. Institut matematiki AN UkrSSR, Kiyev.

KOSTYRKO, I.M., laureat Stalinskoy premii; DLUGACH, B.A., redaktor;
KANDYKIN, A.Ye., tekhnicheskiy redaktor.

[Rhythm in section freight and train work] Ritmichnost' v grusovoi
i poesdnoi rabote uchastka. Moskva, Gos. transp. shel-dor. isd-vo,
1953. 51 p.   (MLRA 7:9)
        (Railroads—Train dispatching)

Kostyrko, N. V.

IP. 1200

81905

S/126/60/010/01/009/019
E111/E335

AUTHORS: Fedorchenko, I.M. and Kostyrko, N.V.

TITLE: Mechanism of Shrinkage in Sintering Briquettes of
Metal Powders

PERIODICAL: Fizika metallov i metallovedeniye, 1960, Vol. 10,
No. 1, pp 75 - 83

TEXT: Fedorchenko has developed (Refs.1-4) the concept of
shrinkage as a consequence of diffusion initially in the surface
and then in both surface and volume of the particles. Views on
this and other concepts vary (Refs. 6-15). The present work has
the object of providing further data on the influence of
annealing on the specific surface and pycnometric density of
powders and on briquette-shrinkage on sintering. Powders of
iron and cobalt (prepared by reduction of analytical-purity
oxides) and of two mixtures (respectively 0, 5% Fe; 63, 20% Co;
5, 60% Ni;   27, 15% Cr; 5, 0% Mo) were used. Nickel and
molybdenum were also prepared by reduction, chromium by crushing
cast metal. Fractions of powders passing through 53-micron screen holes
were used. The specific surface, pycnometric density and bulk
density of the powders as prepared and after annealing at
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Mechanism of Shrinkage in Sintering Briquettes of Metal Powders

800, 950, 1 000 and 1 100 $^{\circ}$C are shown in Table 2. Porosity
before and after pressing (at 2.2 or 4.4 tons/cm^2), the change
in porosity, volume shrinkage and increase in briquette density
is shown in Table 3 before and after annealing at 1 000 $^{\circ}$C
(metals) and 950 $^{\circ}$C (mixtures). Values (calculated by
A.I. Raychenko) of the movement of the diffusion front after
heating at 800 – 1100 $^{\circ}$C for 1, 2 and 4 hours are given in
Table 4 for the cobalt diffusing into nickel and self-diffusion
for cobalt and iron. Table 5 gives for the two mixtures the
porosity after pressing, annealing at 950 $^{\circ}$C, re-pressing in the
cold and sintering at 1100 $^{\circ}$C. Fig. 1 illustrates particle
sintering during preliminary annealing. Fig. 2 shows a
shrinkage crack in a briquette of non-annealed powder containing
a cylinder of massive iron: such cracks were not observed with
a similar briquette of previously annealed powder. The work
showed that heterodiffusion in surface layers of particles during
annealing powder mixtures reduces briquette shrinkage. Compacting
of briquettes on account of elimination of internal defects and
disappearance of internal porosity of particles was found to play
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E111/E335

Mechanism of Shrinkage in Sintering Briquettes of Metal Powders

a minor part in the overall compacting. The main effect is due
to diffusion processes leading to rearrangement of particle
surfaces and not diffusion inside particles. The authors
recommend pre-annealing of metal powders to reduce shrinkage
in sintering and reduce the size and deformations of the objects
being made. There are 3 figures, 5 tables and 18 references:
17 Soviet and 1 English.

ASSOCIATION: Institut metallokeramiki i spetsial'nykh splavov
               AN USSR (Institute of Cermets and Special Alloys
               of the Ac.Sc., Ukrainian SSR)

SUBMITTED: March 31, 1960

Card 3/3

BRAUN, M.P., prof.; KOSTYRKO, O.S.; DOBRYANSKAYA, Ye.P.; KONDRASHEV, A.I.

Efficient heat treatment process for hot rolling mill rolls.
Izv.vys.ucheb.zav.; chern.met. 2 no.8:105-112 Ag '59.
(MIRA 13:4)

1. Ukrainskaya Akademiya sel'skokhozyaystvennykh nauk.
(Rolls(Iron mills)) (Steel--Heat treatment)

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SOV/129-60-2-9/13

18.7100

AUTHORS:

Braun, M. P. (Professor, Doctor of Technical Sciences),
Kostyrko, O. S., Dobryanskaya, Ye. P., Kondrashev, A.
I. (Engineers)

TITLE:

Rational Heat Treatment Rates for Hot Rolling Rolls

PERIODICAL:

Metallovedeniye i termicheskaya obrabotka metallov,
1960, Nr 2, pp 48-52   (USSR)

ABSTRACT:

At Novo-Kramatorskiy Plant   (Novo-Kramatorskiy
zavod) in Kramatorsk protracted heat treatment of hot
rolling rolls failed to remove flakes. In order to
study the effect of cooling rates on flake formation
after forging 55Kh-steel specimens, the authors tested
four different heat treatment methods (see Fig. 2).

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Rational Heat Treatment Rates for Hot
Rolling Rolls

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Heat
Treatment ———→
Groups

Fig. 2. Experimental rates.   Cooling (a) with
furnace and (b) in air.

Specimens of different weight were taken from ingots
used for the production of rolls. Specimens as well

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Rational Heat Treatment Rates for Hot
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as rolls were forged with the same degree of reduction.
Tensile tests allowed the observations of hardness
changes along the cross section of specimens. Flakes
were detected by means of magnetic defectoscope.
Table 1 shows data relating to weight and chemical
composition of specimens.

Key to Table 1:   (A) Heat treatment group; (B) ingot
weight in tons; (C) specimen weight in tons;   (D)
contents of elements in %.

(A)	(B)	(C)	(D)		
			C	Mn	Cr
I	42	6,2	0,56	0,54	1,20
II	42	6,4	0,57	0,37	1,12
II	42	6,4	0,57	0,37	1,12
III	32	7,5	0,52	0,54	1,17
III	32	7,3	0,52	0,54	1,17
III	36	46	0,56	0,54	1,29
IV	42	6,4	0,57	0,37	1,12
IV	42	7,8	0,56	0,54	1,20
IV	32	8,2	0,56	0,55	1,33

Note: Si--0.26 to 0.32%; S--0.020 to 0.33%; P--0.016 to
0.025%.

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Rational Heat Treatment Rates for Hot
Rolling Rolls

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For a complete analysis of test results, the authors
calculated the amount of H escaping from a forging
with 1,000 mm diam at various temperatures of iso-
thermal holding. The period during which H escaped
was calculated according to a formula by N. M. Chuyko
(see Ref 1 Stal', 1951, Nr 3). The authors estimated
that 100 g 55Kh-steel contains 8 cm^3 H and maximum 4
cm^3 H after heat treatment. Calculations showed that
H is liberated slowly from large forgings during
austempering. Most flakes were identified in air-
cooled forgings and a minimum number or none in speci-
mens heat-treated according to method IV with the
following characteristics:

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Rational Heat Treatment Rates for Hot
Rolling Rolls

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Key to Table 2.   (a) Heat treatment group; (b) specimens taken from; (c) tensile strength, kg/mm^2; (d) yield point, kg/mm^2; (e) elongation; (f) reduction of area; (g) impact strength, kgm/m^2; (h) mean, kg/mm^2; (i) number of flakes; (j) surface; (k) 1/3 radius; (l) 2/3 radius; (m) center part.

(a)	(b)	(c)	(d)	(e) %	(f) %	(g)	(h)	(i)
	(j)	81,4	41,1	18	26,7	2,6	228–241	75
	(k)	82,1	42,3	16,2	23,4	1,9		
	(l)	83,4	39,7	13,4	24,6	2,1		
	(m)	81,8	39,1	14,2	21	1,9		
IV	(j)	90,1	42,9	13,5	21,1	2,1	228–252	3
	(k)	81,1	36,8	12,8	21,6	2,3		
	(l)	75,6	39,4	12,3	19,3	2,8		
	(m)	71,8	36,5	10,3	19,8	3,1		

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Rational Heat Treatment Rates for Hot
Rolling Rolls

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SOV/129-60-2-9/13

It was found that isothermal holding immediately after
forging failed to prevent flake formation. By heating
steel after the initial overcooling, flakes have no
time to develop. Subsequent overcooling promotes
considerable H liberation. The minor amounts of H
which remain in the steel do not enhance flake forma-
tion. The authors recommend the application of the a-
bove heat treatment rates which combine annealing
and normalization and reduce the time of heat treatment
of large-size forgings by 40%. Hundreds of rolls have
already been heat-treated by the above method, and
considerable saving was achieved at the plant.
There are 4 figures; 2 tables; and 4 Soviet references.

ASSOCIATION: Novo-Kramatorskly Machine Building Plant (Novo-
Kramatorskly mashinostroitel'nyy zavod)

Card 6/6

S/148/60/000/002/003/008

AUTHORS: Braun, M.P., Kostyrko, O.S., Litenko, N.T., Sokol, A.N.,
            Vinokur, B.B., Mirovskiy, E.I.

TITLE: Ductility of Steel in the Range of High Temperatures

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Chernaya metallurgiya,
            1960, Nr 2, pp 57 - 61

TEXT: The authors investigated the effect of elevated heating tempera-
tures of steel on its ductility and workability by pressure. Carbon 45, 18
Chromium 55Kh and chrome-nickel-titanium 5KhNT steels were investigated.
Their composition is given in a table. The specimens were subjected to im-
pact tests, static tension and dynamic jolting. Prior to deformation, the
45 steel specimens were preheated from 1240° to $1270^\circ C$, 55Kh specimens from
1220° to $1250^\circ C$ and 5KhNT from 1180° to $1210^\circ C$. Results of tests are given
in graphs (Figures 1, 2, 3). They show that a raise of temperature by $30^\circ C$
does not reduce ductility and workability by pressure of the steels. Within
the range of high temperatures ($1100^\circ - 1200^\circ C$) ductility of 5KhNT steel
exceeds that of 55 Kh and 45 grade steel due to speeded-up development of

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Ductility of Steel in the Range of High Temperatures

recrystallization processes. It appears from graphs 1, 2, 3 and a set of photographs (4) that higher content of C, Cr, Ni and particularly Ti speeds up the recrystallization processes. Addition of Cr, Ni, Ti and C atoms reduces the interatomic attraction in austenite crystals; this appears in the lower melting temperature of 5KhNT steel in comparison to 55Kh and 45 grade steel.
There are: 1 table, 3 sets of graphs, 1 set of photographs and 4 Soviet references.

ASSOCIATION: Ukrainskaya akademiya sel'skokhozyastvennykh nauk (Ukrainian Academy of Agricultural Sciences)

SUBMITTED: February 12, 1959

VB

Card 2/2

20195

S/032/61/027/003/015/025
B101/B203

AUTHORS: Braun, M. P. and Kostyrko, O. S.

TITLE: Temper embrittlement of steel in connection with the size
             effect

PERIODICAL: Zavodskaya laboratoriya. v. 27, no. 3, 1961, 318-321

TEXT: The dependence of brittleness on the specimen volume has often been
studied in stretch and bending tests. Few papers have, however, been
published on the effect of the size factor when testing the brittleness by
means of Charpy impact machines. The present investigation attempts to
obtain more data on the impact strength of steel in the brittle and viscous
state. The authors studied 40XH (40KhN) steel which has a marked tendency
to temper embrittlement. To obtain maximum temper embrittlement they made
preliminary tests. Ten specimens 10×10×55 mm were hardened at 1000°C, and
tempered at 500, 550, 600, 640, or 680°C for 1 hour. Five specimens were
quenched in water, the others were quenched in the furnace to 550°C at
10°C per hour. Results (Fig. 1) showed a maximum difference of impact
strength between 550 and 600°C; therefore, a temperature of 570°C was

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Temper embrittlement of steel ...

S/032/6:/027/003/015/025
B101/B203

chosen for further tests. To attain good tempering in specimens of dif-
ferent sizes they were annealed at 1100°C for 5 hours, then tempered in
oil at 1000°C for 1 hr. A uniform hardness of 56-59 at a depth of up to
37 mm in the specimen was attained (size of specimen 40x40 mm). To obtain
comparable results, geometrically similar specimens were used: 10x10x55;
15x15x83; 20x20x110; 30x30x165, and 40x40x220 mm. The impact tests were
made at room temperature by an impact machine of 50, 75, and 250 kgm power.
Table 2 shows the results. It was found that in the absence of temper
embrittlement specimens had a considerable reserve of impact strength which
increased with increasing specimen size. Fig. 2 shows the change in impact
strength in the brittle and viscous state as a function of specimen size.
A study of the fine structure showed that the grain boundaries were slight-
ly etched in the brittle state. A dependence of the etching effect on the
specimen size was not observed. It is concluded that the experimental
values for standard specimens cannot be applied to large workpieces whose
impact strength is much higher. In the case of temper embrittlement, the
impact strength increases much less with increasing specimen size than in
the viscous state. A study of fractured surfaces showed that every brittle
fracture was preceded by noticeable plastic deformation. M. I. Vinograd

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