KURCU, Ludovic; PACURARU, Vasile

General control of the social insurance activity in the Bacau region. Munca sindic 7 no.8:52-54 Ag '63.

1. Membri ai biroului executiv al Consiliului regional al sindicatelor, Bacau.

BUC, Jerzy; KURCYK, Tadeusz; ZDUN, Slawomir; ZIELINSKI, Ryszard

Use of program controlled machine tools in small and medium lot production. Problemy proj hut maszyn 12 no.11:321-339 N '64.

1. Technical University, Warsaw.

KURCZ, Arpad, dr., allatorvos (Villany)

Hermaphroditismus spurius masculinus in swine. Magy allatorv lap 19 no.4:162 Ap '64.

15 (8) POL/24-60-2-1/13

AUTHOR: Kurcz, Eugeniusz, Graduate Engineer

TITLE: "Polwinit" as a Plastic Material for the Cable Industry

PERIODICAL: Wiadomości Elektrotechniczne, 1960, Nr 2, pp 33 - 36

ABSTRACT: The article describes the advantages and disadvantages of vinyl polychloride, a plastic manufactured in Poland under the name "polwinit", in the production of electric cables. Of its two varieties: an emulsified and a suspension type, the suspension type has better dielectric characteristics, is more resistant to water penetration, and withstands better d-c loads. However, until its production is fully developed in Poland, the emulsified type may be used provided that it is the equivalent to the East German PCU-K and not to the PCU-G, also a product of the GDR.
The addition of plasticizers for improving the mechanical properties of vinyl polychloride impairs its electrical properties, especially at higher temperatures. The plasticizers most suitable for cable manufacture are bioxal phthalein, diethyl phthalate and tricresol phosphate. The resistivity of the polymers of vinyl chlorides amounts to appr. $10^{16}\,\Omega$ cm at 20°C and decreases with higher plasticizer contents (Figures 1 & 2). Dielectric losses due to dipole relaxation reach their peak value at not more than

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30°C. Beyond this peak the losses decrease first, but then rise again due to ionic losses caused by decreasing viscosity at higher temperatures. This loss factor at 50 cps is between 0.045 and 0.1 (Fig. 3). The dielectric dissipation at 50 cps and 20°C amounts to 4-5 and grows with rising temperature, at first slowly, then suddenly (depending on the amount of plasticizer, Fig. 4). The dielectric strength of the Polwinit, in spite of many experiments and theoretical studies, is not well known yet, owing to structural irregularities in the material. The value of 25-50 kv/mm at 20°C decreases with rising temperature at a speed depending on the plasticizer content. In practice a value of 2.5 - 3 kv/mm is accepted as standard. Water absorption is much higher in the emulsified Polwinit, than in the suspension type. It results in a sudden drop of resistivity (Figure 5). The mechanical properties of both types of Polwinit do not show great differences. Between 40 and 80°C the tensile strength decreases more than 10 times, compared to only 2 times if 40% of plasticizer is added instead of 25% (Figure 6). Ability to withstand high and low temperatures determines the application of Polwinit: in practice it is not used at temperatures above 65 or 70°C. The plasticizer content effects this ability (Table p. 36). The main advantages of using Polwinit for the insulation of cables are: getting rid of the heavy and unwieldy lead sheating; filler leakage (especially important when using continuous

cable at various levels); in many cases no need for cable potheads; simplified cable production; easier transportation and installation work. A much wider use of Polwinit for high-tension cables will become possible in Poland in a few years, when the production of the suspension-type Polwinit begins (in the Chemical Works in Oświęcim). There are 7 graphs and 1 table.

KURCZ, Eugeniusz, mgr inz.

Welding cables with aluminum wires. Wiad elektrotechn 28 no.7:214-216 Jl '61.

KURCZ, Ida (Warsaw)

Semantic generalization of sentences. Przegl psychol no.8:5-19 '64.

KURCZ, Ida (Warszawa)

Semantic generalization of voluntary reactions. Studia psychol 5:5-72 '63.

L 15516-66

ACC NR: AT6007468 SOURCE CODE: HU/2505/65/026/00X/0061/0061

AUTHOR: Kurcz, M.

ORG: Endocrinological Laboratory, Lomonosov University, Moscow

TITLE: Disturbances of pregnancy, labor and lactation in "hypothalamic obesity" [This paper was presented at the 29th Meeting of the Hungarian Physiological Society held in Szeged from 2 to 4 July 1964]

SOURCE: Academia scientiarum hungaricae. Acta physiologica, v. 26, Supplement, 1965, 61

TOPIC TAGS: biologic reproduction, endocrinology, rat, brain

ABSTRACT: Depending on the location and extent of lesion in the medial hypothalamic area, excessive obesity may be present without interference with the sexual cycle. The course of gestation, labor and lactation of such animals has been studied in order to characterize the neuroendocrine system of such animals. It was found that such females copulate but only about one third of the number of controls become pregnant. Of the 11 extremely obese rats, 2 could not deliver and died, while the labor of the other 9 was difficult and prolonged. A large number of stillbirths occurred. Slightly obese rats, or those operated on during pregnancy and

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ACC NR: AT6007468

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becoming extremely obese later, had normal deliveries. The results indicate that abnormal parturition of excessively obese rats should be ascribed to some mechanical, somatic causes rather than to endocrine disorders. The maternal instinct was present in every rat following delivery but most of them could not nurse. This led to the conclusion that there exists an area in the hypothalamus, or there are pathways near the satiety center, the intactness of which is essential for lactation. Pregnancy was shown to have no effect on the development or state of obesity. [JPRS]

SUB CODE: 06 / SUBM DATE: none

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ENDOCRINOLOGY

HUNGARY/USSR

KURCZ, Mihaly, and KABAK, J.M., Laboratory of Endocrinology, National Lomonosov University, Moscow [Original-language version not given].

"Prolactin Content of Rat Hypophysis After Destruction of Middle Part of Hypothalamus"

Budapest, Kisorletes Orvostudomany, Vol 18, No 6, 1966; pp 561-565.

Abstract: After isolated destruction of the ventromedial nucleus of the hypothalamus the uterus was traumatized, in order to release the deciduoma reaction, and the prolactin content of the hypophysis was determined. In the genital cycle of the damaged animals the diestrus phase was prolonged, but the deciduoma reaction was not positive. The weight of the hypophysis significantly increased after the operation. Both the concentration and the absolute weight of the prolactin in the hypophysis was increased. On the basis of these results and of previous data the authors believe that those nervous structures which are responsible for the inhibition of the prolactin secretion of the hypophysis are either present in the ventromedial nucleus, or the paths connecting the "centers" inhibiting the prolactin production and the hypophysis pass through the ventromedial nucleus. 14 References, 7 of which Eastern.
Manuscript received 28 Jul 65.

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NAGY. Ivan, OROSZ, Antal, KURCZ, Mihaly, BARANYAI, Pal, and AJTAI, Katalin, of the Central Laboratory of the Heim Pal Children's Hospital (Heim Pal Gyermekkorhaz Kozpinti Laboratoriuma), and the Department of General Zoology (Altalanos Allattani Tanszek) of the Eotvos Lorand University of Sciences (Eotvos Lorand Tudomanyegyetem = ELTE).

"Study of the Immunological Properties of Anti-Prolactin Serum Formed Upon Simple Prolactin Treatment"

Budapest, Kiserletes Orvostudomany, Vol 18, No 6, 1966; pp 640-644.

Abstract: After injection of purified sheep prolactin preparation without adjuvant anti-prolactin (Pr) antibodies appeared in the blood of experimental rats, which showed a precipitation reaction with Pr on an agar gel plate, and which agglutinated sheep erythrocytes sensitized to -Pr in a high titer. The antibodies may be detected in the gamma globulin of the immune serum by means of immunoelectrophoresis. On the basis of authors' studies the sheep-Pr and anti-Pr are considered species-specific from the immunological point of view. The antisheep Pr serum reacted only with extracts of sheep and bovine hypophysis, and showed no reaction with aqueous extracts of human, dog, rabbit, rat, guinea pig and pigeon hypophysis. On the basis of these results it is believed that Pr may be quantitatively determined by an immunological method, but to do this it is absolutely necessary to take into consideration the species-specific property of Pr. 28 References, mainly Western. Manuscript received 19 Jan 66.
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CZECHOSLOVAKIA UDC 616.248-053.2-07:616.24-072.7

VEJMOLOVA, J.; KURES, H.; MACEK, M.; Department of Medicine of Physical Education, Academy of Pediatrics, Charles University (Katedra Telovychovneho Lekarstvi Fakulty Detskeho Lekarstvi KU), Prague, Head (Vedouci) Docent Dr M. MASEK.

"Hyperventilatory Changes of the Endexpiratory Level in Asthmatic Children."

Prague, Casopis Lekaru Ceskych, Vol 105, No 49-50, 9 Dec 66, pp 1377 - 1381

Abstract [Authors' English summary modified]: Voluntary hyperventilation with active expiration was studied using 6 various frequencies in 2 groups of children: 53 healthy ones, and 53 symptom-free asthmatic children. The hyperventilatory response depends on the frequency and was different in the two groups. The most characteristic differences between the two groups were found in a frequency of breathing of 37.5 cycles per minute. At this frequency the pathological functional changes in asthmatic children are most obvious. 2 Figures, 2 Western, 3 Czech references.

KURCZ, Mihaly (Budapest VIII, Pushkin u. 3. Hungary)

A comparative study of the spontaneous activity of the white rat and the brown or wharf rat. Acta biol Hung 11 no.3:271-283 '60.
(EEAI 10:4)

1. Institute of General Zoology, Eotvos Lorand University, Budapest (Head: G.Modlinger)
(RATS)

BOKACH-POLGAR, E. [Bakacs-Polgar, E.]; KURTS-CHIKI, I. [Kurcz-Csiky, I.]

Simple method for the isolation of radioactive strontium and barium. Zhur.anal.khim. 18 no.10:1206-1210 O '63. (MIRA 16:12)

1. Institut zdravookhraneniya, Budapesht, Vengriya.

KURLAND, K.

Vet Abs M IL
Jul. 1953
Pharmacology
Toxicology

✓**Action of Prostigmine during and after colic or functional atony of the alimentary tract, complicating aseptic pododermatitis or paralytic myoglobinuemia of horses.** K. Kurland (*Ann. Univ. M. Curie-Sklodowska*, 1952, **6**, [*DD*], 335–351). Hypodermic injection of up to 12·5 mg. of Prostigmine stimulates intestinal, particularly colonic, peristalsis, and is recommended for treatment of obstructive colicky conditions in horses. R. Thuson.

KRYSZEWSKI, Marian; KURCZEWSKA, Halina; SZYMANSKI, Aleksander

D.C.current conductivity of organic dielectric polymers, depending on the work conditions and external factors. Pt. 1.
Przegl elektroniki 5 no. 4:190-198 Ap '64.

1. Department of Physics, Division of Chemistry, Technical University, Lodz.

POL/46-59-4-11/18

9(2)
AUTHOR: Kurczewski, Aleksander

TITLE: PD-56 Electronic Counter

PERIODICAL: Nukleonika, 1959, Nr 4, pp 451-453 (Poland)

ABSTRACT: This piece of equipment (shown in fig 1) is used to count electric impulses of all types and finds various applications: in nuclear physics, radiochemistry, radiobiology, industry, medicine, etc. Fig 2 shows the circuit lay-out, its various parts (reading from bottom left to bottom right, clockwise) being: pre-amplifier, high-voltage supply, 2 and 20 Hz control generator, discriminator, 1st and 2nd decade, separator and amplifier, electromechanic counter, power supply. Bottom center is the connection to a Geiger-Mueller counter. The symbols "we" and "wy" signify input and output respectively. The following technical data are given: Measured impulses: negative - U_{min}=0.1 V, positive - U_{min}=5 V. Impulse distribution time: negative - T_{min}=20 μsec, positive - T_{min}=5 μsec.

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PD-56 Electronic Counter POL/46-59-4-11/18

Tension is stablized to within 1% with mains deviations from 180 V to 240 V and regulated in five sub-ranges: 200-400 V, 350-600 V, 500-800 V, 700-1,200 V and 1,100-1,800 V. The power supply is 220 V, 150 VA, 50 Hz. The counter weighs 25 kg and measures 535x515x325 mm in a metal casing or 480x268x320 mm in a wooden casing which is adapted for use with a stand. Counters of this type may be connected in series and in this way it is possible to count regularly repeated impulse with a frequency of 2.10^5 imp/sec.

ASSOCIATION: Zaklady Wybrobow Elektrotechnicznych "Eltra" Bydgoszcz ("Eltra" Electrotechnical Equipment Plant, Bydgoszcz)

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9(2) POL/46-59-4-12/18

AUTHOR: Kurczewski, Aleksander

TITLE: ML-56 Portable Monitor Counter

PERIODICAL: Nukleonika, 1959, Nr 4, pp 453-455 (Poland)

ABSTRACT: This piece of equipment, illustrated in fig 1, is battery powered and used for detecting sources of radio-activity and measuring doses of beta and gamma radiation. It may also be used for detecting radio-active contamination of solids, liquids and gases. Hence it can find many uses in mining and industry. Fig 2 shows the lay out of the circuit, the left half representing the sounding rod, the right half the counter box. Reading clockwise from the bottom, we have in the sounding rod: the high tension supply, the Geiger-Mueller counter and the limiting amplifier, and in the counter box: battery supply, integrator and tube voltmeter. At the top, center, is the ear-phone connection. The following technical data are given: Measuring range with a BOS-4 G-M counter: 0.03-20 mr/h. The following are the column titles of

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the attached table: sub-range, radiation dose in mr/h and beta radiation depending on positions B_1 and B_2 of the sounding rod. Measurement accuracy of $\pm$ 50% is maintained under the following atmospheric conditions: 10-30°C, 55-75% humidity and 730-770 mm pressure. The life span of the battery is about 50 hours. Outside measurements: box - 225x85x165 mm, sounding rod - 1,000 mm, cable length - 1,000 mm, total weight 5.4 kg. Measurements taken may be converted into radiation dose values with the help of tables printed inside the cover. When the cover is down, readings may be taken through a glass panel. In view of its uses, the sounding rod is water- and gas-proof.

ASSOCIATION: Zaklady Wybrobow Elektrotechnicznych "Eltra" Bydgoszcz ("Eltra" Electrotechnical Equipment Plant, Bydgoszcz)

9(2)
AUTHOR: Kurczewski, Aleksander

POL/41-59-4-13/18

TITLE: ML-57 Portable Monitor Counter

PERIODICAL: Nukleonika, 1959, Nr 4, pp 451-458 (Poland)

ABSTRACT: This piece of equipment illustrated in fig 1, is battery powered and is adapted for use in prospecting. Its construction is an improved version of the ML-56 counter previously discussed. It is used for detecting radioactive elements and for measuring gamma radiation doses. The circuitry is exactly the same as in the ML-56 counter. The following technical data are given: Measurement range: 0.015-0.7 mr/h in two sub-ranges. Measurement accuracy of ± 50% is achieved under the same atmospheric conditions as for the ML-56 counter. The battery, its life span and outside box measurements are the same as for the ML-56 counter. The sounding rod together with extension measures 1,740 mm and the cable 1 500 mm. The weight is about 5 kg. Readings may be taken through a glass panel when the cover is closed. The sounding rod is

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water- and gas-proof and may be extended thanks to its telescopic construction.

ASSOCIATION: Zaklady Wybrobow Elektrotechnicznych "Eltra" Bydgoszcz
"Eltra" Electrotechnical Equipment Plant, Bydgoszcz)

21(3) 10L/46-4-5-10/16

AUTHOR: Kurczewski, Aleksander

TITLE: ML-6 G-M Laboratory Monitor

PERIODICAL: Nukleonika, 1959, Vol 4, Nr 5, pp 573-5 (POLAND)

ABSTRACT: This is a portable counter designed for measuring temporary dosages of β and γ radiation and for detecting radioactive contamination of solids, liquids and gases. The apparatus may be used universally in isotope, radiochemical, radiobiological, medical etc.. laboratories. The counter is illustrated in Fig 1 and its block scheme is shown in Fig 2. The apparatus is made to measure β and γ radiation in 3 ranges as shown in the table on p 575. An accuracy of $\pm 10\%$ is maintained in the following conditions: temperature 20-5°C; relative humidity of the air environment - 65-5%; atmospheric pressure - 760-20mm Hg; power supply - 220 V (grid), 50 Hz. Complete with 5m cable and sounding rod, the monitor weighs 12 kG. A BOS-4 type Geiger-Müller counter is incorporated in the sounding rod. There are 1 photograph and 1 layout.

ASSOCIATION: Zakłady wyrobów elektrotechnicznych "Eltra", Bydgoszcz ("Eltra" Electrotechnical Products Plant, Bydgoszcz).

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82712
P/046/60/005/001-2/007/008
A222/A026

21.8200

AUTHOR: Kurczewski, Aleksander

TITLE: Laboratory Area Monitor Type SL-8

PERIODICAL: Nukleonika, 1960, No. 1-2, pp. 92-94.

TEXT: The area monitor briefly described by the author is intended as a warning device for the protection of personnel handling radioactive materials. Transgression of a permissible radiation rate is indicated by a red light signal. The block diagram of the monitor is shown in Fig. 1. Ionized particles induce discharges in the counter BOS-4 and, as a result, voltage pulses on the load resistance. The mean value of the pulses is measured by a recording system. The system consists of amplifier and pulse limiter, an integrating circuit charged by pulses from the amplifier through a diode, and of a signaling circuit with a relay which controls signal lights. The device has 2 radiation detectors, one in the monitor proper and another in a cable-linked attachment, and two signaling lamp sets, one of them in another cable-linked attachment. Technical data of the monitor: threshold sensitivity 6.25 mr/h; signaling accuracy ± 15%

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82712

P/046/60/005/001-2/007/008
A222/A026

Laboratory Area Monitor Type SL-8

(at an air temperature of 20 ± 5°C, humidity 65 ± 10%, and atmospheric pressure 750 ± 30 mm Hg); operates on 220 v, 50 cps, 25 w; gabarite dimensions, monitor 333 x 223 x 195 mm, attachment 218 x 110 x 73 mm; length of attachment cable optional; length of counter cable up to 4 m; net weight 12 kg. There are 2 figures.

ASSOCIATION: Zakłady Wyrobów Elektrotechnicznych "Eltra" (Electric Equipment Manufacturing Plant "Eltra"), Bydgoszcz

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KULISZ, Stanislaw; CZECHOWSKI, Zdzislaw; KURCZEWSKI, Zbigniew

Application of wood-oils for the removal of naphthalene from gas pipe lines. Koks 6 no.3:100-102 My-Je '61.

1. Fabryka Rozkladowej Destylacji Drewna, Gryfino(for Kulisz) 2. Wyzsza Szkola Rolnicza, Poznan(for Czechowski) 3. Zaklady Gazownictwa Okregowego, Walbrzych (for Kurczewski)

(Naphthalene)

KURCZCK, Danuta, mgr.

The Polish freight market, 1963. Tech gosp morska 14 no.2: 36-38 F '64.

1. Polfracht, Gdynia.

KURCZOK, Danuta, mgr.; REJEWSKI, Boleslaw, mgr.

Polish freight market 1962. Tech gosp morska 13 no.3:65-67 Mr '63.

1. Polfracht, Gdynia.

KURCZOK, Danuta, mgr.

Stabilization planning in capitalist tramp shipping.
Tech gosp morska 13 no.10:316-317 O '63.

KURCZOK, Danuta, mgr

A new Dutch freight index. Tech gosp morska 14 no.10:319-320 O '64.

[redacted], Daniela. [redacted]

The Polish [redacted] market in 1964. [redacted]
43-45 P '65.

1. Poltrecht, Olympia.

Hydration of anhydrite activated with sulfate. Henryk [illegible]. Cement Wapno Gips 11(20), [illegible] (1955). — K. discusses anhydrite cement obtained by grinding natural or artificial anhydrite and adding to them small amts. of neutral activators such as $(NH_4)_2SO_4$, K_2SO_4, $ZnSO_4$, and $NaHSO_4$. Such cements are suitable for substituting wood for floor-lining. Their vol. is increased only slightly during setting; shrinkage does not take place. The amt. of sulfate activators is usually 0.1–1.0 kg./100 kg. of raw anhydrite. The formation of double salts such as $Na_2SO_4 \cdot CaSO_4 \cdot H_2O$ and their subsequent decompn. is not the cause of accelerated hydration of anhydrite cement. The cause is: (1) in the presence of SO_4 anhydrite is more easily sol. in water and also crystallizes more easily from such solns. and (2) the vapor pressure of water soln. contg. SO_4 is lower than that of pure water, hence water evapn. is decreased and anhydrite is in contact with water longer. The rapid crystn. of $CaSO_4 \cdot 2H_2O$ during setting of such cement results in the formation of very small crystals and thus increases the strength of the hardened cement. [illegible] Hende[illegible]

KURCZYK, H.

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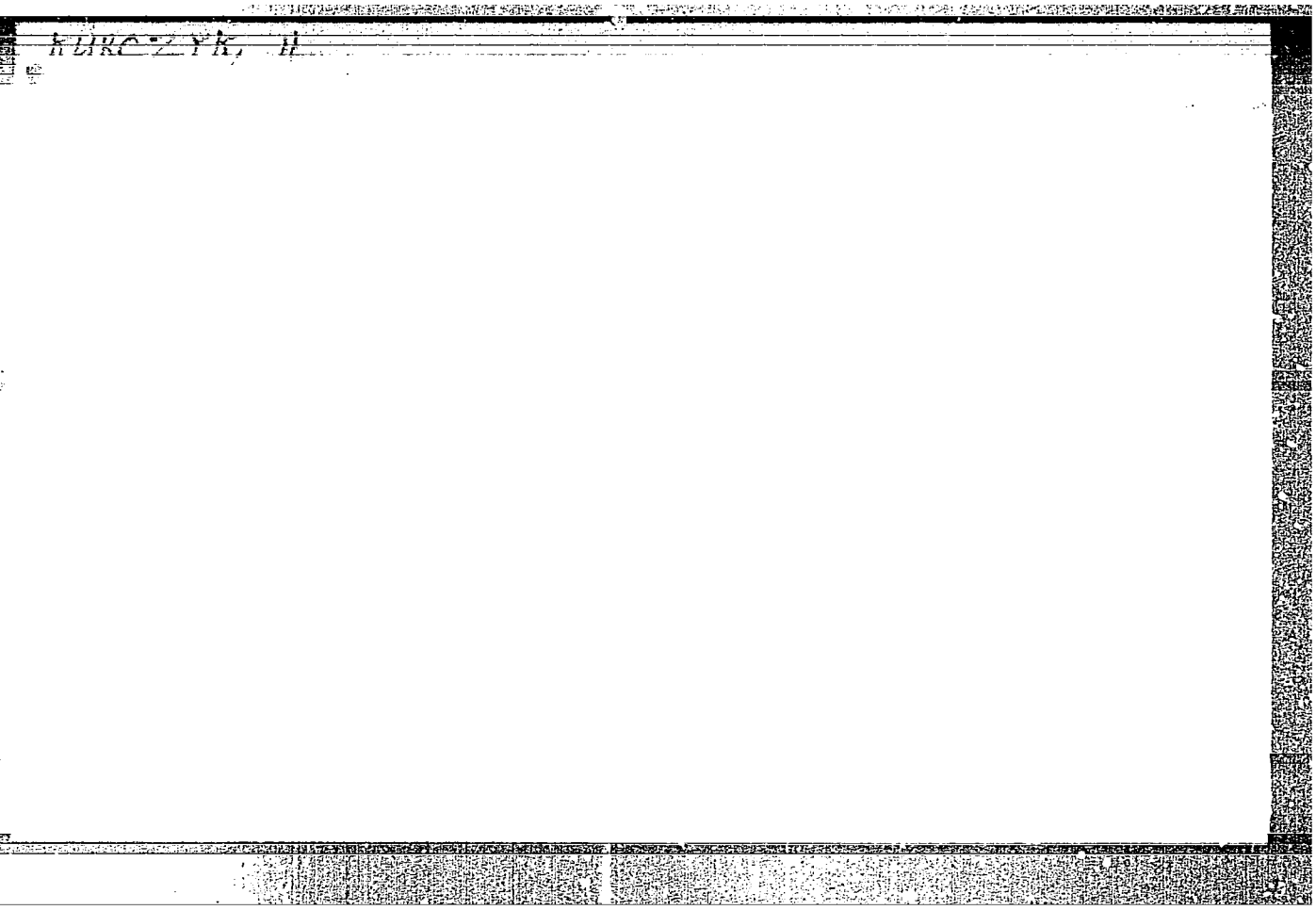
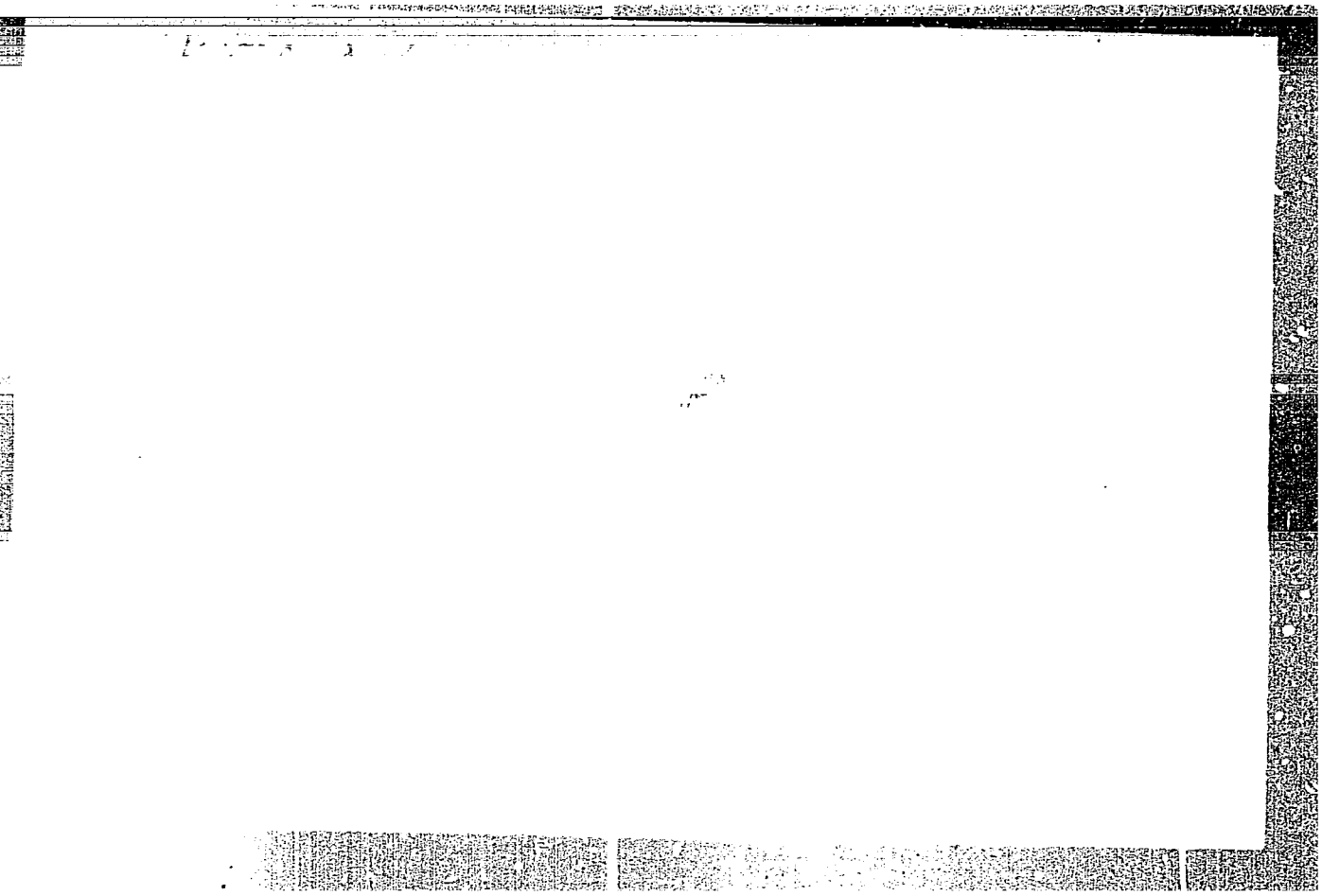
SOURCE: East European Accessions List (EEAL) Vol. 6, No. 4--April 1957





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(Dissertation for the Degree of Candidate of Pedagogical Sciences)

SO: Knizhnaya Letopis' No. 51, 10 December 1955

KURDASOVA, N.; YABLONSKAYA, Z.

Enlarged brigade in tailoring shops. Prom.koop. 14 no.8:24-25 Ag '60. (MIRA 13:8)

1. Predsedatel' pravleniya arteli "Kollektivnyy trud," g.Kalinin (for Kurdasova). 2. Tekhnoruk arteli "Kollektivnyy trud," g.Kalinin (for Yablonskaya)
(Kalinin--Clothing industry)

KURDASOVA, N.; YABLONSKAYA, Z., tekhnicheskiy rukovoditel'

Sectional brigade production method for the manufacture of women's light dresses. Mest.prom.i khud.promys. 1 no.2/3:51 N-D '61. (MIRA 14:4)

1. Direktor fabriki individual'nogo poshiva No 1, Kalinin (for Kurdasova).

(Dressmaking) (Assembly-line methods)

KURDASOVA, P. (Kalinin); YABLONSKAYA, Z. (Kalinin).

Brigade method in action. Prom. koop. 12 no.3:12-13 Mr '58.
(MIRA 11:3)
1. Predsedatel' pravleniya arteli "Kollektivnyy trud" (for Kurdasova). 2. Tekhnoruk arteli "Kollektivnyy trud" (for Yablonskaya).
(Kalinin--Cooperative societies)

KURDGELAIDZE, D.F.

Some aspects of the nonlinear theory of elementary particles. Part 2. Izv. vys. ucheb. zav.; fiz. 7 no.6:96-103 '64.

Some aspects of the nonlinear theory of elementary particles. Part 3. Ibid.:104-110

(MIRA 18:2)

1. Moskovskiy gosudarstvennyy universitet imeni M.V. Lomonosova.

KURDGELAIDZE, G.M.

Glaciological observations on the Adishi Glacier. Trudy Inst. geog. AN Gruz. SSR 20:281-291 '64. (MIRA 18:5)

POGILYAYKO, N.M. (Vinnitsa, Kiyevskaya ul. 101, kv. 61); KURDELYUK, P.I.

Pneumatosis of the large intestine. Vest. khir. 92 no.5:88-90 My '64. (MIRA 18:1)

1. Iz Luka-Barskoy uchastkovoy bol'nitsy (glavnyy vrach - P.I. Kurdelyuk) i fakul'tetskoy khirurgicheskoy kliniki (zav. - prof. I.M. Gratchenko) Vinnitskogo meditsinskogo instituta.

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[Bitumen and tar for road covering] Dorozhnye bitumy i degti. Moskva, Izd-vo dorozhno-tekhn.lit-ry gushosdora MVD SSSR, 1952. 62 p.(Populiarnaia tekhnicheskaia bibliotechka rabochego dorozhnika) (Microfilm)
(Bituminous materials) (MLRA 9:4)

KURDENKOV, B.I., inzhener; KHAYKIN, Ya.B.

Gravel spreaders for road surface work. Avt.dor. 19 no.4:29-30 Ap '56. (MLRA 9:8)

(Great Britain--Road machinery)

KURDENKOV, D.I., kand.tekhn.nauk

Using vibrators in packing cold asphalt concrete. Trudy MADI no.23:139-143 '58. (MIRA 12:1)
(Asphalt concrete) (Vibrators)

VOLKOV, M.I., prof.; IVANOV, F.M.kand.tekhn.nauk; KLIMASHEV, F.S.,inzh.; KOROLEV, I.V., inzh.; KURDENKOV, B.I., inzh.; MYSHKOVSKAYA, S.A., kand.tekhn.nauk; NEKRASOV, V.K., kand.tekhn.nauk; SPERANTOV, N.A., kand.tekhn.nauk; YAKUNIN, O.A., inzh.; MOTYLEV, Yu.L., red.; LAKHMAN, F.Ye., tekhn.red.

[Metallurgical slags in road construction] Metallurgicheskie shlaki v dorozhnom stroitel'stve. Moskva, Nauchno-tekhn.izd-vo M-va avtomobil'nogo transp. i shosseinykh dorog RSFSR, 1959. 182 p. (MIRA 12:4)

(Road materials) (Slag)

KURDENKOV, B.I., inzh.

Utilizing local stone for concrete pavings. Avt.dor. 22 no.7: 9-10 Jl '59. (MIRA 12:9)
(Pavements, Concrete) (Stone, Crushed)

BEZRUK, Vasiliy Makarovich, doktor geol.-miner.nauk; ZASHCHEPIN, Aleksey Nikitich, kand.tekhn.nauk; IVANOV, Fedor Mikhaylovich, kand.tekhn. nauk; MIKHAYLOV, Valentin Vasil'yevich, kand.tekhn.nauk; NEKRASOV, Vladimir Konstantinovich, kand.tekhn.nauk; KURDENKOV, Boris Ivanovich, inzh.; ZASHCHUK, Igor' Vsevolodovich, kand.tekhn.nauk; GORELYSHEV, N.V., kand.tekhn.nauk, red.; YEGOZOV, V.P., red.; GALAKTIONOVA, Ye.N., tekhn.red.; DONSKAYA, G.D., tekhn.red.

[Handbook on laboratory testing of road materials and soils] Spravochnoe rukovodstvo po laboratornym ispytaniiam dorozhno-stroitel'nykh materialov i gruntov. Pod obshchei red. N.V.Gorelysheva. Moskva, Nauchno-tekhn.izd-vo M-va avtomobil'nogo transporta i shosseinykh dorog RSFSR, 1960. 381 p. (MIRA 13:11)
(Road materials--Testing)

KURDENKOV, B.I.; POLYAKOVA, A.I.

Conference on the increased use of local rock materials in road construction. Avt.dor. 23 no.2:30-31 F '60. (MIRA 13:5)

(Road materials)

KURDENKOV, B.I., inzh.

Improving properties of rock materials of various strength.
Avt.dor. 23 no.6:22-23 Je '60. (MIRA 13:6)
(Road materials) (Stone, Crushed)

KLIMASHEV, Fedor Sergeyevich; KURDENKOV, Boris Ivanovich; NEKRASOV, Vladimir Konstantinovich; YAKOVLEVA, A.I., red.; NIKOLAYEVA, L.N., tekhn. red.

[Construction of base couses of low-strength coarsely crushed stone] Stroitel'stvo dorozhnykh osnovanii iz krupnogo shchebnia ponizhennoi prochnosti. Moskva, Nauchno-tekhn. izd-vo M-va avtomobil'nogo transp. i shosseinykh dorog RSFSR, 1961. 43 p. (MIRA 14:10)
(Road construction) (Stone, Crushed)

KURDENKOV, Boris Ivanovich; POLYAKOVA, Antonina Ivanovna; FILATOV, Anatoliy Petrovich; RUDENKO, K.G., red.; GANYUSHIN, A.I., red.izd-va; DONSKAYA, G.D., tekhn.red.

[Beneficiation of stone material for road construction] Obogashchenie kamennogo materiala dlia dorozhnogo stroitel'stva. Moskva, Avtotransizdat, 1962. 59 p. (MIRA 15:4)

(Road construction) (Stone, Crushed)

SHIMULIS, S.P.; KUKUSHKOV, B.I.

Wear resistance of rubble and the roughness of pavements. Avt.dor. 27 no.12:15-17 D '64. (MIRA 18:2)

SLAVUTSKIY, Aleksandr Kel'manovich, kand. tekhn. nauk, dots.; YELENOVICH, Aleksey Savel'yevich, kand. tekhn. nauk, dots.; KURDENKOV, Boris Ivanovich, inzh.; ROMADANOV, Georgiy Afanas'yevich, kand. tekhn. nauk; Prinimali uchastiye: BUYKALOV, I.I., inzh.; MASHIN, K.P., inzh.; SOROKIN, I.G., inzh.; SHCHERBAKOV, Ye.I., inzh.; IL'INA, L.N., red.

[Road toppings made of local materials] Dorozhnye odezhdy iz mestnykh materialov. Moskva, Transport, 1965. 270 p. (MIRA 18:7)

KURDYUKOV, G., inzhener-polkovnik; KUBRAVIN, M., inzhener-podpolkovnik; SEMEYKIN, P., mayor tekhnicheskoy sluzhby

Characteristics of operating a self-propelled mount. Tekh. i vooruzh. no.6:67-70 Je '64. (MIRA 17:7)

KURDENKOV,K.; PREOBRAZHENSKIY,A.

"Tandem-propellers." Voen.znan.31 no.8:28 Ag'55. (MLRA 8:12)
(Ship models)

APOSTOLI, B., KURDENKOV, K.

Equipment of a workshop for building ship models. Voen.znan. 31 no.10:26 O '55. (MLRA 9:3)

(Ship models)

KURDENKOV, K.; PREOBRAZHENSKIY, A.

What's new on model ship building. Voen.znan. 31 no.6:26 Je '56. (MLRA 9:10)

(Ship models)

APOSTOLI, B.; KURDENKOV, K.

Work of the ship modelers group. Voen.znan. 32 no.2:13 F '56.
(MLRA 9:5)

(Ship models)

KURDENKOV, Kirill Nikiforovich; IGOSHIN, M.G., red.; TSIGEL'MAN, P.T., tekhn. red.

[Painting ship models] Okraska morskikh modelei. Konsul'tatsiia TSentral'noi laboratorii morskogo modelizma DOSAAF SSSR. Moskva, Izd-vo DOSAAF, 1957. 38 p. (MIRA 11:8)
(Ship models--Painting)

KURDENKOV, K. (Leningrad)

Building a boat. IUn. tekh. 3 no.6:49 Je '59.
(MIRA 12:8)
(Boatbuilding)

KURDENKOV, Kirill Nikiforovich; FREDKIN/ZHELNOKIY, Aleksey Ivanovich; KUDISHKIN, Viktor Sergeyevich; YUNKAN, Yuriy Antonovich; LUCHININOV, S.T., inzh., retsenzent; ALEKSANDROVSKIY, G.Ye., nauchn. red.; YERMOLITSKAYA, Ye.Ye., red.

[We are building ships ourselves] Suda stroim sami. Leningrad, Sudostroenie, 1963. 114 p. (MIRA 17:5)

KURDENKOV, L.I.

Electro-consolidation of weak clayey and oozy subsoils in installation bases. Trudy NII osn. i fund.no.17:73-92 '52. (MLRA 9:9)
(Soil stabilization) (Clay)

KURDENKOV, L.I.

Compacting water-saturated clayey soils using a direct electric current. NIIOSP no.31:12-32 '57. (MIRA 10:12)
(Soil stabilization) (Electroosmosis)

KURDENKOV, L.I.

Status of research for and practices in foundation engineering abroad. Osn., fund. i mekh. grun. no.2:30 '59.
(MIRA 12:7)

1.Uchenyy sekretar' Komissii po mekhanike gruntov i fundamentostroyeniyu.
(Soil mechanics) (Foundations)

KURDENKOV, L.I.

Investigating determinative factors of the movement of water in soils under the effect of direct electric current. [Trudy] NIIOSP no.39: 37-60 '60. (MIRA 14:1)
(Water, Underground) (Electroosmosis)

GORBUNOV, B.P.; KURDENKOV, L.L. Prinimali uchastiye: RZHANITSYN, B.A.; DROBNITSKAYA, T.V.; CHUVELOV, V.K.; IVANOV, V.A.

Electric means of melting and compacting permafrost foundation soils before construction. Osn., fund. i mekh. grun. 3 no.4:31 '61. (MIRA 14:8)

(Frozen ground) (Soil compaction) (Soil heating)

KURDENKOV, L. I., RZHANITSYN, B. A., ZHUKOV, V. F., GORBUNOV, B. P., KURYACHIY, A. N.,

"Pre-construction thawing and strengthening of permafrost soils"

report to be submitted for the Intl. Conference on Permafrost, Purdue Univ., Lafayette, Indiana, 11-15 Nov 63

GORBUNOV, B.P.; KURDENKOV, [illegible].

Electroosmosis in [illegible]. [Trudy] NII osn. no. 50:20-27 '62.

Electric method of thawing and compacting permafrost foundation soil before building. 53-71 (MIRA 16:9)

GORBUNOV, B.P., st. nauchn. sotr.; KURDENKOV, L.I., glav. inzh.; DROZD, T.A., red.izd-va; PAVLOVA, V.D., tekhn. red.

[Instructions for using the electrical method of thawing and compacting permafrost soils before laying the foundations of buildings and structures] Ukazaniia po primeneniiu elektricheskogo metoda predpostroechnogo ottaivaniia i uplotneniia vechnomerzlykh gruntov osnovanii zdanii i sooruzhenii. Moskva, Gosstroiizdat, 1963. 66 p. (MIRA 17:3)

1. Moscow. Nauchno-issledovatel'skiy institut osnovaniy i podzemnykh sooruzheniy. 2. Laboratoriya zakrepleniya gruntov Nauchno-issledovatel'skogo instituta osnovaniy i podzemnykh sooruzheniy Gosstroya SSSR (for Gorbunov, Kurdenkov).

PROKHOROV, A.N.; KURDENKOV, V.F.

Vibratory mixers for the preparation of road and construction materials. Nauch. trudy AKKH no.32:187-204. '64. (MIRA 19:1)

KURDENKOV, V.I., inzh.; FILATOV, A.P., inzh.

Mechanical device for grading crushed stone according to strength. (MIRA 12:1)
Avt. dor. 21 no.12:27-28 D '58.
(Road machinery) (Stone, Crushed--Grading)

OZHEREL'YEV, D.I.; KURDENKOVA, T.M.; USIKOVA, Ye.A.

Using bentonite for drying air. Bent. gliny Ukr. no.2:116-127 '58. (MIRA 12:12)

(Bentonite) (Air--Drying)

VOYNA, M.; KAMASH, M.; KURDESOV, P.; GOLDUNOV, K.

This does not only concern us... Sov.profsoiuzy [8] no.3:29-30 F '60. (MIRA 13:2)

1. Brigada kommunisticheskogo truda instrumental'no-shtampovochnogo tsekha Minskogo avtozavoda.
(Minsk--Automobile industry)
(Efficiency, Industrial)

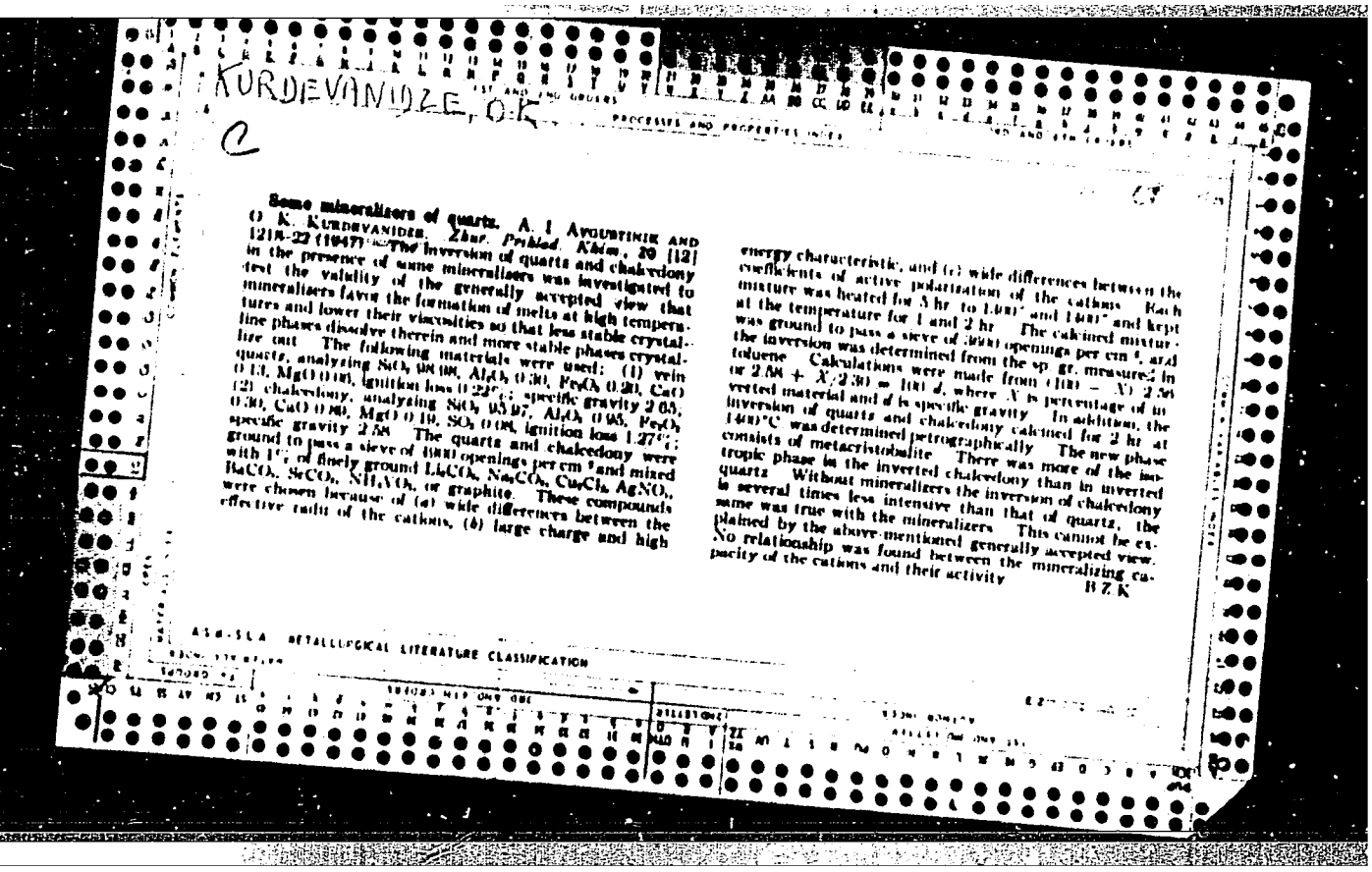
GAPRINDASHVILI, V.N.; KILADZE, D.N.; KURDEVANIDZE, M.K.

Problem of the complete treatment of TSnelissk sepentinites.
Trudy Inst.prikl.khim.i elektrokhim.AN Gruz.SSR 3:73-85 '62.
(MIRA 16:1)

(Georgia--Sepentinites)

GAPRINDASHVILI, V.N.; KURDEVANIDZE, M.K.; GVINEPADZE, D.S.

Fractional separation of hydroxides of some metals from solutions obtained in the acid leaching of local serpentinites. Trudy Inst. prikl. khim. i elektrokhim. AN Gruz. SSR 4:45-52 '63. (MCRA 17:5)



KURDIEVANIDZE, O.K.

C

Some mineralizers of quartz. A. I. Avgustinik and O. K. Kurdievanidze. *Zhur. Prikład. Khim.*, 20 [12] 1218-22 (1947).—The inversion of quartz and chalcedony in the presence of some mineralizers was investigated to test the validity of the generally accepted view that mineralizers favor the formation of melts at high temperatures and lower their viscosities so that less stable crystalline phases dissolve therein and more stable phases crystallize out. The following materials were used: (1) vein quartz, analyzing SiO_2 99.98, Al_2O_3 0.30, Fe_2O_3 0.20, CaO 0.13, MgO 0.10, ignition loss 0.22%; specific gravity 2.65; (2) chalcedony, analyzing SiO_2 95.97, Al_2O_3 0.95, Fe_2O_3 0.30, CaO 0.80, MgO 0.10, SO_3 0.08, ignition loss 1.27%; specific gravity 2.58. The quartz and chalcedony were ground to pass a sieve of 4900 openings per cm² and mixed with 1% of finely ground $LiCO_3$, Na_2CO_3, $CuCl_2$, $AgNO_3$, $BaCO_3$, $SrCO_3$, NH_4VO_3, or graphite. These compounds were chosen because of (a) wide differences between the effective radii of the cations, (b) large charge and high energy characteristic, and (c) wide differences between the coefficients of active polarization of the cations. Each mixture was heated for 5 hr. to 1,000° and 1,400° and kept at the temperature for 1 and 2 hr. The calcined mixture was ground to pass a sieve of 4900 openings per cm², and the inversion was determined from the sp. gr. measured in toluene. Calculations were made from $(100 - X)\,2.65 + X\,2.30 = 100\,d$, where X is percentage of inverted material and d is specific gravity. In addition, the inversion of quartz and chalcedony calcined for 2 hr. at 1400°C. was determined petrographically. The new phase consists of metacristobalite. There was more of the isotropic phase in the inverted chalcedony than in inverted quartz. Without mineralizers the inversion of chalcedony is several times less intensive than that of quartz, the same was true with the mineralizers. This cannot be explained by the above-mentioned generally accepted view. No relationship was found between the mineralizing capacity of the cations and their activity.

B Z K

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

KUTATELADZE, K.S.; KURDEVANIDZE, O.K.; KINKLADZE, K.A.

Effect of electrolytes on the adhesive properties of cements. Soob. AN Gruz. SSR 24 no.6:669-675 Je '60. (MIRA 13:9)

1. Gruzinskiy politekhnicheskiy institut im.V.I.Lenina, Tbilisi. Predstavleno chlenom-korrespondentom Akademii F.N.Tavadze.
(Cement)

KURDEVANIDZE, O.K.

Production of strong lime-puzzolanic cement based on local raw materials. Trudy GPI [Gruz.] no.5:123-128 '62.

Production of air-tight lime-puzzolanic cement based on local raw materials. Ibid.:139-147 (MIRA 17:10)

1. IVANENKO, D., KURDGELAYDZE, D., LARIN, S.

2. USSR (600)

4. Mesotrons

7. Comments on nonlinear meson dynamics. Dokl AN SSSR No 2 1953.

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

(3) Math

4000

Mathematical Reviews
Vol. 14 No. 8
Sept. 1953
Mathematical Physics.

6-23-54
LL

Ivanenko, D., Kurdgelaidze, D., and Larin, S. Remarks on nonlinear mesodynamics. Doklady Akad. Nauk SSSR (N.S.) 88, 245–247 (1953). (Russian)

In the equation $\Delta\varphi - k^2\varphi - \Lambda\varphi = -4\pi g\rho$, for the scalar meson function φ, the density ρ is replaced by its Thomas-Fermi approximation and the behaviour of the solution in the extreme relativistic and non-relativistic cases is briefly discussed. *A. J. Coleman* (Toronto, Ont.).

KUDRYAVTSEV, D. F.

Dissertation: "Nonlinear Effects in Electrodynamics and Mesodynamics." Cand Phys-Math Sci, Moscow Order of Lenin State U imeni M. V. Lomonosov, 16 Jun 54. (Vechernyaya Moskva, Moscow, 7 Jun 54)

SO: SUM 318, 23 Dec 1954

USSR/Nuclear Physics - Nonlinear mesodynamics FD-1205

Card 1/1 Pub. 129-8/19

Author : Kurdgeladze, D. F.

Title : Nonlinear scattering in electrodynamics and mesodynamics

Periodical : Vest. Mosk. un., Ser. fizikomat. yest. nauk, 9, No 8, 81-90 Aug 1954

Abstract : The relativistic quantum field theory leads to nonlinear additions to the Lagrangian of the field. Author analyzes these nonlinear terms hinting to peculiar effect, e.g. scattering of light on light or mesons on mesons in a meson field. Indebted to Prof. D. D. Ivanenko. Six references including foreign.

Institution : Chair of Theoretical Physics, Moscow University

Submitted : July 25, 1953

USSR

Ivanenko, D. D., and Kurdgelaidze, D. F. The basic equations of magnetodynamics. [illegible]

1 - F/W

AUTHOR KURDGELAIDZE, D.F. 56-5-27/55

TITLE On the Nonlinear Generalization of the Equations of the Meson Field and of the Spinor Field.
(K nelineynomu obobshcheniyu uravneniy mezonnogo i spinornogo poley - Russian)

PERIODICAL Zhurnal Eksperim.i Teoret.Fiziki,1957,Vol 32,Nr 5,pp 1156-1162 (U.S.S.R.)

ABSTRACT In the paper under review its author examines a purely classical not quantized scalar or pseudoscalar meson field.In this context, he employs the exact solution of the nonlinear equations of the wave type which is expressed in elliptical functions.With their aid the author then proceeds to compute the total energy and the momentum of the system.The expression thus obtained is represented in the form of an expansion into series with respect to a small parameter of nonlinearity.The case can also be considered with a large parameter of nonlinearity.

The nonlinear mesodynamics: The author of the paper under review bases his computations on the Lagrangian of the neutral scalar field: $L = -(1/2)\{(\nabla\varphi)^2 - \varphi_t^2 + \Phi(\varphi)\}$ .In this context,the nonlinearity is assumed as given by the arbitrary function $\Phi(\varphi)$.The ansatz of the solution of the relevant nonlinear equation $\varphi_{tt} - \varphi_{nn} + F(\varphi) = 0$ $F(\varphi) = -\frac{1}{2}\frac{d}{d\varphi}\Phi(\varphi)$ is made in the form $\varphi = \varphi(\sigma)$, $\sigma = k_\mu x_\mu$, $(k_4 = i\omega, x_4 = it, c \equiv 1)$. In this context, the author limits his examination to periodic solutions $\varphi(\sigma)$; their existence is at least then known if $\Phi(\varphi)$ is a polynomial of,at most,the fourth order.

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On the Nonlinear Generalization of the Equations of 56-5-27/55
The Meson Field and of the Spinor Field.

The following mean values,with respect to time,of the energy density and of the momentum density are found:
$\overline{H}=\frac{1}{2T}\int_0^T\left\{(\nabla\varphi)^2+\varphi_t^2+\Phi(\varphi)\right\}dt$, $\vec{G}=\frac{1}{T}\int_0^T(\nabla\varphi)\varphi_t dt$.
After substitution of the ansatzes described above into the latter formulae and into the field equation we obtain $\vec{G}=a\vec{k}$, $\overline{H}=a(k^2+k_0^2)/\omega$ $(\omega^2-k^2)\varphi_0^2+\Phi(\varphi)=h=\text{const}$, $K_0^2=h\omega/2a$, $a=(\omega/T)\int_0^T\varphi_0^2dt$. The general interrelationships thus obtained are then applied to some concrete cases: $F\varphi=k_0^2\varphi$, $F(\varphi)=k_0^2\varphi+\alpha\varphi^2$, $F(\varphi)=k_0^2\varphi+\beta\varphi^3$. It is also possible to investigate more general cases of nonlinearity.The classical and the quantum results are virtually the same.
The solution of the nonlinear spinor equation: This chapter determines the connection between the nonlinear equations by Dirac and Klein-Gordon.Furthermore the paper under review also finds some exact solutions of these equations; they can be expressed by elementary functions. (No reproduction).

ASSOCIATION Moscow State University.
PRESENTED BY
SUBMITTED 29.8.1956
AVAILABLE Library of Congress.
Card 2/2

Phenomenological generalization of the Thomas-Fermi-Dirac (T.F.D.) equation in case of the theory of metals and its periodic solutions. D. F. Kurdgelaidze (Tech. Univ., Budapest). *Acta Phys. Acad. Sci. Hung.* 9, 185-94(1958) (in Russian).—The exchange interaction between metal atoms is taken into account phenomenologically by writing the T.F.D. equation in the form: $\Delta\varphi = \delta(\varphi^{1/2} + \varphi_0)^3 + \lambda\varphi$. Here δ, φ_0, and λ are treated as free parameters to be adjusted to the following properties of the metal: lattice const., work function, and av. d. of conduction electrons. The equation possesses periodic solutions and the properties of the φ are discussed. As an illustrative example, the case of Na is investigated in detail. A. Krembeller

Distr: 4E2c

AUTHOR: Kurdgelaidze, D. F. SOV/56-34-6-27/51

TITLE: The Periodical Solutions of the Non-Linear Dirac Equation (Periodicheskiye resheniya nelineyno obobshchennogo uravneniya Diraka)

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1958, Vol. 34, Nr 6, pp. 1587 -1592 (USSR)

ABSTRACT: This paper does not deal with the derivation of the non-linear generalized field equations. Considering these equations as given, the author investigates the possibility of their analytical solution. In the first part of this paper an expression for the non-linear generalized Dirac equation is given and discussed: $\left\{\frac{\partial}{i\partial t} - \frac{1}{i}\alpha\nabla - \varrho_3 A(\psi^*, \psi)\right\}\psi = 0$. The complex conjugated equation has the form

$\psi^*\left\{\frac{\partial}{i\partial t} + \frac{1}{i}\alpha\nabla + \overline{A^*(\psi^*,\psi)}\varrho_3\right\} = 0$ with

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The Periodical Solutions of the Non-Linear Dirac Equation

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$\psi^* \overline{A^*(\psi^*,\psi)} \varrho_3 = (\varrho_3 A(\psi^*,\psi)\psi)^*$. By introducing the Neuman matrices it is obtained $\{\gamma_\mu \partial/\partial x_\mu + A(\psi^*,\psi)\}\psi = 0$, $\psi^+ \{\gamma_\mu \partial/\partial x_\mu + \gamma_4 \overline{A^*(\psi^*,\psi)}\gamma_4\} = 0$. The nonlinearity of these equations is represented by $A(\psi^*,\psi)$. The author gives an explicit expression for this term $A(\psi^*,\psi)$. The solution of these equations are given as products $\psi = \chi(s)\varphi(x_\mu)$, $\psi^* = \chi^*(s)\varphi^*(x_\mu)$ with the condition $\chi^*(s)\chi(s) = 1$. The solutions of the non-linear Dirac equations are assumed to be periodical functions: $\varphi(x_\mu) = \varphi(\sigma)$, $\sigma = k_\mu x_\mu$, $k_\mu(k_n,k_4)$, $k_4 = i\omega$. The calculation of the solutions is discussed step by step. Also in the non-linear theory it is possible to present arbitrarily two of the four amplitudes, the remaining two amplitudes may then be calculated by an equation for the spin parts of the solution. In the Newton (Nyuton) approximation two amplitudes may be neglected with respect to the two remaining ones. The last part of this paper derives a relation between

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The Periodical Solutions of the Non-Linear Dirac Equation SOV/56-34-6-27/51

the non-linear equations of Dirac (Dirak) and Klein (Kleyn)-Gordon. For the non-linear theory this relation is given by ordinary differential equations, whereas in the linear theory this relation has a purely algebraic character. The author thanks Professor D.D.Ivanenko for his constant interest in this investigation. There are 6 references, 6 of which are Soviet.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet (Moscow State University)

SUBMITTED: January 15, 1958

Card 3/3

24(5) SOV/56-35-6-36/44

AUTHOR: Kurdgelaidze, D. F.

TITLE: The Wave-Like Solutions of Nonlinear Generalized Relativistically Invariant Equations (Volnovyye resheniya nelineyno-obobshchennykh relyativistski invariantnykh uravneniy)

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1958, Vol 35, Nr 6, pp 1572-1573 (USSR)

ABSTRACT: According to the general idea of the uniform nonlinear field theory the total world of elementary particles is based on a fundamental spinor field. When a nonlinear spinor equation is used, also the fields of other particles become nonlinear. In the linear theory the general relativistically invariant equation is $(\Gamma_\mu \partial/\partial x_\mu + k_0)\psi = 0$, where Γ_μ denotes a matrix. In the special case $\Gamma_\mu = \gamma_\mu$ the Dirac (Dirak) equation, and in the special case $\Gamma_\mu = \beta_\mu$ the Duffin (Daffin) - Kemmer equation is obtained etc. For the finite-dimensional representations of the complete Lorentz (Lorents) group there always exists a non-degenerated invariant form $y \equiv (\psi^* T \psi)$, where T denotes a matrix.

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The Wave-Like Solutions of Nonlinear Generalized Relativistically Invariant Equations

If, therefore, k_o is replaced by $C(y) = k_o + f(y)$ in the above equation, the relativistically invariant equation $(\Gamma_\mu \partial/\partial x_\mu + C(y))\psi = 0$ is obtained, which is already nonlinear. This form of equation is obtained e.g. by the "fusion" of particles on the basis of the nonlinear generalized Dirac equation $(\gamma_\mu \partial/\partial x_\mu + A(y))\psi = 0$ by group-theoretical deliberation. This equation is given, like in the linear theory, by the irreducible representation $D_{1/2}$ in the space of the basis vectors $\{\psi_k\}$. By forming the product $D_{1/2} \times D_{1/2}$ for 2 spinor equations of the last-named kind the irreducible representation $D_o + D_1$ in the space of the basis vectors $\{\psi_i \psi_k\} = \{\psi_{ik}\}$ is obtained. The equation thus obtained can be written down in the general form $(\beta_\mu \partial/\partial x_\mu + B(y))\psi = 0$. The author then gives a solution ansatz for the equation $(\Gamma_\mu \partial/\partial x_\mu + C(y))\psi = 0$. The solutions mentioned

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The Wave-Like Solutions of Nonlinear Generalized Relativistically Invariant Equations

in this paper comprise all wave-like solutions of the required type. The author thanks D. D. Ivanenko and G. A. Sokolik for discussing the problem dealt with by this paper. There are 3 references, 2 of which are Soviet.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet (Moscow State University)

SUBMITTED: July 8, 1958

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24(5)

AUTHOR: Kurdgelaidze, D. F. SOV/56-36-3-20/71

TITLE: Theory of the Nonlinear Field $(\Box - \lambda \varphi^2)\varphi = 0$

(Teoriya nelineynogo polya $(\Box - \lambda \varphi^2)\varphi = 0$

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1959, Vol 36, Nr 3, pp 842-849 (USSR)

ABSTRACT: The author, partly in cooperation with D. D. Ivanenko already investigated the field $(\Box - \lambda \varphi^2)\varphi = 0$ (Refs 1, 2) and gave a solution for the wave-field equation. He showed that a nonlinear state can be represented as a set of linear states by using integral multiples of (2n+1), where n = 0,1,2.... Heisenberg (Gayzenberg)(Refs 3, 4) recently investigated mass spectra of particles, especially of mesons in the linear theory by different means and obtained a spectrum which is a very near approach to the (2n+1)-law. Also for this form of the spectrum the ratio $M_o^{(n)}/M_o^{(o)}$ is nearly independent of the nonlinear parameter, just as in the case of the (2n+1)-law.

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Theory of the Nonlinear Field $(\Box - \lambda \varphi^2)\varphi = 0$ SOV/56-36-3-29/71

In this connection the present paper gives a more detailed derivation of the (2n+1)-law for the mass spectrum by means of a spectral expansion of the energy of the nonlinear field. In the first part of this paper, by proceeding from the Lagrangian of the nonlinear field, the spectral expansion of the energy is given on the basis of the exact solution of the field equation. A mass spectrum of the form $M_o^{(n)} = (2n+1)M_o^{(o)}$, n=1,2,3..... is obtained; for mesons, for instance, it is $M_o^{(n)}/k_o \approx (2n+1)\cdot 0.36$. For n=1...5, the numerical data are given and compared with those obtained by Heisenberg. In the following, the radially-symmetric solution of the field equation is given. The second part of the paper deals with the squaring of the nonlinear Dirac (Dirak) equation. In the nonlinear theory it is possible, like in the linear theory, to use the connection between the Dirac- and the Klein-Gordon equation in order, for example, if the solution of the Klein-Gordon equation is known, to construct a solution for the Dirac equation. By utilizing this fact, the author develops a general method of integrating the nonlinear Dirac equation,

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Theory of the Nonlinear Field $(\Box - \lambda \varphi^2)\varphi = 0$ SOV/56-36-3-29/71

and he shows that in some cases it is possible to go over to a two-component spinor equation of the second order. The author finally thanks Professor D. D. Ivanenko for discussing a number of problems. There are 7 references, 4 of which are Soviet.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet
(Moscow State University)

SUBMITTED: June 9, 1958 (initially) and November 5, 1958 (after revision)

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Kurdgelaidze, D.

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24.4500

AUTHOR: Kurdgelaidze, D. F.

TITLE: On the Nonlinear Theory of Elementary Particles

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960, Vol. 38, No. 2, pp. 462-474

TEXT: In the paper under review, the author calculates energy and momentum of spinor fields with nonlinear pseudovector and scalar corrections on the basis of equations of the unified nonlinear field theory $\left\{\gamma_\mu(\partial/\partial x_\mu + l^2\gamma_5(\bar{\psi}\gamma_\mu\gamma_5\psi)) + A(\bar{\psi},\psi)\right\}\psi = 0$, where $x_\mu \equiv (x_n, it)$, $\hbar = c = 1$; A is an arbitrary function of $\bar{\psi}$ and ψ; $D\psi \equiv \gamma_\mu(\partial/\partial x_\mu + l^2\gamma_5(\bar{\psi}\gamma_\mu\gamma_5\psi))\psi = 0$ and $D\psi \equiv (\gamma_\mu\partial/\partial x_\mu + l^2(\bar{\psi}\psi))\psi = 0$. From the two latter equations, Heisenberg calculated the mass spectrum and the charges of elementary particles by using the Tamm-Dankov approximation method in the quantum field theory. The author shows that the mass spectrum can be obtained also in a simpler way, by a semi-classical method by the use of approximation

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equations equivalent to a quantization. By this semi-classical quantization method, the author investigated the dependence of the mass at rest of elementary particles on the degree of nonlinearity, and for the nucleon mass he obtained $k_0 l = \sqrt{2}\,\pi^{3/2} \approx 7.84$. From the nonlinear spinor equation a nonlinear "undor" equation is deduced which, on certain assumptions, can be reduced to a nonlinear meson equation of the Klein-Gordon type. The final part of the paper deals with the homologic invariance of nonlinear meson and spinor field equations. The author finally thanks D. Ivanenko for his discussions. A. M. Brodskiy is mentioned. There are 9 references: 5 Soviet, 2 German, 1 British, and 1 Italian.

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