

BULGARIA/General Biology - Genetics. Plant Genetics.

B.

Abs Jour : Ref Zhur - Biol., No 21, 1958, 94690

Author : Karishev, Nikola; Kalaydzhiev, Ivan

Inst :

Title : New Method of Obtaining Vegetative Hybrids Between the Sunflower and Girasole.

Orig Pub : Selskostop. nisy1, 1957, 2, No 9, 563-564

Abstract : A new method is proposed of grafting the sunflower on the girasole. Lightly-bound girasole tubers are taken as rootstock, and young sunflower plants with cotyledons which had just turned green serve as the scion. In one of the tips which affected the growth of the root buds, a puncture was made with a depth of 1-1.5 cm by means of a nail or awl with a thickness which corresponds to the thickness of the scion's stemlet. In the sprout which serves as the scion, the root system is removed and from the lower part of the stem 1.1.5 cm above the cut the

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- 32 -

KAMISHKIRTSEV, S.M., inzh.

Use of plastics in the manufacture of home refrigerators. Khol.tekh. 39  
no.4:56-60 J1-Ag '62. (MIRA 17:2)

29496  
S/O 35/61/000/009/026/036  
A001/A101

3,2410 (1559 mly)

3,2430 (1482 mly)

AUTHORS: Kamiyya, I., Vada, M.

TITLE: Bursts of cosmic rays and radio emission of the Sun

PERIODICAL: Referativnyy zhurnal. *Astronomiya i Geodeziya*, no. 9, 1961, 50-51,  
abstract: 9A459 ("Tr. Mezhdunar. konferentsii po kosmich. lucham.,  
1959, v. 4", Moscow, AN SSSR, 1960, 201 - 203)

TEXT: The data on cosmic rays during the IGY obtained with neutron moni-  
tors were compared with the data on bursts of IV-type radio emission accompany-  
ing solar flares. The results show that a strong decrease in intensity of cos-  
mic rays of the Forbush type is explicitly related to the presence of a burst  
of IV-type radio emission. Bursts of solar radio emission of type IV are usu-  
ally explained by synchronous radiation of electrons, which means that in the  
coronal region exist simultaneously a rather intense magnetic field and high-  
energy electrons. The authors conclude thereof that during flares accompanied  
by bursts of IV-type radio emission, corpuscular streams carrying magnetic  
fields are emitted, which can explain the observed variations in the intensity  
of cosmic rays. A dependence of storms of cosmic radiation on heliographic

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X

29496

S/035/61/000/009/026/036

A001/A101

Bursts of cosmic rays and radio emission of the Sun

longitude of appearance of solar flares was also investigated. It turned out that the magnitude of a storm of cosmic radiation is not very sensitive to the location of flares; therefore, corpuscular streams with frozen-in fields should, probably, be emitted over a wide solid angle (in order to enable a cloud emitted even from the disk edge to cause the change in intensity of cosmic rays observed on Earth). There are 6 references.

I. Zhulin

X

[Abstracter's note: Complete translation]

Card 2/2

HUNGARY/Diseases of Farm Animals. Pathology of Reproduction

R-3

Abs Jour : Ref Zhur - Biol., No 7, 1958, No 31118

Author : Kanjathy A.

Inst : -

Title : The Treatment of Infertility in Mares and Its Results (1953)

Orig Pub : Magyar allatorv. lapja, 1955, 10, No 8, 274-275

Abstract : The article contains data on the treatment of 315 infertile mares with chionic gonadotropin, hexestrol (synestrol), as well as with these preparations in combination with the parasympathicotropic preparation, enterotonin. These methods were used on mares which showed no changes in the genital organs upon rectal examination. In case of inflammatory processes in the uterus or infertility for over one year, irrigation of the uterus with Pregl's solution (a proprietary preparation composed of free iodine, iodide, hypiodide and sodium iodate. Abstracter's remark) was resorted to. As a result of this treatment, the rate of conception of mares, including healthy animals and treated ones, attained 61.2%. The author considers these results as mediocre-- V.A. Kanzyuba

Card : 1/1

20

S/081/62/000/012/017/063  
B168/B101

AUTHORS: Dolaberidze, L. D., Kamkamidze, D. K.

TITLE: Colorimetric and fluorometric determination of indium in complex ores and their concentrates

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 12, 1962, 152, abstract 12D72 (Tr. Kavkazsk. in-ta mineral'n. syr'ya, no. 1(3), 1960, 121 - 130)

TEXT: An improved method has been devised for separating indium by extracting it in the form of bromide by means of butyl acetate. By this method it is possible to separate indium from other elements and to determine 0.001 - 0.035 % indium in ores of complex composition. 0.2 - 1.0 g of the ore or concentrate to be analyzed is moistened with water in a porcelain dish, 15 ml HCl (s.g. 1.19) is added and the solution is boiled on a water bath until evolution of H<sub>2</sub>S ceases; 5 ml HNO<sub>3</sub> (s.g. 1.4) is then added, the dish is covered with a clock glass, and after the vigorous reaction has ceased the solution is evaporated almost to dryness. 5 ml HBr (s.g. 1.38) and 1 ml bromine water (or 5 - 6 drops of perhydrol) are added

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S/081/62/000/012/017/063  
B168/B101

Colorimetric and fluorometric ...

to the residue and this again is evaporated almost to dryness. Treatment with HBr in the presence of an oxidizing agent is repeated, the residue is dissolved in 10 ml 5 N HBr, 0.1 g KI is added, and then  $\text{Na}_2\text{S}_2\text{O}_3$  is gradually introduced until decolorization, after which a few extra crystals are added. After 5 min the solution is filtered, the deposit is washed three times with 2 ml 5 N HBr each time. 6 ml butyl acetate is added to the filtrate, which is then extracted for 1-2 min. The extract is separated, 3 ml 5 N HBr and a crystal of  $\text{Na}_2\text{S}_2\text{O}_3$  are added and the mixture is agitated for  $\sim 30$  sec. The extract is twice washed with 3 ml 5 N HBr (no  $\text{Na}_2\text{S}_2\text{O}_3$  is added the second time), 20 ml 6 N HCl and 5 drops of perhydrol are added and the indium is reextracted for 1 min. Reextraction is repeated, the united reextracts are evaporated on a water bath to 5-10 ml and diluted with water to 25 or 50 ml. To 5-10 ml of the solution are added 1 ml 2% solution of ascorbic acid, 1 ml 20% solution of sodium citrate and 1 drop 0.02% solution of methyl orange, the mixture is neutralized with a solution of  $\text{NH}_4\text{OH}$  (1:8) or HCl (1:8), 1 ml 0.2 N HCl, 1 ml 5% solution of thiourea and 5 ml 0.2 M solution of potassium diphthalate are added and the mixture is diluted with water to 20 ml.

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Colorimetric and fluorometric ...

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After 10 - 15 min 3.0 ml of a 0.2 % chloroform solution of hydroxyquinoline is added and the indium content is determined by fluorometric (0.5 - 5  $\gamma$ ) or colorimetric (5 - 50  $\gamma$ ) titration. The method is used for determination of indium in zinc and lead concentrates and in complex and arsenopyritic ores. [Abstracter's note: Complete translation.]

Card 3/3



KANKI, Samuel

"Practical Field Method in Fixing Sheep at the Time of Artificial Insemination."  
Samuel Kanki - vet. at Vet. Inst. in Sarajevo. (Republic of Bosnia and Herzegovina)

SOURCE: Vet, BROJ 8-9-10, p. 791, 1952

KAMKAMIDZE, D. K.

USSR/Analytical Chemistry - Analysis of Inorganic Substances, G-2

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 61837

Author: Dolaberidze, L. D., Kamkamidze, D. K., Bugianishvili, V. K.

Institution: None

Title: Investigation of Polarographic Characteristics of Antimony and Arsenic Depending on Composition of the Solution and Temperature

Original

Periodical: Sb. nauchn.-tekhn. inform., M-vo geol. i okhrany nedr., 1955, No 1, 128-129

Abstract: With a background of 3-6 N NaOH containing mannitol (I)  $As^{3+}$  and  $Sb^{3+}$  give well defined anodic waves. In 5 N NaOH containing 60 g/l I,  $E_{1/2} As^{3+} = 0.29$  v and  $E_{1/2} Sb^{3+} = 0.48$  v (standard calomel electrode). Height of waves is proportional to concentration of  $As^{3+}$  and  $Sb^{3+}$ . Temperature coefficient in the interval 20-40° is 1.9% for  $As^{3+}$  and 1.4% for  $Sb^{3+}$ . Determinations of  $As^{3+}$  and  $Sb^{3+}$  in these solutions are not interfered with by Cd, Pb, Zn, Bi, Mo, V, W, Cr, Al, Ca, Ba, K, Na,  $Fe^{3+}$ ,  $Sn^{4+}$ ,  $As^{5+}$ ,  $Sb^{5+}$ ,  $SO_4^{2-}$ ,  $SO_3^{2-}$ ,  $CO_3^{2-}$ ,  $PO_4^{3-}$  and  $F^-$ .

Card 1/2

DOLABERIDZE, I.D.; KAMKAMIDZE, D.K.; ZHGENTI, K.A.; TAUGLIKH, P.A.

Faster methods of determining barium in ores and concentration products. Trudy KIMS no.5:57-79 '63.

(MIRA 18:10)

S/137/62/000/001/217/237  
A154/A101

AUTHORS: Dolaberidze, L. D., Kamkamidze, D. K.

TITLE: Refinement and elaboration of methods of determining indium in complex ores

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 1, 1962, 2, abstract 1K6 ("Yezhgodnik Kavkazsk. in-ta mineral'n. syr'ya za 1957 g.", Moscow, Gosgeoltekhizdat, 1959, 49)

TEXT: Colorimetric and fluorescent methods of determining indium based on the properties of its hydroxyquinolate, and different variants of the polarographic method of determining this metal, were studied and simplified. It was found necessary to separate In from considerable amounts of Cu and Zn by ammonia and to regulate the pH of the solutions by using 0.2 normal solutions of  $\text{NH}_4\text{OH}$  and HCl. In the case of large contents of interfering elements it is recommended, for verification purposes, to complete the determination process by two methods (colorimetric and fluorescent), using aliquot parts of the solution obtained after the separation of In from the interfering elements.

L. Vorob'yeva

[Abstracter's note: Complete translation]

Card 1/1

S/137/62/000/004/190/201  
A154/A101

AUTHORS: Dolaberidze, L. D., Kamkamidze, D. K.

TITLE: Determining indium in polymetallic ores and their concentrates by colorimetric and fluorescent means

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 4, 1962, 2, abstract 4K6  
(Tr. Kavkazsk. in-ta mineral'n. syr'ya", 1960, issue 7 (3), 121-130)

TEXT: The behavior of Cu, Zn, Fe, Mn and Al during extraction by butyl acetate from 0.5 normal HBr was studied under conditions accepted as standard for photometrically determining In, in the form of an oxyquinolate. The process of separating-out indium bromide by extracting same with butyl acetate has been improved, as a result of which the process of determining In in polymetallic ores and their concentrates containing 0.001 - 0.35% of In has been simplified. ✓

L. Vorob'yeva

[Abstracter's note: Complete translation]

Card 1/1

L 27895-66 HWI(d)/EBC(k)-2

AOC NR: AR5018106

SOURCE CODE: UR/0271/65/000/007/A029/A029

SOURCE: Ref. zh. Avtomatika, telemekhanika i vychislitel'naya tekhnika. Svodnyy tom, Abs. 7A204

AUTHOR: Arutyunov, Yu. V.; Gabashvili, N. V.; Kamkamidze, K. N.

TITLE: Measuring and amplifying units of an electrohydraulic regulator containing magnetic amplifiers and semiconductors.

CITED SOURCE: Tr. Gruz. politekhn. in-t., no. 4(97), 1964, 113-121

TOPIC TAGS: electrohydraulic regulator, power regulator, frequency regulator

TRANSLATION: Measuring and amplifying units are described of an electrohydraulic frequency and power regulator used in power systems. A regulator block diagram, a magnetic-amplifier measuring circuit, and a transistorized measuring and amplifying circuit are explained. The above units comprise: a primary-parameter input and summation unit, a phase-sensitive circuit, an amplifier, and external feedback, and a damper. A resonant circuit is used as a frequency sensor. Power is measured by an MDM-4 sensor. The total a-c control signal is converted into a d-c signal and applied to the amplifier and then to the actuating unit. The magnetic

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UDC:62-52:621.375

L 27895-66

ACC NR: AR5018106

amplifier time constant is 0.0008 sec. The input and phase-sensitive parts of the transistorized unit are similar to the magnetic-amplifier unit. A P4-A transistor is used in the amplifier circuit. Bib 3, figs 6.

SUB CODE: 10, 09

Card 2/2

KAMKAMIDZE, K.N., inzh.

Electrohydraulic primary controller for units of loading stations for power system frequency regulation. Izv.vys.ucheb. zav.; energ. 2 no.9:16-24 S '59. (MIRA 13:2)

1. Gruzinskiy ordena Trudovogo Krasnogo Znameni politekhnicheskii institut imeni S.M.Kirova. Predstavlena kafedroy avtomatizatsii proizvodstvennykh protsessov.  
(Frequency regulation) (Electric power distribution)



S/194/61/000/012/026/097  
D201/D303

AUTHOR: Kamkamidze, K. N.

TITLE: Study of operation of a primary electro-hydraulic frequency regulator using an electronic analogue

PERIODICAL: Referativnyy zhurnal, Avtomatika i radioelektronika, no. 12, 1961, 15, abstract 12B84 (Sakartvelos politekhniki instituti Shromebi, Tr. Gruz. politekhn. in-t, 1961, no. 1, (72), 35-45)

TEXT: The structural diagrams of a primary electro-hydraulic frequency regulator are considered, together with its basic circuit and an operator expression of its transient response. The circuit of its electronic analogue, containing 9 operational amplifiers and information about the results of simulation is given. The electronic simulation results were compared with the experimental results obtained from an electronic analogue of a regulator with an isodrome mechanism and of a regulator with additional effect of mechanical and electrical power difference. The MH-7 (MN-7)

Card 1/2

*KAMKAMIDZE, M.T.*

USSR/Forestry - Forest Plants.

K-5

Abs Jour : Ref Zhur - Biol., No 2, 1958, 5932

Author : Kamkamidze, M.T.

Inst : Moscow Forest Engineering Institute.

Title : Soaking Seedlings Before Planting -- a Factor in Increasing  
the Adaptability of Forest Plants.

Orig Pub : Nauchn. tr. Mosk. lesotekhn. in-t, 1957, No 5, 108-113

Abstract : No abstract.

Card 1/1

Country : USSR  
Category : Forestry. Forest Cultures. K  
Abs Jour : RZhBiol., No 5, 1959, No 24737  
Author : Kamkamidze, M. T.  
Inst : ~~All-Union~~ Correspondence Forest-Engineering  
Institute.  
Title : Characteristics of the Pine Growth in Group  
Plantings.  
Orig Pub : Tr. Vses. zaochn. lesotekhn. in-ta, 1958, No. ,  
3, 157-165  
Abstract : In Serebryanobor Forestry of the Moscow Oblast,  
in 1948, experimental pine plantings with the  
usual 1-year seedlings were set up. Group plan-  
tings were accomplished on meter areas, the  
distance between the centers of these areas be-  
ing 5 m. These plantings were not taken care  
of. Row plantings were laid in square arrange-  
ments of 1.2 x 1.2 m and were attended to 7  
Card : 1/3

Country : USSR  
Category : Forestry. Forest Cultures. K  
Abs Jour : RZhBiol., No 6, 1959, No 24737  
Author :  
Inst :  
Title :  
Orig Pub :

Abstract : times. At the age of 7 years, deciduation of the pines in the group plantings constituted 8, 20 and 40 percent of the initial quantity. Here, density had a strong effect on pines growing inside the areas; their deciduation in comparison with pines growing along the border of the areas was more intensive, but the growth was weaker. In group plantings along two borders, the pines had eccentric crowns and one-

Card : 2/3

SHLEYFER, M.L.; ABRAMZON, E.L.; GLIKIN, A.S.; GOLOUL'NIKOV, Ye.M.;  
KAMKHIN, Ya.B.; KRUTIK, Ya.B.; KHASKIN, I.N.; KOCHENOV, M.I.,  
kand. tekhn. nauk; PODLAZOV, S.S., inzh. red.; SOLOV'OV, V.N.,  
inzh. red.; VEDMIDSKIY, A.M., kand. tekhn. nauk, dots.

[Control and measurement automatic machines and instruments  
for automatic lines]. Kontrol'no-izmeritel'nye avtomaty i  
pribory dlia avtomaticheskikh linii. Moskva, Mashinostroenie,  
1965. 371 p. (MIRA 18:8)

ACC NR: AM5027778

Monograph

UR/

Kochenov, M. I.; Abramzon, E. I.; Glikin, A. S.; Goloul'nikov, Ye. M.; Kamkhin, YA. B.; Khaskin, I. N.; Shleyfer, M. L.

Control and measuring automata and devices for automatic lines (Kontrol'no-izmeritel'nyye avtomaty i pribory dlya avtomaticheskikh liniy) Moscow, Izd-vo "Mashinostroyeniye", 65. 0371 p. illus. 7,600 copies printed.

TOPIC TAGS: automatic control design, automatic control equipment, electric measuring instrument, error measurement

PURPOSE AND COVERAGE: This book deals with constructions and electrical schemes of automata and devices as planned by the Main Design Office (OKB) of the State Committee of Machine Building of Gosplan, U.S.S.R. Based on a survey of various control and measuring apparatus, recommendations are made for selection of a scheme of measuring and constructing automata and devices, and for an analysis of admissible boundaries of errors in measuring by automatic control. Principles methods of testing the precision of control automata are given. This book is recommended for technical engineers planning and using control and measuring facilities in machine building. It can also be useful to higher technical school students.

TABLE OF CONTENTS (abridged);

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UDC: 620.1-52+681.2:621.90.002.5(022)

ACC NR: AM5027778

- Ch. II. Automata and devices for readjusting or blocking of machines --111
- Ch. III. Devices for control monitoring set up in the machines --188
- Ch. IV. Electrical equipment for control and measuring apparatus --275
- Ch. V. Measuring devices -322 <sup>14</sup>
- Ch. VI. Permissible errors of measuring with automatic control of dimensions of parts --353 <sup>10</sup>
- Ch. VII. Testing precision of work of the control automata --363

SUB CODE: 13 / SUBM DATE: 06May65/

Card 2/2

MITROFANOV, V.; ZUYEV, I.; MASHKAUTSAN, S.; YARTSEV, G.; KAMKIN, L.; ZBARSKIY, S.; GLUSHCHENKO, M.; ROZKIN, G.

Shortcomings of the stage system of teaching. Prof.-tekh. obr. 21  
no.7:29-31 JI '64. (MIRA 17:11)

1. Nachal'nik otdela podgotovki kadrov Yuzhno-Ural'skogo soveta narodnogo khozyaystva (for Mitrofanov). 2. Direktor tsentral'nogo uchebnogo kombinata Yuzhno-Ural'skogo soveta narodnogo khozyaystva (for Zuyev). 3. Nachal'nik otdela tekhnicheskogo obucheniya Chelyabinskogo traktornogo zavoda (for Yartsev). 4. Nachal'nik otdela tekhnicheskogo obucheniya Chelyabinskogo metallurgicheskogo zavoda (for Kamkin). 5. Direktor Tsentral'nogo uchebnogo kombinata "Glavyushuralstroy" (for Zbarskiy). 6. Nachal'nik otdela tekhnicheskogo obucheniya Magnitogorskogo metallurgicheskogo kombinata (for Glushchenko).



VAYSMAN, A.B.; KAMKIN, N.A.; NAZAROV, G.N.

Draft standards for bolts, screws, and nuts for all purposes.  
Standartizatsia 24 no.4:41-55 Ap '60. (MIRA 13:9)  
(Bolts and nuts--Standards) (Screws--Standards)

KAMKIN, N.G.

9

PROCESSING AND PROPERTY INDEX

The production of steel of the quality 1040 with the definite austenite grain no. 6-8. N. G. Kamkin. *Izot. Met.* 1937, No. 3, 44; *Chem. Zentr.* 1938, 1, 1085. The production of such steel in the open-hearth furnaces of the Kabokovski works with varying conditions of preliminary decarboxiation in the furnace and of final decarboxiation in the ladle is reported. A still bath following the decarboxiation in the furnace by means of 10% ferrosilicon and the addition of 0.05% Al in the ladle for the final decarboxiation always assure an austenite grain in the range of 6-7 according to the American A.S.T.M. scale. Further reduction of the austenite grain above no. 7 of this scale could not be accomplished, even by decarboxiation of the steel bath in the furnace by means of Al (0.03%) and final decarboxiation in the ladle with Al (0.00%). M. G. Moore

ASAP-51A METALLURGICAL LITERATURE CLASSIFICATION

KONYUKH, V.Ya.; CHEKANOVSKIY, M.L.; GUBAYDULLIN, I.N.; TYULEBAYEVA,  
Yu.F.; TYULEBAYEVA, V.G.; KAMKIN, N.G.

Intensification of the open-hearth smelting process by  
using compressed air. Met. i gornorud. prom. no.3:26-27  
My-Je '65. (MIRA 18:11)

KAMKIN, N. G.  
25(2); 18(3)

PHASE I BOOK EXPLOITATION

SOV/1573

Kokarev, Nikolay Ivanovich, Petr Pimenovich Semenenko, Nikolay  
Georgiyevich Kamkin, and Yevgeniy Stepanovich Popov

Uluchsheniye konstruktsiy i ekspluatatsii martenovskikh pechey s  
osnovnymi svodami (Improvements in Design and Operation of Open-  
hearth Furnaces With Basic Roofs) Sverdlovsk, Metallurgizdat,  
1958. 55 p. 3,000 copies printed.

Ed.: S.D. Fedorov; Ed. of Publishing House: B.E. Berman;  
Tech. Ed.: Ye.M. Zef.

PURPOSE: The book is intended for foremen in open-hearth furnace  
shops and may be of use to production engineers and for students  
of vuzes and tekhnikum.

COVERAGE: In this book the author examines the problems of improving  
the design of open hearth furnaces with magnesiochromite basic  
roof linings. It has been established that open-hearth furnaces

Card 1/3

SOV/1573

Improvements in Design (Cont.)

Ch. II. Improvement of the Technique of Steel Making	36
Conditions for producing quality steel	36
Control of manganese content and de-sulphurization of steel	40
Deoxidizing of steel and some special features of the alloying of steel	50
Practice of quality steel casting	52

Bibliography

AVAILABLE: Library of Congress

GO/jmr  
6-8-59

Card 3/3

KAPICHEV, A. G.; KOKAREV, N. I.; KITAYEV, R. I.; CHEKANOVSKIY, M. L.;  
SEMENENKO, P. P. ; KAMKIN, N. G.; KUT'IN, V. B.

Results of testing heat processes in open-hearth furnaces  
heated by gasified mazut. Izv. vys. ucheb. zav.; chern. met.  
7 no.6:173-178 '64. (MIRA 17:7)

1. Ural'skiy politekhnicheskiy institut.

CHEKANOVSKIY, M.L.; PRIBAVIN, N.V.; KAMKIN, K.G.; YUDIN, I.A.; SMIRNOV, A.P.

Pneumatic charging of coke into the firing hearth of a sintering  
furnace. Metallurg 9 no.6:4-5 Je '64. (MIRA 17:9)

1. Metallurgicheskiy kombinat im. Serova.

KONDRASHOV, D.L.; KAMKIN, N.I.

Reference electrode for measuring the contact potential difference by  
the vibrating capacitor method, Zav. lab. 31 no.9:1152-1153 '65.

(MIRA 18:10)

1. Institut elektrokhimii AN SSSR.



Name: KAMKIN, S. V.

Dissertation: Investigation of the operation of jet pumps with mechanical drive

Degree: Cand Tech Sci

*Defended at*  
~~Affiliation:~~ Leningrad Higher Engineering Maritime School imeni Admiral S. O. Makarov

*Publication*  
Defense Date, Place: 1956, Leningrad

Source: Knizhnaya Letopis', No 45, 1956

124-58-9-9776

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 9, p 42 (USSR)

AUTHOR: Kamkin, S. V.

TITLE: On the Influence of Elastic Deformations of the Drive on the Injection Process Employing an Injection Pump (O vliyanii uprugikh deformatsiy privoda na protsess vpryskivaniya nasos-forsunkami)

PERIODICAL: Tr. Tsentr. n.-i. in-ta morsk. flota, 1957, Nr 10, pp 20-31

ABSTRACT: It is noted that one of the reasons which distort significantly the process of fuel injection in Diesel engines is the elastic deformations of the injection-pump drive. An analytical technique is explained for the consideration of the compressibility of the fuel and the static deformability of the mechanical drive (type LKZ) of the injection pump on the process of fuel injection. Having made a comparative analysis of the injection process with due consideration of the static deformability, and the actual displacement of the plunger, the author finds an accounting for the inertia forces indispensable. A differential equation is set up for the fuel-injection process with consideration of the dynamic deformability of the drive which is a certain function of the rpm and the fuel pressure.

Card 1/2

PETROVSKIY, Nikolay Viktorovich. Prinimali uchastiye: KAMKIN, S.V., kand. tekhn.nauk; NESTERENKO, N.V., aspirant; OVSYANNIKOV, M.K., kand. tekhn.nauk. KPEL'MAN, T.Ye., dotsent, kand.tekhn.nauk, retsenzent; ROLINSKIY, V.Yu., dotsent, kand.tekhn.nauk, retsenzent; TARACHNIKOV, L.Ya., dotsent, kand.tekhn.nauk, retsenzent; ERINCHEK, A.M., dotsent, kand.tekhn.nauk, retsenzent; GRIBANOV, V.I., kand.tekhn.nauk, nauchnyy red.; APTEKMAN, M.A., red.; FRUMKIN, P.S., tekhn.red.

[Special problems in the theory of marine diesel engines] Spetsial'nye voprosy teorii sudovykh dizelei. Leningrad, Gos.soiuznoe izd-vo sudostroitel.promyshl., 1960. 311 p. (MIRA 13:10)  
(Marine diesel engines)

GAL'PEROVICH, Leonid Grigor'yevich; DAVYDOV, G.A., kand. tekhn. nauk, retsen-  
zent; BALAKIN, V.I., inzh., retsenzent; KANKIN, S.V., nauchnyy red.;  
NIKITINA, R.D., red.; KOROVENKO, Yu.N., tekhn. red.

[Fuel injection systems for marine diesel engines; design] Sistemy  
vypuska topliva sudovykh dizelei; proektirovanie, konstruktsii. Lenin-  
grad, Gos. soiuзное izd-vo sudostroit. promyshl., 1961. 221 p.  
(MIRA 14:12)

(Fuel pumps) (Marine diesel engines--Fuel systems)

KAMKIN, S.V., kand.tekhn.nauk

Attachment to mechanical indicators and method of using it  
for the electrical recording of pressures by loop oscillograph.  
Sud.sil.ust. no.l:177-179 '61. (MIRA 15:7)

1. Kafedra sudovykh dvigateley vnutrennego sgoraniya Leningradskogo  
vysshego inzhenergono morskogo uchilishcha im. admirala Makarova.  
(Recording instruments)

TANATAR, Daniil Borisovich, prof., doktor tekhn. nauk [deceased];  
KAMKIN, S.V., dots., kand. tekhn. nauk, nauchnyy red.;  
SANDLER, N.V., red.izd-va; KOTLYAKOVA, O.I., tekhn. red.

[Marine diesel engines; the theory of their operation] Sudovye  
dizeli; teoriia rabocheho protsessa. Leningrad, Izd-vo  
"Morskoi transport," 1962. 305 p. (MIRA 16:1)  
(Marine diesel engines)

TANATOR, Daniil Borisovich, prof., doktor tekhn. nauk [deceased];  
FOMIN, Yu.Ya., dots.; KAMKIN, S.V., (lots.); RAPOPORT,  
L.I., kand. tekhn. nauk; SHCHELGACHEV, R.V., inzh.-  
mekhanik; SANDLER, N.V., red.isd-va; KOTLYAKOVA, O.I.,  
tekhn. red.

[Diesel engines; their design and calculation] Dizeli,  
komponovka i raschet. Izd.3., perer. i dop. Leningrad,  
Izd-vo "Morskoi transport," 1963. 439 p. (MIRA 16:7)  
(Diesel engines--Design and construction)

KAMKIN, S.V., kand. tekhn. nauk; DAVYDOW, G.A., kand. tekhn. nauk

Loading of main marine diesel's at high ship propulsion resistances.  
Inform. sbor. TSNIIMF no.105 Tekh. ekspl. mor. flota. 28:25-39 '64.  
(MIRA 18:7)



L 27295-66 EWT(d)/EWT(m)/T-2/EWP(f)

ACC NR: AM6000294

Monograph

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Kamkin, Sergey Vasil'yevich

Analysis of the efficiency of marine diesel engines (Analiz koeffitsiyenta poleznogo deystviya sudovykh dizel'nykh ustanovok) Moscow, Izd-vo "Transport," 1965. 111 p. illus., biblio. Errata slip inserted. 2000 copies printed.

TOPIC TAGS: diesel engine, internal combustion engine, engine performance characteristic, shipbuilding engineering, marine engineering, marine engine

PURPOSE AND COVERAGE: This book is intended as a textbook for engineering and technical personnel for improving their qualifications, as well as for students in higher marine-engineering institutions studying marine diesels and their operation. In the book, problems relating to the improvement of marine-diesel economy are reviewed on the basis of the selection of efficient arrangements for utilizing exhaust-gas heat, water-coolant heat, and auxiliary drive systems. Proposed methods for calculating and analyzing diesel efficiency permit an evaluation of the economical advantages arising from joining diesels to auxiliary equipment, and a solution to the problem of connecting machinery. The author acknowledges helpful remarks by Engineer A. Ya. Dolgopol'skiy and Candidates of Technical Sciences V. G. Yermilov, V. I. Zaytsev, Yu. Ya. Pomin, and V. S. Semenov.

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Ch. V. An example for calculating and analyzing the diesel-unit efficiency of a "Baltiysk"-type cargo ship equipped with a MAN K12 78/140A main engine — 85

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SUB CODE: 13,21/ SUBM DATE: 11Dec64/ ORIG REF: 013/ CITH REF: 003/

Card 2/2 CC

KAMKIN, V., inzhener (Stavropol'-na-Volge).

State Bank instructions should be more accurate. Sots.trud  
no.9:128 Ag '57. (MLRA 10:9)  
(Banks and banking) (Wagon)

PROCESSES AND PROPERTIES INDEX

2

*can* KAMKIN, V. D.

The diagram of state of magnesium oxide-sulfide and the properties of the oxide separated from the system. A. S. Mikulinski, V. D. Kamkin and A. Los'kov. *J. Applied Chem. (U. S. S. R.)* 11, 16-14 (in French 24) (1938).

The prepn. of MgO by crystn. from the solid soln. with MgS was investigated, and the diagrams of state and softening of the MgO-MgS system were plotted. The initial temp. of MgS formation from MgO, pyrite and coke was around 1930°. Data from the feasibility diagram for the system and microscopic analysis of the solid soln. disclosed the crystn. of MgO during cooling. The treatment of MgO-MgS solid soln. with cold or hot water yielded Mg(OH)<sub>2</sub> only, whereas calcining at 700-800° for 8 hrs. yielded 76-85% of MgO. Sixteen references. A. A. P.

METALLURGICAL LITERATURE CLASSIFICATION

Common Variable Index

Common Element

Kamkin V.D.

FERTSOVSKIY, M.L.; KAMKIN, V.D.

Using cover liquids on ammonia electrolytes in order to prevent  
the escape of ammonia gas. Zhur.prikl.khim. 30 no.8:1258-1261  
Ag '57. (MIRA 11:1)

1.Kurganskiy sel'skokhozyaystvennyy institut.  
(Electrolytes) (Ammonia)

KAMKIN, V.D., PERTSOVSKIY, M.L.

Copper plating of steel in an ammonium electrolyte containing  
monovalent copper ions. Zhur.prikl.khim. 33 no.5:1215-1217 My  
'60. (MIRA 13:7)

(Steel)

(Copper plating)

SERPIONOV, N.N., professor; KAMKINA, I.D., red.

[Course of lectures on the resistance of materials; for  
engineering students] Kurs lektsei po soprotivleniiu  
materialov; dlia studentov tekhnologicheskogo fakul'teta.  
Moskva, Mosk. zaachnyi poligr.in-t, 1958. 184 p. (MIRA 12:2)  
(Strength of materials)

KEYS, N.V.; VAYNSHTEYN, O.Ya.; KHRUKINA, V.A.; KAMKINA, L.A.; KORABLEV,  
Ye.I.

Use of nickel-bearing emery dust in open hearth furnaces.  
Metallurg 7 no.2:20-21 F '62. (MIRA 15:3)

1. Chelyabinskiy metallurgicheskiy zavod.  
(Open-hearth furnaces--Equipment and supplies)  
(Metallurgical plants--By-products)



KAMKINA, T.A.; inzh.; KARTVELISHVILI, N.A.; doktor tekhn.nauk, prof.

Determination of the main parameters of hydroelectric power stations with long term regulation. Izv. vys. ucheb. zav.; energ. 3 no.11:94-99 N '60. (MIRA 13:12)

1. Moskovskiy ordena Lenina energeticheskiy institut. Predstavlena kafedroy gidroenergetiki.  
(Hydroelectric power stations)

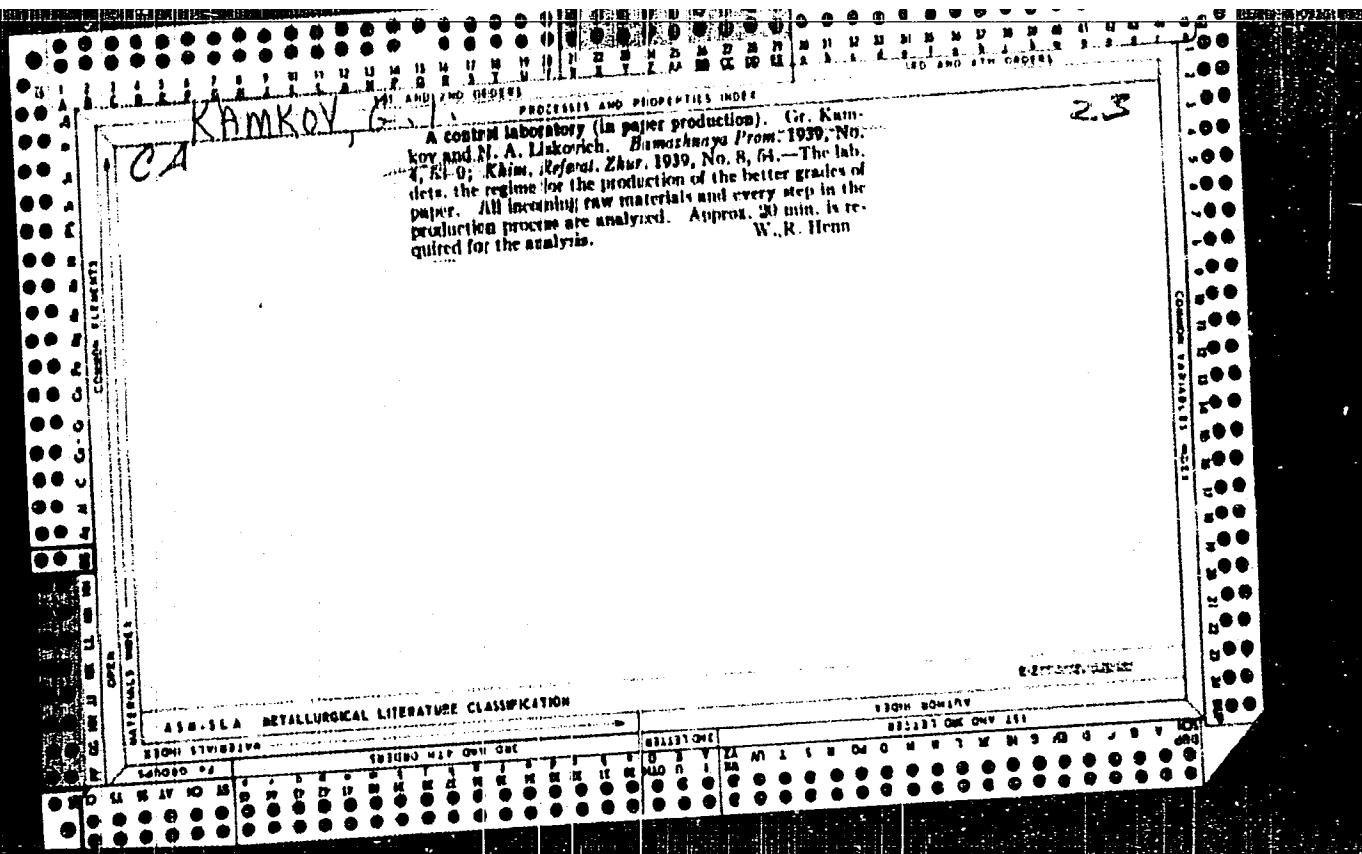
KAMIS, J.

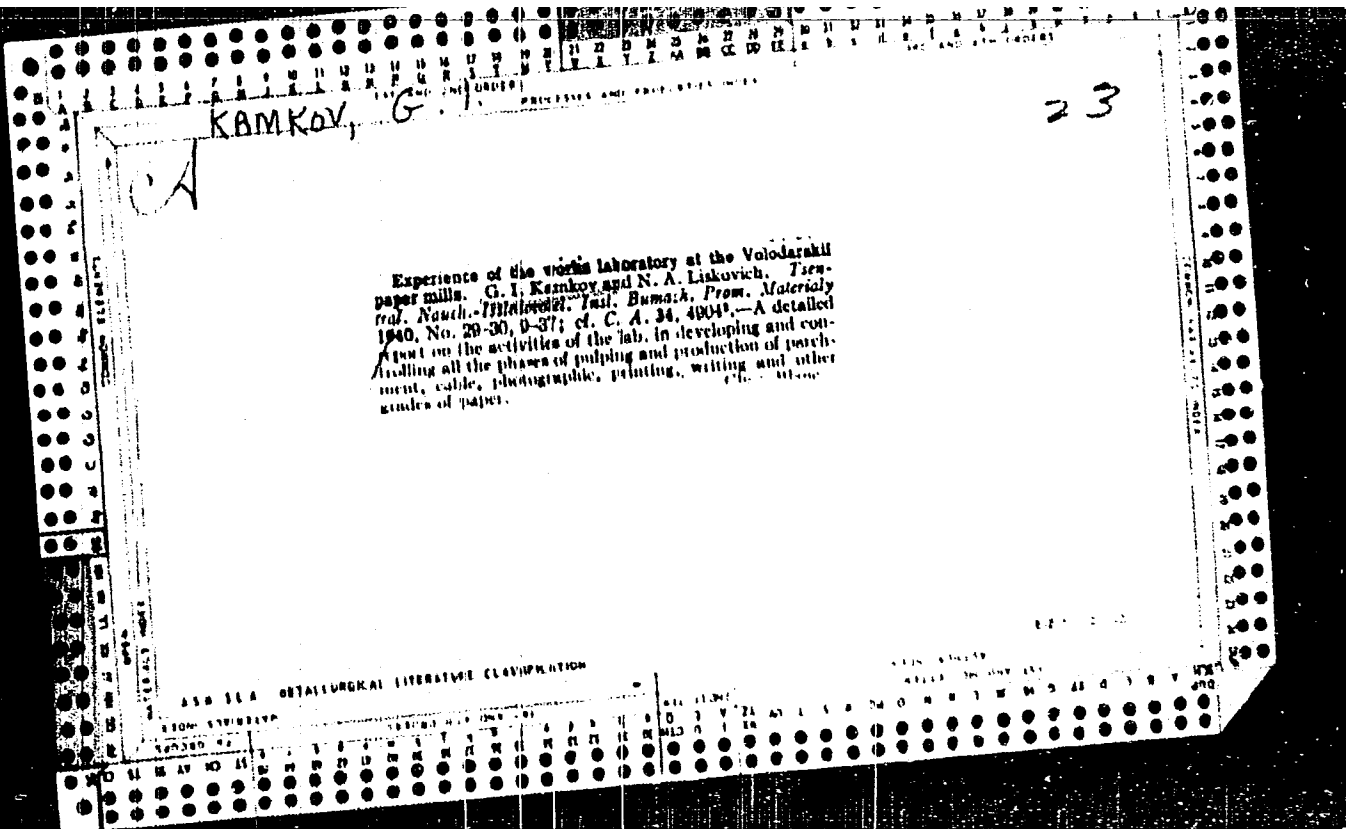
Alkylation of 4-alkylphenols with isobutyl on a cation exchanger.  
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1. Forschungsinstitut für organische Synthesen, Pardubice-Bychtvi.

KAMKIN, Sergey Vasil'yevich; NEVRAMNIK, P.S., red.

[Analysis of the efficiency of marine diesel engines]  
Analiz koeffitsienta poleznogo deistviia suslovnykh di-  
zel'nykh ustanovok. Moskva, Transport, 1965. 111 p.  
(MIRA 2810)





ALEKSEYEV, D.G.; VEYNOV, K.A.; GORCHENKOV, S.G.; GUREVICH, S.B.; DITKOVSKIY, A.S.; KAMKOV, G.I.; MORGEN, D.I.; PROKHORCHUK, I.S.; HUMYANTSEV, H.M.; UGHASTKINA, Z.V.; SHISHOV, I.A.; MOLOZHAVYY, M.M., red.; NIKOLAYEV, N.H., red.; GHISTYAKOV, N.N., red.; KHUDYAKOVA, A.V., red.; MOROZOV, Yu.V., red. izd-va; BACHURINA, A.M., tekhn. red.

[Soviet paper industry, 1917-1957] Bumazhnaia promyshlennost' SSSR, 1917-1957 gg. Pod obshchei red. K.A.Veinova. Moskva, Goslesbumizdat, 1958. 147 p. (MIRA 12:3)

1. Nauchno-tekhnicheskoye obshchestvo bumazhnoy i derevoobrabatyvayushchey promyshlennosti. 2. Chlen Nauchno-tekhnicheskogo obshchestva bumazhnoy i derevoobrabatyvayushchey promyshlennosti (for all except Morozov, Bachurina). (Paper industry)

MUSATOV, T.P., inzh.; KAMKOV, P.A., inzh.

Transportation of electric transformers on railroads. Energ. i  
elektrotekh. prom. no. 2860-62. Ap-Je '65.

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KAMLER, E.; RIEDEL, W.

The effect of drought on the fauna Ephemeroptera, Plecoptera,  
and Trichoptera of a mountain stream. Polskie arch hydrobiol 8:  
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1. Department of Hydrobiology, University, Warsaw.



KAMLER, E.; RIEDEL, W.

A method for quantitative study of the bottom fauna of Tatra streams.  
Polskie arch hydrobiol 8:95-105 '61.

1. Department of Hydrobiology, University, Warsaw.

KAMLER, E.

Ephemeroptera fauna of two torrents of the Tatra Mountains.  
Polskie arch hydrobiol 10:15-38 '62.

1. Chaire d'Hydrologie, Universite, Varsovie.

KAMLER, E.

Studies on the Plecoptera of the Tatra Mountains. *Polish  
Archiv hydrobiol* 12 no. 1:145-184 '64.

1. Department of Experimental Hydrobiology, Necki  
Institute of Experimental Biology, Warsaw.

KALISZ, Liliانا; KAMLER, Ewa

Contemporary views on the role of protozoa in sewage purification by the method of active sediments. Gaz woda techn sanit 37 no. 3: 82- 86 Mr '63.

1. Research Laboratory of Sewage Purification Institute of Municipal Management, Warsaw (for Kalisz). 2. Department of Sanitation Biology, Technical University, Warsaw (for Kamler).

KAMLER, Jacek, mgr inz.

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3 no.2:162-168 '59.

WIMLER, Jacek, mgr inz.

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5 no.3:89-108 '61.

KAMLER, JOZEF.

Kuchnie zbiorowego zywienia. (Wyd. 1.) Warszawa, Budownictwo i Architektura, 1955. 184 p. (Kitchens for collective feeding. 1st ed. illus., bibl., diags., graphs, tables)

SOURCE: East European Accessions List (EEAL), LC, Vol. 5, no. 3, March 1956

KAMLER J. A.

5852  
Kamler J. A. Method of Interlace Scanning Measurement in Television Receivers 2 021.397.03 3

„Metoda pomiaru międzylinowości w odbiornikach telewizyjnych”.  
(Prace Inst. Tele- i Radiot. No. 1), Warszawa, 1958, ITR, 11 str.,  
10 figs.

SCW  
11

This paper describes a method of determining the quality of interlace scanning. The method is based on objective measurement by means of oscilloscope. No controlling instruments are required to be connected to the points lying inside the receiver, and therefore the measurement can be performed during normal work of the receiver. A definition of the interlace scanning coefficient is given, together with the mathematical basis of the method. A general description of the measuring equipment and the results of measurements for several receivers of various types are also included.



Handwritten notes: "K. M. ER" and "POL" with a checkmark.

Chirowski, H. Hanser, W. "The Heating and Ventilation of Railway Carriages".  
"Sprawozdanie i wyniki badań w dziedzinie kolejnictwa". Gaz. Wsch. i Techn. i  
Inżyn. Kolejnic. No. 6, 1954, pp. 173-176, 8 figs.  
The authors have worked out a new method of heating and ventila-  
tion of Third Class railway carriages, under both steam and electric  
traction. Owing to the high parameters of the heating factor, the use  
of a convector heating system is suggested. In such a system, the tem-  
perature is regulated by changing, by means of a valve operated by  
a lever, the amount of air flowing through the air convecter. A pres-  
sured ventilation system was employed in the compartment, using  
axial or centrifugal fans. The article also contains a description of the  
air heating apparatus, how to regulate the air temperature, and of the  
manner in which the air is drawn from the atmosphere and filtered.

KAMLER, W.

Problem of air flow in theaters. p. 54.

GAZ, WODA I TECHNIKA SANITARNA, (Polskie Zrzeszenie Gazownikow, Wodociagowcow i Technikow Sanitarnych) Warszawa. Vol. 30, no. 2, Feb. 1956.

SOURCE: East European Accessions List (EEAL), Library of Congress, Vol. 5, no. 7, July 1956.

KAILER, W.

Central stations with heat pumps. p. 343.  
(GAZ, WODA I TECHNIKA SANITARNA. Warszawa, Vol. 30, no. 9, Sept. 1956)

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KAMLER, W.

TECHNOLOGY

PERIODICAL: GAZ, WODA I TECHNIKA SANITARNA. VOL. 32, no. 11, Nov. 1958

KAMLER, W. Characteristics required for the heating boilers; a condensed lecture. p. 410.

Monthly List of East European Accessions (MEAI) LC Vol. 8, no. 4.

April 1959, Unclass

KAMLER, W.

Influence of the heat capacity of wall partitions on the choice of a heating system. (Conclusion) P. 55.

GAZ, WODA I TECHNIKA SANITARNA. (Stowarzyszenie Naukowo-Techniczne Inżynierów i Techników Sanitarnych, Ogrzewnictwa i Gazownictwa) Warszawa, Poland.  
Vol. 33, no. 2, Feb. 1959.

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June 1959  
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KAMLER, Witold, profeso

Development trends in the designing of radiators for central heating. Gaz woda tech sanit 36 no.6:227-228 Je '62.

1. Politechnika, Warszawa.

CHYBOWSKI, Bohdan, inż.; KAMLER, Witold, prof. mgr inż.;  
KOŁODZIEJCZYK, Leon, doc. dr inż.; MASZCZYNSKI, Edward, mgr inż.

Problem of using liquid fuels for central heating systems  
in Poland. Gaz woda techn sanit 37 no.4/5:118-123 Ap-May '63.

KAMLER, Witold, prof.

Festival of Heating, Ventilation and Air Conditioning, Paris,  
1963. Gaz woda techn sanit 37 no.9:308 S '63.

1. Technical University, Warsaw.



KAMLER, Witold, prof.

Central thermal stations utilizing the heat from city garbage.  
Gaz woda techn. sanit 38 no.5:173-175 By '61

1. Technical University, Warsaw.

FRESHTEYN, I.L.; KAMLYUK, L.M.; ROZANOV, V.N.

Skeleton isomerization of n-pentenes on natural aluminosilicates.  
Neftekhimiya 4 no.5:680-686 S-0 '64. (MIRA 18:1)

I. Gosudarstvennyy proyektnyy i nauchno-issledovatel'skiy institut  
promyshlennosti sinteticheskogo kauchuka.

KAMLYUK, L.V.

Use of polarographic method in measuring the oxygen re-  
quirement rate by aquatic animals. Nauch. dkl. vys. shkoly;  
biol. nauki no.3:49-53 '64 (MIRA 17:8)

1. Rekomandovana kafedroy zoologii bespozvonochnykh Belorusskogo  
gosudarstvennogo universiteta im. V.I.Lenina.

CEJNAR, Emil, inz.; KAMM, Josef

Apparatus for heating the service water by fume gases.  
Energetika Cz 12 no.10:527-528 0 '62. (MIRA 15:9)

1. Československe zavody naftovych motoru, Praha.

KAMMAL, Uno; TORMISTO, Vello; TULIK, A. [translator]; VASIL'YEV, P., red.;  
VEBER, Kh., tekhn. red.

[Tallinn] Tallin. Tallin, Estonskoe gos. izd-vo, 1960. 78 p.  
(MIRA 14:11)  
(Tallinn)

KAMMER, F.

7

Berech J., Grylik E., Kammer F., Mrowca S., Piell Z., Węgrzyn T.  
Investigation of the Reaction Period in Calcinated Phosphate Fertilizers.

"Badania nad czasem trwania reakcji powstawania superfosforu".  
Prace Chemikar. No. 7, 1985, pp. 373-374, 5 tabs.

The reaction period in the preparation of calcinated phosphate raw  
applied in industry was investigated on laboratory and pilot plant scale.  
The experiments point to the conclusion that the output of rotary kilns

and the production of the fertilizer can be increased by establishing  
a certain minimum reaction period.

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Investigation of the time of formation of calcinated phosphates. P. Birecki, M. Gryglick, J. Karamiet, S. Mrowca, and E. Wefalawice. *Polish Chem. J.* 37:4-1 (1989, English summary). Expts. on the lab. and pilot-plant scale showed that the output of rotary kilns and production of the fertilizer can be increased by establishing 20 min as the time of reaction. Genia A. Wozny

AG-5

KAMMERER, László, dr.; BRITAN, Miklós, dr.

Clinical experiences with N-N-dimethyl-guanil-guanidine in the management of diabetics. Orv. hetil. 104 no.40:1895-1896 6 0 '63.

1. Budapesti Orvostudományi Egyetem, III. Belklinika.  
(ANTIDIABETICS) (GUANIDINES) (INSULIN)  
(CARBUTAMIDE) (HYPOGLYCEMIA) (DYSPEPSIA)



HUNGARY

JAKAB, Lajos, Dr., BRETAN, Miklos, Dr., FEMER, Janos, Dr., and KAMNERER, Lanzo, Dr., Third Clinic for Internal Medicine at the University of Medical Sciences (Orvostudományi Egyetem, III. Belklinika) in Budapest (Director: GERO, Sandor, Dr.).

"Investigations on Serum Mucopolysaccharides in Alloxane and Steroid Diabetes"

Budapest, Orvosi Hetilap, Vol 107, No 30, 24 Jul 1966, pp 1404-1407.

Abstract: The authors investigated the changes in neutral serum mucopolysaccharides (hexose, hexosamine, sialinic acid, seromucoid) in rabbits suffering from experimental diabetes mellitus obtained by the simultaneous administration of alloxane, cortisone, and alloxane + cortisone. The changes were different when both were administered simultaneously and when either was administered singly. The results were presented and interpreted in terms of their suitability for diagnostic or research purposes. 13 references, including 3 Hungarian, 1 German, 1 Turkish, and 8 Western.

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HUNGARY

KAMMERER, Laszlo, Dr, BRETAN, Miklos, Dr; Medical University of Budapest, III. Medical Clinic (director: GERO, Sandor, Dr) (Budapesti Orvostudományi Egyetem, III. Belklinika).

"The Demonstration of the Presence of Factors Inhibiting the Insulin Effect in Young Diabetic Patients."

Budapest, Orvosi Hetilap, Vol 107, No 18, 1 May 66, pages 832-834.

Abstract: [Authors' Hungarian summary] The case of a young diabetic patient is described whose relatively large insulin requirement was due partly to the effect of humoral insulin-neutralizing factors and partly to an increased tissue resistance. 3 Hungarian, 10 Western references.

1/1

BRETAN, Miklos, dr.; KAMMERER, Laszlo, dr.

Insulin-like activity of the plasma during Bucarban treatment.  
(Data on the mechanism of the sulfanilylureas). Orv. hetil. 103  
no.42:1981-1985 21 0 '62.

1. Budapesti Orvostudományi Egyetem, III. Belklinika.  
(CARBUTAMIDE) (GLUCOSE TOLERANCE TEST)  
(DIABETES MELLITUS) (BLOOD)

SZECSEY, Gyorgy, dr.; BRETAN, Miklos, dr.; BIKICH, Gyorgy, dr.;  
KAMMERER, Laszlo, dr.

Detection of insulin antibodies in diabetics with passive  
hemagglutination. Orv. hetil. 104 no.42:1986-1988 20 0 '63.

1. Budapesti Orvostudományi Egyetem, III. Belklinika, Janos  
Korhaz-Rendelőintézet, Anyagcsere (cukorbeteg) Rendeies.  
(INSULIN ANTIBODIES) (HEMAGGLUTINATION)  
(IMMUNOELECTROPHORESIS) (DIABETES MELLITUS)  
(GAMMA GLOBULIN)

KAMMERER, Yu., polkovnik

Muscovites do not falter. Voen.-znan. 41 no.12:14-15 D '65.  
(MIRA 18:12)

1. Zamestitel' nachel'nika shtaba grazhdanskoy oborony  
Moskvy.

KAMMERIKH, A.O., TREFYEVA, V.A., YOGANSON, V.E., KUZNETSOV, N.T. and  
CHEBOTAREV, A.I.

"Hydrographical areas" (Gidrograficheskie oblasti), page 48.

TABCON, sum. of context, D-81679, 15 Sept 1954.

KAMMERIKH, A.O.

Freezing of rivers. Priroda 45 no.10:127-128 0 '56. (MLRA 9:11)

1. Institut geografii Akademii nauk SSSR, Moskva.  
(Ice on rivers, lakes, etc.)

KOZELITSKIY, V.; KAMMO, A. (Kiyev)

Zinovii Petrovich Solov'ev. Vrach.delo no.1:1327-1329 D '58.  
(MIRA 12:3)

(SOLOV'EV, ZINOVII PETROVICH, 1876-1928)



YAROVENKO, V.V., kand.sel'skokhozyaystvennykh nauk; KAMODOV, V.V.,  
kand.sel'skokhozyaystvennykh nauk; SUCHALKINA, M.I.

Tilling slopes when planting meadows. Zemledelie 6 no.9:59-63 S  
'58. (MIRA 11:9)

(Pastures and meadows) (Tillage)

KAMNDY, Imre

Some problems of the public and destination shipping  
sectors of Hungarian motor truck transportation.  
Kozleked. Kozl 18 no.17:286-289 29 Ap '62.

KAMNEV, A. B.

A STUDY OF THE CORES OF INDIVIDUAL AIR SHOWERS

N.N. Goryunov, A.D. Erlykin, A.B. Kamnev, G.T. Zatsepin

1. An apparatus has been devised consisting of 128 cubic ionization chambers arranged in two layers 2 m by 2 m, one above the other. The upper chambers are shielded by 2.5 cm thick lead. The lower layer of ionization chambers is shielded by a combination filter consisting of 7.5 cm lead on top, a 70 cm thick layer of graphite and a 2.5 cm thick layer of lead directly above the chambers.

Report presented at the International Cosmic Ray Conference, Moscow, 6-11 July 1959

3 2410 (1559, 2705, 2805)

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AUTHORS: Goryunov, N. N., Yerlykin, A. D., Zatsepin, G. T., and Kamnev, A. B.

TITLE: Study of cores of individual air showers

SOURCE: International Conference on Cosmic Radiation. Moscow, 1959. Trudy. v. 2. Shirokiye atmosferynye livni i kas-kadnyye protsessy, 71-79

TEXT: The experimental setup is described; the results of the experiments are given. The principal apparatus consists of a system of ionization chambers which operated in conjunction with the complex setup of Moscow State University (see article on p. 5, same Trudy). The ionization chambers were disposed in two rows of 60, respectively 64 chambers each. The large number of chambers made it possible to obtain a continuous pattern of ionization distribution in space. The lower row was shielded by a triple layer Pb-C-Pb. The graphite layer acted like a converter of energy (of nuclearactive particles into electron-photon energy). The energy fraction

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imparted to  $\pi^0$ -mesons was estimated; it was found to be approx. 0.2 to 0.37. In processing the results, the main attention was devoted to the case when the shower axis passed through the ionization chamber system. According to cascade shower theory, the axis of high-energy showers can be localized in a small region. It was found that this holds also in practice. The position of the axis was determined by two independent methods, without any discrepancy. The showers recorded during a certain time interval were represented as a "point field", whose abscissas and ordinates give the total number of particles in the shower and the energy flux in the core, respectively. In order to ascertain the relationship between the number of particles  $N$  and the corresponding mean energy flux  $E$ , the various points were averaged. It was found that for  $N = 10^5$ ,  $E = 10^4$  relativistic particles. To one and the same intensity of shower there corresponds a whole range of values  $E$ , whereby the spread of the points increases with decreasing intensity of shower. The character of the ionization distribution in the vicinity of the shower core varies. In the majority of cases, the shower has an

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elementary structure, i.e. the ionization density has one sharp maximum. In some cases, a broadening of the core was observed; thus, out of 39 showers with  $N = 10^5$ , one third belong to complex-structure showers. It was found that the ionization-density distribution can be expressed (in the majority of cases) by a power law of type

$\rho(r) \sim 1/r^n$ , up to  $r \approx 1.5$  m and various  $n$ . The lateral distribution function of the energy flux of the nuclearactive component was constructed. The mean energy flux of the nuclearactive component was found to be  $4.6 \cdot 10^3$  rel. particles =  $2.3 \cdot 10^{12}$  ev. This was compared with the mean energy of the electron-photon component:  $2.8 \cdot 10^4$  rel. particles =  $2.8 \cdot 10^{12}$  ev. Integrating the lateral-distribution function of high-energy nuclearactive particles over a radius of 2.5 m about the axis, it was found that such a circle contains 0.9 particles with an energy  $> 5 \cdot 10^{11}$  ev. (for showers with  $N = 10^5$ ). Further, the energy spectra of nuclearactive particles in the central regions of showers of various intensity were con-

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sidered. Finally, the observed energy flux of the electron-photon component was compared with that calculated according to cascade theory. It was found that the calculated energy-flux exceeded the observed one by a factor of 3 (for  $r = 1.5$  m), and by a factor of 8 (for  $r = 12$  cm). There are 9 figures and 12 Soviet-bloc referen- ces.

Card 4/4

KAMNEV, A. B.; LEONAS, V. B.

"On the determination method of the kinetic properties of high-temperature gases."

report submitted for 2nd All-Union Conf' on Heat & Mass Transfer, Minsk,  
4-12 May 1964.

Moscow State Univ.



L. 01175-66 EAT(1)

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TITLE: Potentials of the repulsive interaction between atoms of the inert gases

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TOPIC TAGS: particle interaction, inert gas, elastic scattering

ABSTRACT: The forces of interaction between atoms and molecules are of interest in studying various properties of matter, investigations of the penetration of matter by fast particles, etc. The authors study elastic scattering using the experimental equipment shown schematically in fig. 1 of the Enclosure. A standard MS-1 mass-spectrograph was used as the monochromatic source. The ion beam was converted to a neutral beam by charge exchange. The particle energy was 0.6-4 kev. The target was a small cavity with narrow slots filled with a chemically pure gas at known pressure. Potential parameters were determined for the following systems: He-He, Ne-Ne, Ar-Ar, He-Ar, He-Ne and Ne-Ar. The potentials for these systems and the range Ar in which they hold are given in table 1 of the Enclosure. The results show good agreement with the data of other authors (see fig. 2 of the Enclosure). "in

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conclusion, the authors are grateful to V. A. Popov who participated in the work and to O. B. Firsov for discussing the results." Orig. art. has: 2 figures, 1 table.

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ENCLOSURE: 02

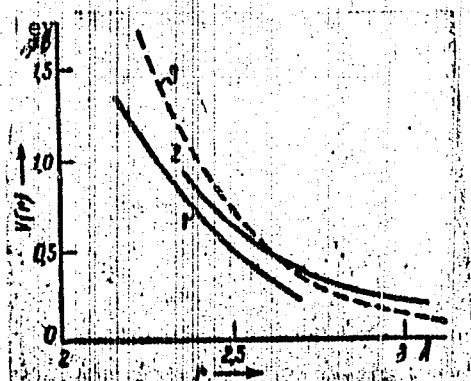


Fig. 2. 1--data of J. Amdur, *Planetary Space Sci.*, 3, 228, 1961; 2--data of the experiment conducted in this paper; 3--data of A. A. Abrahamson, *Phys. Rev.*, 130, 693, 1963.

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Table 1

System	K	s	$\Delta r, \text{\AA}$
He-He	2.8	3.9	0.87-1.27
Ne-Ne	78	7.65	1.7 -2.18
Ar-Ar	171	6.06	2.26-3.14
He-Ar	22.6	5.15	1.63-2.06
He-Ne	10.3	5.61	1.3 -1.65
Ne-Ar	99.5	6.56	1.93-2.49

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