

MELUZIN, J.

CZECH

Determination of vanillin by 2,4-dinitrophenylhydrazine.  
Josef Meluzin (Výzkumný ústav přemyslu celulózy,  
Bratislava, Czech.). Chem. Zvesti 8, 22-6(1954).—An  
addn. of NaCl before pptn. of vanillin with 2,4-dinitro-  
phenylhydrazine causes the ppt. of vanillin 2,4-dinitro-  
phenylhydrazone to be in good filterable and easily wash-  
able form.

MEUZING, Josef

*Malls* Precipitation of lignosulfonates with lime / Josef Meuzing. *Przeplod Papiernicy 12, 262-5(1936)*. Samples of sulfate spent liquor (I), after alc. fermentation, contg. 5.27% Ca lignosulfonates (II), were treated with CaO at pH.

1000  
L

8-10 to ppt. and filter off the slk. II under varying conditions. The yield of pptd. II increased with increasing concn. of II in I, indicating a greater soly. of II in more dild. I. By varying the temp. of the treatment from 20° to 80°, the yield of II decreased with increasing temp. Addn. of increasing amts. of CaO from 23 to 53.7 g. CaO/l. of I increased the yield of pptd. II somewhat. About 24% of the original II, probably the highly sulfonated or low-moi.-wt. fractions, remained in the filtrate and could not be pptd. upon addn. of further amts. of CaO. T. B. Ziegler

*BM*

MELUZIN, O., ins.; FILOUS, J., ins.

Use of vibrocavitation in making reinforced concrete parts.  
Stavivo 41 no.4:146-147 Ap '63.

MELUZIN, Vincenc

Some experiences in cold extrusion of steel from square  
semifinished products. Stroj vyr 13 no.3:198 Mr '65.

1. Zavody Rijnove revoluce National Enterprise, Vsetin, Branch  
Plant Slavicin.

USSR/Fitting Out of Laboratories - Instruments.  
Their Theory, Construction, and Use.

H-

Abs Jour : Ref Zhur - Khimiya, No 3, 1957, 8649

Author : Berezin, I.V., and Meluzova, G.B.

Inst :

Title : A Cell for Quantitative Spectroscopic Analysis in the  
Infrared Region and Description of Apparatus for Measuring  
the Thickness and Taper of the Cell.

Orig Pub : Zh. analit. khimii, 1955, Vol 10, No 4, 262-264.

Abstract : An infrared cell is described consisting of two crystal  
windows cemented to metal plates with Ag or Cu amalgam;  
the plates are attached to both sides of a cylinder with  
screws. Two holes fitted with ground stoppers are drill-  
ed into the cylinder and are used for filling and wash-  
ing the cell. The thickness of the cell is equal to the  
distance between the windows and is determined by the  
thickness of the cylinder; the thickness of the cell

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USSR/Fitting Out of Laboratories - Instruments.  
Their Theory, Construction, and Use.

H-

Abs Jour : Ref Zhur - Khimiya, No 3, 1957, 8649

can be varied by the insertion of gaskets. An apparatus has been constructed for measuring the thickness and taper of the cell, using the micrometer attachment of the microscope. The authors are of the opinion that the thickness of the cell can be measured with an accuracy of  $\pm 1\mu$ .

Card 2/2

AUTHORS: Berezin, I. V., Meluzova, G. B. SOV/75-13-1-19/23

TITLE: The Determination of the Ketones, Esters, and Acids in the Products of the Oxidation of Paraffin Hydrocarbons in the Liquid Phase by Means of the Measuring of the Absorption Spectra in the Infrared Range (Opredeleniye ketonov, efirov i kislot v produktakh zhidkofaznogo okisleniya parafinovykh uglevodorodov po spektram pogloshcheniya v infrakrasnoy oblasti)

PERIODICAL: Zhurnal analiticheskoy khimii, 1958, Vol. 13, Nr 4, pp. 476-484 (USSR)

ABSTRACT: The methods of the functional analysis of mixtures of oxygen-containing organic compounds on the basis of the absorption spectrum in the infrared range (Refs 1, 2) as described in publications have a number of disadvantages: they either have an insufficient accuracy or they may be used only in the absence of carboxylic acids. The latter makes impossible the employment of these methods in the analysis of oxidation products of saturated hydrocarbons, the acid content of which, as a rule is high. In the present paper the authors elaborate a method for the quantitative determination of ketones, esters, and acids which secures sufficient accuracy and a quick analysis,

Card 1/4

SOV/75-13-4-19/29

The Determination of the Ketones, Esters, and Acids in the Products of the Oxidation of Paraffin Hydrocarbons in the Liquid Phase by Means of the Measuring of the Absorption Spectra in the Infrared Range

which conditions must be met in the kinetic investigations as well as in the practical work of the oxidation of high molecular paraffin hydrocarbons. Substances of different origin were used for taking the spectra: acetone, methyl-ethyl ketone, di-butyl ketone, ethyl acetate, amyl acetate, butyric acid, stearic acid, stearone (synthesized according to Ref 5), methyl stearate; further a mixture of synthetic fatty acids of different composition which mainly consisted of not ramified carboxylic acids, and which had been obtained by the oxidation of a mixture of high molecular paraffins (at the SZHK Kombinat at Shebekino), methyl esters of the synthesized acids, esters of the synthesized fatty acids with the alcohol  $C_{13}$ , as well as a mixture of ketones with a mean molecular weight of 249. It was found that ketones and esters may be quantitatively determined in mixtures of oxidation products in paraffins on the basis of the absorption spectrum of the  $>C=O$  bond. The absorption band of the keto group of aliphatic ketones is at a frequency of  $1718 \pm 3 \text{ cm}^{-1}$ , that of esters has one of  $1738 \pm$

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SOV/75-13-4-19/29

The Determination of the Ketones, Esters, and Acids in the Products of the Oxidation of Paraffin Hydrocarbons in the Liquid Phase by Means of the Measuring of the Absorption Spectra in the Infrared Range

$\pm 3 \text{ cm}^{-1}$ , and that of carboxylic acids is at a frequency of  $1713 \pm 2 \text{ cm}^{-1}$ . The extinction coefficients and the contours of the bands were measured for individual substances and for mixtures of compounds with a carbonyl group (by means of an apparatus of the type IKS -11, and automatic recorders of the type EFP-09 (Ref 3)). The influence exerted by the mixing of the frequencies of the components on the extinction coefficient of the absorption bands of the mixture was explained. Also the correction values and the extinction coefficients in mixtures of ketones, esters, and acids were found. Furthermore methods for the removal of the acids are described by which fact the accuracy of the determination of ketones and esters is increased. The whole complex of problems is dealt with in detail. N. K. Man'kovskaya supplied samples of oxidized paraffin and of acids for the experiments. This is acknowledged by the authors. There are 2 figures, 6 tables, and 13 references, 7 of which are Soviet.

Card 3/4

SOV/75-13-4-19/29

The Determination of the Ketones, Esters, and Acids in the Products of the Oxidation of Paraffin Hydrocarbons in the Liquid Phase by Means of the Measuring of the Absorption Spectra in the Infrared Range

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova  
(Moscow State University imeni M. V. Lomonosov)

SUBMITTED: May 16, 1957

1. Ketones---Determination
2. Esters---Determination
3. Acids---Determination
4. Organic compounds---Spectra
5. Infrared spectroscopy

Card 4/4

5(3)

AUTHORS:

Meluzova, G. E., Babayeva, A. A.

307/75-13-6-18/21

TITLE:

Determination of Tertiary Butyl Alcohol and Acetone Concentrations in the Products of Isobutane Oxidation by Infrared Absorption Spectra (predeleniye kontsentratsii tretichnogo butilovogo spirta i atsetona v produktakh okisleniya izobutana po spektram pogloshcheniya v infrakrasnoy oblasti)

PERIODICAL:

Zhurnal analiticheskoy khimii, 1958, Vol 13, Nr 6, pp 706-708 (USSR)

ABSTRACT:

The adoption of chemical methods for the determination of acetone and tertiary butyl alcohol concentrations in the products of isobutane oxidation in the presence of hydrogen bromide met with great difficulties. Therefore, the authors of the present paper adopted the spectra of the reaction products in the infrared range for the solution of this problem. A method described in the literature (Ref 1) proved complicated, as the spectrometer prism must be substituted in the course of the determination and moreover a great dilution, calling for a corresponding great thickness of the bulb are required. On taking the absorption spectra of a solution of the chief

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Determination of Tertiary Butyl Alcohol and Acetone Concentrations in the Products of Isobutane Oxidation by Infrared Absorption Spectra

oxidation products of isobutane (tert.-butyl hydro-peroxide, tert.-butyl alcohol and acetone) in carbon tetrachloride, bands appear in the  $1700-800\text{ cm}^{-1}$  range, which are suitable for the determination. The band of the butanol at  $918\text{ cm}^{-1}$  serves for the determination of the latter, without acetone and hydro-peroxide causing any disturbance. The determination of acetone is based on the band at  $1718\text{ cm}^{-1}$  corresponding to the C=O bond (Ref 2). The adopting of  $\text{CCl}_4$  as solvent allows determination on the basis of these bands, by a single filling of the bulb, the latter being only 0.3 mm thick. The optical density D results from the spectrogram, the molar concentration C is calculated from the Lambert-Beer relation  $D = K \cdot C \cdot l$ , where l is the vessel thickness in cm and K the extinction coefficient in  $\text{mole}^{-1}\text{ liter/cm}^{-1}$ . Purest raw products, the purity of which had been controlled spectroscopically, were used for the taking of spectra and plotting of calibration curves. Measurement of extinction coefficients and qualitative analysis were carried out with a modernized infrared YKS-13 spectrometer (Ref 3) with special bulbs for processing easily

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Determination of Tertiary Butyl Alcohol and Acetone SOV/75-13-6-18/21  
Concentrations in the Products of Isobutane Oxidation by Infrared  
Absorption Spectra

evaporating liquids (Ref 6). The connection between optical density and butanol concentration is linear up to values of  $\sim 0.35$  mole. The error of determination depends on the reproducibility of the taking of spectra and amounts to  $\pm 3-1\%$ . To carry out this determination, gaseous reaction products are freeze out in a trap, cooled by liquid nitrogen and then solved in a certain quantity of carbon tetrachloride. The following values were established for the limit partial pressures of the reaction products: tert.-butyl hydro-peroxide from 1 to 40 torr., tert.-butyl alcohol from 0.5 to 20 torr., acetone from 0.5 to 25 torr. The content of tert.-hydro-peroxide was iodometrically determined, as the corresponding absorption bands are partially covered by an absorption band of  $\text{CCl}_4$  at  $875 \text{ cm}^{-1}$ . There are 2 figures, 1 table, and 6 references, 3 of which are Soviet.

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Determination of Tertiary Butyl Alcohol and Acetone SOV/75-13-6-18/21  
Concentrations in the Products of Isobutane Oxidation by Infrared  
Absorption Spectra

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova  
(Moscow State University imeni M. V. Lomonosov)

SUBMITTED: October 12, 1957

Card 4/4

AUTHOR:

Meluzova, G. B.

TITLE:

A Laboratory Process for the Production of Infrared Radioactive  
Needles (Laboratornyy sposob izgotovleniya shifrov infrakrasnykh  
izlucheniya)

PERIODICAL:

Zavodskaya Laboratoriya, 1958, Vol. 24, Nr 7,  
pp. 888 - 889 (USSR)

ABSTRACT:

In the production of Nernst needles described in publications many times difficulties arise the way of removal of which is not explained. A technological process of production is given with a somehow modified prescription; thus, those disadvantages may be avoided and pins of a good quality are obtained. The composition of the paste is as follows: 85% zirconium dioxide, 10% thorium oxide, 5% calcium oxide and 0,01% boric acid. The components are together finely crushed and ground, and distilled water and glycerin are added dropwise and then the paste is dried. The diagram of an apparatus for the pressing of the needles is given. The formation process of the solid solution requires a certain temperature control; thus, after a slow increase in temperature to 800° for 2-3 hours a combustion of carbon takes place after the temperature had been increased

Card 1/2

SOV 76-32-6-5/46

AUTHORS: Berezin, I. V., Kazanskaya, N. P., Meluzova, G. B.

TITLE: A Method of the Quantitative Analysis of Cyclohexanone and Cyclohexanol in Oxidation Products of Cyclohexane by Means of Infrared Absorption Spectra (Metod kolichestvennogo analiza tsiklogeksanona i tsiklogeksanola v produktakh okisleniya tsiklogeksana po spektram pogloshcheniya v infra-krasnoy oblasti)

PERIODICAL: Zhurnal fizicheskoy khimii, 1958, Vol. 32, Nr 6, pp.1218-1225 (USSR)

ABSTRACT: A method of analysis serving in a number of kinetic investigations was developed. An infrared spectrometer of the type IKS -1 with automatic recording equipment EPP 09 and with cuvettes of special construction was used. A description of the apparatus and a schematic figure are given. By making use of the different intensity of the spectral bands the analysis could be conducted in such a way as to determine ketone and alcohol in the same cuvette, which is important because of the small amount of sample substance. The determina-

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SOV/ 76-32-6-5/46

A Method of the Quantitative Analysis of Cyclohexanone and Cyclohexanol  
in Oxidation Products of Cyclohexane by Means of Infrared Absorption Spectra

tion of the concentration of the substances was conducted according to the law by Lambert-Beer, employing the extinction coefficient. At higher concentrations of alcohol the sample had to be diluted. A comparison of the results obtained with that of other methods showed that the determination is not disturbed by the presence of peroxides. On the other hand, a ketone is present in the sample, the cyclohexanone. The presence of other oxidation products does not disturb its determination. A hydration is proposed in order to prevent an increase of the results caused by the influence of substantial amounts of esters and acids. In order to be able to determine the ester content, the extinction coefficient of the carbonyl band was approximately determined, as well as of the mono- and dicyclohexyl esters of adipic acid. The analysis as to contents of ketones and esters in the oxidation mixture can only be conducted at optical densities below 0.3, where the spectral bands separate from each other, in case they are present simultaneously. There are 5 figures, 4 tables, and 8 references, 4 of which are Soviet.

Card 2/3



SOV/ 76-32-6-5/46  
A Method of the Quantitative Analysis of Cyclohexanone and Cyclohexanol  
in Oxidation Products of Cyclohexane by Means of Infrared Absorption Spectra

ASSOCIATION: Moskovskiy gosuniversitet im. M. V. Lomonosova  
(Moscow State University imeni M. V. Lomonosov)

SUBMITTED: September 14, 1956

1. Cyclohexanones--Quantitative analysis
2. Cyclohexanols--Quantitative analysis
3. Cyclohexanes--Reduction
4. Infrared spectrum

Card 3/3

MELUZOVA, G. B., Candidate Chem Sci (diss) -- "Quantitative determinations of the oxidation products of aliphatic hydrocarbons from absorption spectra in the infra-red range". Moscow, 1959. 12 pp (Moscow Order of Lenin State U in M. V. Lomonosov, Chem Faculty), 100 copies (KL, No 23, 1959, 161)

MAN'KOVSKAYA, N.K.; MELUZOVA, G.B.; PROKHOROVA, Z.A.

Composition of alcohols produced by the oxidation of paraffins under industrial conditions. Khim. i tekhn. topl. i masel 6 no.11:42-46  
N '61. (MIRA 14:12)

1. Nauchno-issledovatel'skiy institut sinteticheskikh zirozameniteley i moyushchikh sredstv.  
(Alcohols) (Paraffins)

MELUZOVA, G.B.; KNYAZEVA, L.L.

Studying chemiluminescence of the thermal decomposition of  
hydrogen peroxide in water. Trudy MOIP. Otd. biol. 21:  
161-164 '65. (MIRA 18:6)

ACCESSION NR: AP4033399

S/0076/64/038/003/0593/0599

AUTHOR: Meluzova, G. B. (Moscow)

TITLE: Chemiluminescence during thermal decomposition of hydrogen peroxide in water

SOURCE: Zhurnal fizicheskoy khimii, v. 38, no. 3, 1964, 593-599

TOPIC TAGS: chemiluminescence, hydrogen peroxide, thermal decomposition, kinetics

ABSTRACT: This article investigates the weak luminescence in the 350-600 millimicron region due to decomposition of  $H_2O_2$  in water. The kinetics of change of chemiluminescence intensity at 95-1500 are identical to the kinetics of the decomposition of  $H_2O_2$ . The experiments were conducted in sealed pyrex tubes. The luminescence was detected by a FEU-19M photomultiplier with subsequent amplification of the photoelectric current and automatic recording of the latter on the chart of an EPP-09 potentiometric recorder. Due to the presence of impurities in the water the decomposition of  $H_2O_2$  proceeds in two stages. The second and slowest step of this process is determined by the decomposition itself, for which the apparent

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Card

ACCESSION NR: AP4033399

energy of activation is  $23 \pm 4$  kcal/mole. A single stage homogenous decomposition process was observed in quadruply distilled water. The apparent activation energy was  $6 \pm 0.5$  kcal/mole. The activation energies determined from luminescence measurements agree with those determined iodometrically within the uncertainty limits of measurements. It is assumed that the factor which is responsible for luminescence is the complexation of perhydroxyl ion with  $H_2O_2$ . "The author expresses his gratitude to I. I. Vol'nov (Institute of General and Inorganic Chemistry im. N. S. Kurnakov, Academy of Sciences of the USSR) for the furnished hydrogen peroxide." Orig. art. has: 1 table, 4 figures and 3 equations.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova (Moscow State University)

SUBMITTED: 22Jan63

ENCL: 00

SUB CODE: IC

NR REF SOV: 013

OTHER: 002

Card 2/2

Card

MELUZOVA, L. A.

Meluzova, L. A.

"Methods of using microorganisms to enrich dairy products with vitamins."  
Leningrad Technological Inst of the Refrigeration Industry. Leningrad, 1956.  
(Dissertation for the Degree of Candidate in Technical Sciences).

Knizhnaya letopis'  
No. 25, 1956. Moscow

NOVOTEL'NOV, N.V.: MELUZOVA, L.A.

Enriching milk whey with riboflavin with the help of *Eremothecium*  
ashbyii. Izv. vys. ucheb. zav.; pishch. tekhn. no.3:49-52 '58.  
(MIRA 11:9)

1. Leningradskiy tekhnologicheskiy institut kholodil'nov pro-  
myshlennosti, Kafedra mikrobiologii i biokhimii.  
(Whey) (Riboflavin)



MELUZOVA, L.A.

Determining riboflavin in milk and sour-milk products. Izv.vys.  
ucheb.zav.; pishch.tekh. no.6:144-147 '58. (MIRA 12:5)

1. Leningradskiy tekhnologicheskoy institut kholodil'noy pro-  
myshlennosti, Kafedra obshchey i analiticheskoy khimii.  
(Riboflavin)  
(Milk--Analysis and examination)

MELUZOVA, L.Z.; NOVOTEL'NOV, H.V.; YAKOVLEV, D.A.

Biosynthesis of vitamins in lactic acid starters [with summary  
in English]. Mikrobiologiya 27 no.6:733-739 H-D '58. (MIRA 12:1)

1. Leningradskiy tekhnologicheskii institut kholodil'noy promysh-  
lennosti.

(VITAMINS, metab.

biosynthesis in lactic acid forments (Rus)

(LACTIC ACID,

biosynthesis of vitamins in lactic forments (Rus))

L 00535-56 EWT(d) IJP(c)  
ACCESSION NR: AP5023877

UR/0042/64/019/006/0187/0190

AUTHOR: Melvedev, P. A. 44.55

TITLE: Representation of a zero of a cubic form in the field of p-adic numbers 16,44.55

SOURCE: Uspekhi matematicheskikh nauk, v. 19, no. 6, 1964, 187-190

TOPIC TAGS: geometric form, field theory

ABSTRACT: DEM'YANOV ("Cubic Forms in Discretely Normalized Fields," IAN, 74, No 5, 1950, 889-891) demonstrated that every cubic form which is a function of more than eight variables with coefficients in the field of p-adic numbers  $R_p$  has a zero in that field. The problem of representation of a zero by a form which depends on fewer than nine variables is as yet unsolved.

The author gives necessary and sufficient conditions for the existence of a representation of zero of a cubic form with coefficients from  $R_p$ , in this field, and studies the problem of continuation (extension) of the  $R_p$  representation of zero modulo  $p^N$ . By means of two theorems and two lemmas he proves that every form which is not identically zero may be expressed in such a way

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L 00535-66

ACCESSION NR: AP5023877

that it has no representations of zero which may be extended modulo an arbitrary high number. It is stated without proof that the form  $x_1^3 - 3x_1x_2^2 + 2x_2^3$  and the form obtained from it by an arbitrary non-singular linear transformation has, for an arbitrary  $C$ , non-extendible representations of zero modulo  $p^N$  for  $N > C$ . Orig. art. has: 11 formulas.

ASSOCIATION: none

SUBMITTED: 02Apr63

ENCL: 00

SUB CODE: MA

NR REF SOV: 001

OTHER: 000

JPRS

*mlc*  
Card 2/2

USSR/Chemical Technology -- Chemical Products and Their Application. Silicates.  
Glass. Ceramics. Binders, I-9

Abst Journal: Referat Zhur - Khimiya, No 1, 1957, 1585

Author: Mel'vilenko, D. T., and Prodayvoda, N. Ye.

Institution: None

Title: On the Need for Using Anti-Stringiness Pockets in Glass-Melting Tanks

Original

Periodical: Steklo i keramika, 1956, No 5, 25

Abstract: Pittsburgh pockets, which are used to collect contaminated and striated glass, actually lower the quality of the glass drawn from the tank. This can be explained by the fact that the pockets increase the cross-sectional area of the tank wall surface, thus causing considerably greater heat losses through the walls; this in turn leads to an intensification of the convection currents in the glass mass, which increases the corrosion of the walls. As a result the glass mass in the pockets is saturated with impurities which are carried into the tank by the descending return currents.

Card 1/1

Mel'vilenko, D.T.

17  
4  
The production of sheet glass by the "hostless" method:  
D. T. Mel'vilenko (Glass Plant, Irbit), Sialko & Keram.  
13, No. 13, 22-4 (1955). The reconstruction of a glass  
plant for conversion of the float or debiteuse (four-  
coults) process to the VVS machine system is described.  
Extrusion rates for sheets from 3 to 6 mm. thick are raised  
40%, and the compn. of the lime-soda charge is modified  
slightly. H. J. Olin

10/6

MT

SANKOVA, L.I.; KURGUZOVA, F.I.; GOROBINSKAYA, V.D.; MEL'VILENKO, D.T.

Optical method of determining the chemical homogeneity of glass.  
Stek. i ker. 20 no.5:30-31 My '63. (MIRA 16:7)

1. Saratovskiy zavod tekhnicheskogo stekla.  
(Glass--Testing)

MEL'VILENKO, D.T.

Patching local burns in the crown of a glass-melting tank furnace  
without operation stoppage. Stek. 1 ker. 20 no.10:36-37 0 '63.  
(MIRA 16:10)

(Glass furnaces—Maintenance and repair)



PENTKO, N.A., MEL'VILENKO, D.T.

Important potential for increasing the production of sheet  
glass. Stek. i ker. 21 no.9:35-36 S '64. (MIRA 18:4)

L 34100-65 EWT(m)/EPF(c)/EPA(w)-2/EMP(j)/T Pc-4/Pab-10/Pr-4 EWH/WN/DJ/EM

ACCESSION NR: AP5007434

S/0286/65/000/004/0062/0062

AUTHOR: Borisov, M. F.; Novitskiy, E. G.; Melyakhova, E. I.

H2B

TITLE: Preparative method for organosilicon polymers. Class 39, No. 168444 15

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 4, 1965, 62

TOPIC TAGS: silicone, organosilicon polymer, polysiloxane gel

ABSTRACT: An Author Certificate has been issued for a preparative method for organosilicon polymers based on a polymethylphenylsiloxane fluid. In order to produce a gel-type polymer whose properties would be preserved at elevated temperatures, the fluid is mixed with 1,2-diethoxymethacrylatetetramethyldisiloxane [sic]. The mixture is thickened with aluminum naphthenate and heated at 150C for 4-6 hr. [SM]

ASSOCIATION: none

SUBMITTED: 08Apr63

ENCL: 00

SUB CODE: 00, 60

NO REF SOV: 000

OTHER: 000

ATD PRESS: 3210

Card 1/1

21 Jul 52

USSR/Mathematics - Oscillations of Curved Rod

Oscillations of Free Oscillations of a Curvilinear

"Integral Equation of Free Oscillations of a Curved Rod near Beam," A. S. Melyakhovetskiy

235T76

"Dok Ak Nauk SSSR" Vol 85, No 3, pp 513-516

Considers a thin beam whose axis is a smooth planar curve of invariable length L; at the ends the beam possesses elastic supports admitting tangential and normal displacements and rotations of the terminal sections. Writes the integrodifferential eqs of free oscillations of the beam in its plane from the Green

235T76

function and corresponding boundary-value conditions. Problem is reduced to finding eigenvalues and eigenfunctions of a certain Fredholm eq. Submitted by Acad S. L. Sobolev 19 May 52.

235T76

MEL'YAKHOVETS'KIY, A. S.

MELYAKHOVETSKIY, A.S.

1481. Melyakhovetskiy, A. S., Oscillatory properties of vibrations of a stressed rod (in Russian), *Vestn. Mat. Mekh.* 17, 4, 161-167, July-Aug. 1957.

62

With the aid of the theory of integral equations, author establishes a series of theorems relative to a freely vibrating rod. For example, the influence function for displacements of a compressed fixed-free rod is shown to be always oscillatory for all loads which are below a certain critical value. Similar proofs are worked out for other boundary conditions.

G. Herrmann, USA

124-58-9-10448

Translation from: Referativnyy zhurnal. Mekhanika, 1958, Nr 9, p 147 (USSR)

AUTHOR: Melyakhovetskiy, A. S.

TITLE: On the Flexure Under Compression of a Curvilinear Beam Due to an Initial Deviation From a Specified Shape (Ob izgibe szhatogo krivolineynogo sterzhnya, vyzyvayemom nachal'nymi otkloneniyami ot pravil'noy formy)

PERIODICAL: Tr. Donetsk. industr. in-ta, 1957, Vol 20, pp 21-26

ABSTRACT: A method is presented for the determination of the stress and strain in a compressed curvilinear beam due to initial deviations of the elastic axis from the funicular curve corresponding to the given external loading  $(X_0, Z_0)$ . A priori a demonstration is given of the theorem on the singularity of the division of any external loading  $(X_0, Z_0)$  into two separate component loadings of which one  $(X_1, Z_1)$  evokes purely compressive stresses in the nondeformed beam, while the other  $(X_2, Z_2)$  produces solely bending moments and shear forces. A determination is then made of that loading, equivalent to the initial deflection, which would produce only shear forces and bending moments if the beam were brought back to its specified shape; approximation

Card 1/2

124-58-9-10448

On the Flexure Under Compression of a Curvilinear Beam (cont.)

formulas are provided for the determination of the displacements and bending moments.

1. Beams--Stresses    2. Beams--Mathematical analysis

Yu. S. Shkenev

Card 2/2

Melyakhovetskiy, A. S.

124-11-13110

Translation from: Referativnyy Zhurnal Mekhanika, 1957, Nr 11, p 120 (USSR)

AUTHOR: Melyakhovetskiy, A. S.

TITLE: Integral Equation of the Vibration of a Curvilinear Bar.  
(Integral'noye uravneniyekolebaniy krivolineynogo sterzhnya)

PERIODICAL: Tr. Donetsk. industr. in-ta, 1957, Vol 20, pp 27-39

ABSTRACT: A general solution is derived for the vibration of a curvilinear bar of variable curvature and rigidity under the action of a perturbation loading of arbitrary form and a cyclic loading.

Bars with rigidly constrained ends are examined. The flexural rigidity and the curvature of the bar vary according to smooth functions. The introduction of an influence function for the displacements reduces the problem to a system of integral-differential equations. The problem of determining the frequency and amplitude of the free vibrations of the bar is reduced to the determination of the real numbers and fundamental functions of a second-order Fredholm integral equation.

The solutions obtained afford a strictly exact basis for the method of the separation of variables (Fourier) and a number of approximate methods.

Card 1/2

124-11-13110

Integral Equation of the Vibration of a Curvilinear Bar. (Continued)

A general solution is given for the various problems relating to forced vibrations.

Also investigated is the case of a perturbation force which varies sinusoidally.

(Yu. P. Grigor'yev)

Card 2/2

PLANS I BOOK EXPLANATION 30V/4531

Amoskya oamk SSSR. Institut imkhobuki  
Inzhenernyy sbornik, tom 26 (Engineering Symposium, Vol. 26) Moscow, 1956.  
286 p. 2,400 copies printed.  
Sponsoring Agency: Amoskya oamk SSSR. Otdeleniye tekhnicheskikh nauk.  
Institut imkhobuki.  
Mosp. No.: A. A. D'yachkin; Ed.: G. I. Pribludnyy; Tech. Ed.: B. M. Lerman.

PURPOSE: This book is intended for engineers.

CONTENTS: The book contains 59 articles dealing with professional work performed by mechanical engineers, such as the calculations of shells, plates, and sections of problems in stress distribution and vibrations. Oscillations (including flutter) and deformation of shells, equilibrium of small panels, rods and solids, stability of structures, and other members, stress concentration, and bending of shells. Calculations of aircraft wings are included. References are given at the end of each article.

Dubov, B. P. [Moscow]. Compression of an Elastic Finite Layer [Received on 6/18/1956]	180
Kardin, B. B. [Moscow]. Bending of a Rectangular Plate Under a Local Transverse Load With Various Boundary Conditions [Received on 2/1/1956]	199
Polozov, I. I. [Moscow]. Certain Problems Associated With the Calculation of Elastic Plates: Distribution of Stresses in Beams [Received on 6/20/1956]	205
Podolskiy, E. E. [Moscow]. Determination of Supporting Power of Quick Foundations [Received on 11/29/1954]	216
Kolomoitsov, L. A. [Moscow]. Numerical Method of Successive Approximation for Investigating Finite Elements of Isotropic Elastic Beams Under a Complex Load [Received on 10/2/1956]	223
Aliev, J. B., and V. E. Buzayev [Moscow-Baku]. Stability and Calculation of Frames for Information [Received on 4/1/1957]	236
Subbotinichikov, I. A. [Moscow-Baku]. Stability Calculation of Ringed Systems [Received on 7/22/1954]	242
Chernykh, I. A. [Moscow]. Transverse Bending of a Prismatic Cantilever Beam With a Triangular Section Under a Load in a Plane Perpendicular to the Plane of Symmetry [Received on 2/9/1956]	270
Derzhavskiy, A. A. [Vorochobinsk]. Certain Generalizations of V. Z. Vlasov's Calculation Theory of Thin-Section Beams [Received on 2/4/1955]	273
Bykov, A. A. [Moscow]. Orthogonal Polynomials With Arbitrary Powers [Received on 1/2/1954]	280

Planned by the Ministry of Defense. One hypothesis concerning internal resistance relative to oscillations of elastic systems [Received on 3/23/1953] 285

ATTACHES: Library of Congress

MELBY AKHCHETSKEY, R.S.



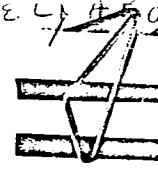
MELYAKHOVETSKIY, A.S. [Meliakhovets'kyi, A.S.] (Stalino)

Finding functions of the influence of a parabolic arch. Prykl.  
mekh. 5 no.3:340-343 '59. (MIRA 13:2)

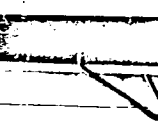
1. Donetskii industrial'nyy institut.  
(Arches)

REPORT presented at the 1st All-Union Congress of Theoretical and Applied Mechanics, Moscow, 27 Jan - 3 Feb '60.

118. L. A. KOVEISKIY, A. P.



- 146. A. D. LITVIN (Moscow): On space buckling of columns in the elastoplastic range.
- 147. V. S. LITVIN (Moscow): Vibration of rods under combined loading.
- 148. V. S. LITVIN (Moscow): Plasticity of metals under combined loading.
- 149. A. I. LITVIN (Moscow): Some problems of non-stationary flow of an incompressible viscoelastic (Maxwell) liquid.
- 150. A. I. LITVIN (Moscow): Some problems of non-stationary flow of an incompressible viscoelastic (Maxwell) liquid.
- 151. A. I. LITVIN (Moscow): The generalization of the torsion theory of thin-walled bars.
- 152. A. I. LITVIN (Moscow): The development of structures.
- 153. D. S. LITVIN (Moscow): Plastic flow of circular plates under combined loading of bending and compression and bending.
- 154. A. I. LITVIN (Moscow): Torsion of an anisotropic curved bar.
- 155. A. I. LITVIN (Moscow): Free vibrations and stability of ordinary and prestressed elastic restrained beams.
- 156. A. I. LITVIN (Moscow): Displacement of rods due to interaction of sliding layers.
- 157. A. I. LITVIN (Moscow): On the application of matrix methods to the solution of large sets of linear equations of elasticity theory.
- 158. A. I. LITVIN (Moscow): The solution of linear equations for structures of equal flexibility consisting of plates and springs.
- 159. A. I. LITVIN (Moscow): Large deflections of shallow shells of non-linear elastic materials.
- 160. A. I. LITVIN (Moscow): Methods for the solution of the problem of anisotropic states of stress in shells of reinforced concrete.
- 161. A. I. LITVIN (Moscow): Analysis of an anisotropic reinforced concrete shell under an arbitrary load applied to a plate.
- 162. A. I. LITVIN (Moscow): On the experimental study of stress in high polymers.
- 163. A. I. LITVIN (Moscow): Creep strains and rupture of high polymers.
- 164. A. I. LITVIN (Moscow): Vibrations of non-circular cylindrical shells.
- 165. A. I. LITVIN (Moscow): Some problems of combined loading of shells.
- 166. A. I. LITVIN (Moscow): The influence of structural anisotropy on the strength of shells.
- 167. A. I. LITVIN (Moscow): Investigation of the state of stress in shells of reinforced concrete under internal pressure.
- 168. A. I. LITVIN (Moscow): Investigation of the state of stress in shells of reinforced concrete under internal pressure.
- 169. A. I. LITVIN (Moscow): Investigation of the state of stress in shells of reinforced concrete under internal pressure.
- 170. A. I. LITVIN (Moscow): Investigation of the state of stress in shells of reinforced concrete under internal pressure.
- 171. A. I. LITVIN (Moscow): Investigation of the state of stress in shells of reinforced concrete under internal pressure.
- 172. A. I. LITVIN (Moscow): Investigation of the state of stress in shells of reinforced concrete under internal pressure.
- 173. A. I. LITVIN (Moscow): Investigation of the state of stress in shells of reinforced concrete under internal pressure.
- 174. A. I. LITVIN (Moscow): Investigation of the state of stress in shells of reinforced concrete under internal pressure.
- 175. A. I. LITVIN (Moscow): Investigation of the state of stress in shells of reinforced concrete under internal pressure.
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- 177. A. I. LITVIN (Moscow): Investigation of the state of stress in shells of reinforced concrete under internal pressure.
- 178. A. I. LITVIN (Moscow): Investigation of the state of stress in shells of reinforced concrete under internal pressure.
- 179. A. I. LITVIN (Moscow): Investigation of the state of stress in shells of reinforced concrete under internal pressure.
- 180. A. I. LITVIN (Moscow): Investigation of the state of stress in shells of reinforced concrete under internal pressure.



MEL'YANKOV, S.Ya., assistant; KHATCHENKO, N.V., kand.med.nauk

Lumbosacral radiculities of tuberculous origin. Zdrav. Belor.  
6 no. 10:35 0 '60. (MIRA 13:10)

1. Iz kliniki nervnykh bolezney Minskogo meditsinskogo instituta  
(zav.kafedroy - prof.M.A. Khazanov).  
(NERVES, SPINAL--DISEASES) (TUBERCULOSIS)

MEL'YANKOV, S.Ya.; KHATCHENKO, N.V.

Disorders of the muscular tonus of the gastrointestinal tract  
in myotonia. Zhur. nevr. i psiki. 65 no.8:1150-1151 '65.

(MIRA 18:8)

1. Klinika nervnykh bolezney (zaveduyushchiy - prof. N.S. Misyuk)  
Minskogo meditsinskogo instituta.

MEL'YANOVSKIY, P.A.; MIKHAYLENKO, S.A.; KOTENKO, A.A.

Bridge for measuring specific inductive capacitance of  
highly absorbing media in the radio frequency band. Prib.  
i tekhn.eksp. 6 no.4:92-95 J1-Ag '61. (MIRA 14:9)

1. Khar'kovskiy politekhnicheskii institut.  
(Bridge circuits)

MELYANOVSKIY, V.G., prof.

Complications following extraction of a cataract. Vest. oft.  
76 no.1:56-60 Ja-F'63. (MIRA 16:6)

1. Varshavskaya oftal'mologicheskaya klinika.  
(CATARACT)

MESHCHANIKOV, B.N.; STRAKHOV, K.I.; LEVIN, Ya.Ye.; BOS'KO, K.P.; KUZ'MIN, V.A.  
MELYANTSEY, V.F.; YEFREMOV, A.F.

New method of smelting and pouring oxidizing alloys. Prom. energ. 12  
no.3:25 Mr '57. (MIRA 10:6)  
(Alloys) (Smelting)

1. MEL'YANTSEV, V.G.
2. USSR (600)
4. Agriculture
7. Trout of the water reservoirs of Karel-Finnish S-S.R. Petroz. vorsk, Gosizdat.KFSSR, 1952

9. Monthly List of Russian Accessions, Library of Congress, March, 1953. Unclassified.



MEL'YANTSEV, V.G.

Possibility of utilizing the Konchozero lake group for commercial fishing. Trudy Kar.fil. AN SSSR no.5:96-102 '56. (MIRA 10:7)

1. Petrozavodskiy gosudarstvennyy universitet.  
(Konchozero region--Fish culture)

SOV/124-57-9-11061

Translation from: Referativnyy zhurnal. Mekhanika, 1957, Nr 9, p 164 (USSR)

AUTHOR: Mel'yantsov, V. G.

TITLE: Method of Bolt Design for High-pressure Flange Couplings (Metodika rascheta boltov flantsevykh soyedineniy dlya vysokikh davleniy)

PERIODICAL: Sb. stud. nauchn. rabot. Belorussk. politekhn. in-t, 1957, Nr 3, pp 57-60

ABSTRACT: Bibliographic entry

Card 1/1

ALEKSANDROV, B.M., red.; GEDIMINAS, A.A., red.; GRIGOR'YEV, S.V., red.;  
MEL'YANTSEV, Y.G., red.; KOZLOVA, G.I., red.izd-va; KONDRAT'YEVA,  
M.N., tekhn.red.

[Biology of inland waters in the Baltic Sea region; transactions]  
Biologiya vnutrennikh vodoemov Pribaltiki; trudy VII nauchnoy  
konferentsii po izucheniiu vnutrennikh vodoemov Pribaltiki.  
Moskva, Izd-vo Akad.nauk SSSR, 1962. 286 p.

(MIRA 15:2)

1. Nauchnaya konferentsiya po izucheniyu vnutrennikh vodoyemov  
Pribaltiki. 7th, Petrozavodsk, 1959.

(Baltic Sea region--Freshwater biology--Congresses)

PREDTECHENSKAYA, I.A.; MEL'YANTSEVA, A.M.

Improving the quality of crease-resistant finishes of staple  
fabrics. Izv.vys.ucheb.zav.; tekhn.tekstil.prom. no.4:74-79 '61.  
(MIRA 14:9)

1. Leningradskiy tekstil'nyy institut im. S.M.Kirova.  
(Crease-resistant fabrics) (Textile finishing)

MYAKINNIKOVA, M.V., kand.meditsinskikh nauk; MELYANYUK, M.A., vrach

Case of foreign bodies in the esophagus. Zdrav. Belor. 6 no.8:72  
Ag '60. (MIRA 13:9)

1. Iz kliniki boleznay ukha, gorla i nosa (zaveduyushchiy - professor  
N.P.Kniga) Minskogo meditsinskogo instituta.  
(ESOPHAGUS---FOREIGN BODIES)

MELYASHCHOVA, Mar'ya.

For the glorious anniversary. Rab. i sial. 33 no. 8:4 Ag 57.  
(Vitebsk--Clothing industry) (MLRA 10:8)

MELAYEV, N.; IVASHKO, G.I.; SHCHIBANCO, I.O.

Prilozheniya k dizaynu sistem. Uch. zap. Park.  
gos. un. no. 22:33-21 '62. (MIRA 19.11)

L 02465-67 EWP(d)/EWP(v)/EWP(k)/EWP(h)/EWP(l)

ACC NR: AP6018017

SOURCE CODE: UR/0102/66/000/003/0015/0023

58  
B

AUTHOR: Pavlov, V. V. (Kiev); Melyeshev, A. M. -- Meleshev, A. M. (Kiev)

ORG: None

TITLE: Compensation of perturbations and autonomy of infinite-dimensional systems

SOURCE: Avtomatyka, no. 3, 1966, 15-23

TOPIC TAGS: automatic control theory, computer simulation, analog computer, automatic control system

14  
ABSTRACT: The authors study the problem of synthesizing control systems which would insure autonomy and invariance of a finite number of degrees of freedom for infinite-dimensional objects. An ordered system of equations is given for an infinite-dimensional object treated as a finite-dimensional controller. Expressions are given for the control organs of an invariant system. The system was simulated on an analog computer. It is shown that invariance may be produced with the aid of a finite-dimensional object if certain conditions are maintained. An example is given of the control system of an elastic object consisting of a uniform beam with a tracking force at its end. It is further shown that the coordinates characterizing the motion of the center of mass of the object do not depend on the coordinates

Card 1/2



L 02465-67

ACC NR: AP6018017

of the elastic vibrations of the object under conditions of invariance. Figures are given showing the reaction of the system to stepwise control with a rigid object, an elastic object, and an elastic object where invariance conditions are maintained. Orig. art. has: 4 figures, 14 formulas.

SUB CODE: 13,09/ SUBM DATE: 06Apr65/ ORIG REF: 008

Card 2/2 *la*

MELYKUTI, Cs. -

MELYKUTI, Cs. - Harvesting small seeds with harvesting-threshing machine.  
p. 13. Vol. 11, no.14, July 1956.  
Magyar Mezogazdasag - Budapest, Hungary

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

BABILIUS, Vincas, dots., kand. tekhn. nauk; BIELIUNAS, Ksaveras, dots.,  
kand. tekhn. nauk; NOVODVORSKIS, Andrius, dots., kand. tekhn.  
nauk; MELNYIENE, D., red.; SARKA, S., tekhn. red.

[Study of metals] Metalotyra. Vilnius, Valstybine politines ir  
mokslines literaturos leidykla, 1961. 217 p. (MIRA 15:3)  
(Metals)

MELYUKHIN, S.T.

On naming the law:  $E=mc^2$ . Vest.Len.un. 9 no.5:153-155 My '54.  
(Mass (Chemistry)) (Force and energy) (MLRA 9:7)

MELYUKHIN, S.T., kandidat filosofskikh nauk

Scientific foresight and religious "prophesies." Nauka i zhizn'  
22 no.7:29-32 J1 '55. (MLRA 8:9)  
(Science and religion)

MELYUKHIN, S.T., kandidat filosofskikh nauk (Leningrad)

Motion as a property of matter. Nauka i zhizn' 23 no.8:35-38 Ag '56.  
(Motion) (Matter--Properties) (MIRA 9:9)

N/5  
101.11  
.15

Felyukhin, Serafin Timofeyevich

Problema konechnogo i beskonechnogo;  
filosofskiy ocherk [Problems of finity  
and infinity; a philosophical outline]  
Moskva, Gospolitizdat, 1958.

263 p. tables.

Bibliographical footnotes.

*MELYUKIN AIR. 37.*

25-53-4-4/41

AUTHOR: Melyukhin, S.T., Candidate of Philosophical Sciences (Leningrad)

TITLE: Field and Matter (Pole i veshchestvo)

PERIODICAL: Nauka i Zhizn', 1958, Nr 4, pp 7-11 (USSR)

ABSTRACT: The article discusses the development of theories on the correlation between field and matter. On the basis of dialectic-materialistic conceptions, it is concluded that there is no non-transitional boundary between these two forms of matter. This concept is verified by the quantum theory. A new theory, determining the field-microstructure of matter must replace obsolete concepts. Hypotheses exist that different fields, the quanta of which are "elementary" particles, represent excited states of one single field. The continuous connection between microparticles, and their ability of transmutation, indicates their deep inner unity. It is believed that there is a general law covering the various stages and properties of elementary particles and fields. Modern science is approaching the discovery of this law. There are 3 figures and 2 Soviet references.

AVAILABLE: Library of Congress

Card 1/1

1. Science-Philosophy



KUZNETSOV, I.V.; OVCHINNIKOV, N.F.; OMEL'YANOVSKIY, M.E.; UYEMOV, A.I.;  
MELYUKHIN, S.T.; SACHKOV, Yu.V.; SVECHNIKOV, G.A.; NOVIK, I.B.,  
red.izd-va; LAUF, V.G., tekhn.red.; MARKOVICH, S.B., tekhn.red.

[Principles of causality in modern physics] Problema prichinnosti  
v sovremennoi fizike. Moskva, 1960. 428 p.

(MIRA 14:3)

1. Akademiya nauk SSSR. Institut filosofii.  
(Physics--Philosophy)

SVIDERSKIY, V.I., doktor fil. nauk; SHTOFF, V.A., kand. fil. nauk;  
IZMAYLOV, S.V., kand. fiz.-mat. nauk; BRANSKIY, V.P., kand.  
fil. nauk; MOSTEPANENKO, M.V., kand. fil. nauk; MELYUKHIN,  
S.T., kand. fil. nauk; MIKHLIN, Ye.I., red.; YELIZAVGA,  
N.A., tekhn. red.

[Philosophical problems in the present-day theory of motion  
in nature]Filosofskie voprosy sovremennogo uchenia o dvi-  
zhenii v prirode. Leningrad, 1962. 198 p. (MIRA 15:10)

1. Leningrad. Universitet.  
(Science--Philosophy) (Motion)

L 04249-67 EWT(1) GW  
ACC NR: AR6004661

SOURCE CODE: UR/0269/65/000/010/0001/0001

AUTHOR: Melyukhin, S. T.

TITLE: The principle of development in the sciences of nonliving nature

SOURCE: Ref. zh. Astronomiya, Abs. 10.51.1

REF SOURCE: Sb. Dialektika v naukakh o nezhiyoy prirode. M., Mysl', 1964, 270-313

TOPIC TAGS: space matter, astronomy

ABSTRACT: Development is defined as a complete, regular, and basically irreversible change in a qualitative state. It supposes the origination of possibilities and tendencies of change, which are new in principle, in the course of a sufficiently large segment of the time of the system's existence. Development in the field of living nature and social phenomena is usually connected with progressive changes. Applied to inorganic nature, the concept of progress is applicable only to those forms of development of matter which characterize its complication and transition from a nonliving to a living substance. For the main part of the substance in the universe, progressive changes do not proceed higher than to a definite level. The process of development as a whole is distinguished from simple quantitative growth by the fact that it is related to the qualitative transformation of the forms of motion and mutual relations and to the appearance of new relations and possibilities.

Card 1/2

UDC: 113.52

L 64249-67

ACC NR: AR6004661

Modern proposals about the formation of the planets, stars, and galaxies and about their evolution are set forth. The great influence of human society on the development of the earth's nonliving matter is noted. The author illustrates a proposition according to which development can be progressive for a long period only in living nature and in society. Development of inorganic nature is related either to gradual, irreversible changes in the limits of an approximately identical degree of complexity or to repeating cyclical processes. Nonliving nature is not developed progressively but is only changed irreversibly by not returning completely to previous conditions. The irreversibility of the changes does not mean, however, the approach of development to a definite, final state because the infinite multitude of possible states of matter cannot be fully realized for any final segment of time. A. Zasov  
[Translation of abstract]

SUB CODE: 03

Cur /2 Ev

VASIL'YEV, G.A.; MEDVEDEV, Yu.A.; PROZOROVSKIY, V.B.; KRAYKHINA, I.V.

Effect of acclimatization to hypoxia on the growth and radiosensitivity of rat lymphosarcoma. Med. rad. 10 no.4:36-40 F 1965.  
(MIRA 18:6)

1. Kurs farmakologii (zav. V.P. Prozorovskiy pri katedre pato-fiziologii i farmakologii (zav. - prof. B.I. Senderikina) Leningradskogo gosudarstvennogo universiteta.

LIPKIN, A.Ye.; PAVLYUCHENKO, V.I.; MELYUKOV, A.I. (Krasnoyarsk)

Results of entrance examinations in mathematics at Krasnoyarsk  
institutions of higher learning. Mat. v shkole no.4:27-29  
Jl-Ag '61. (MIRA 14:8)  
(Krasnoyarsk--Universities and colleges--Entrance  
requirements)

NELYUKOV, ~~И~~ A-N.

"Inorganic Phosphorus and Calcium in the Blood Serum of Cows on Suburban Farms." Thesis for degree of Cand. Agricultural Sci. Ser. 11 Mar 49, Moscow Veterinary Academy.

~~И~~ Summary 42, 12 Dec 50, Dissertations Presented For Degrees in Science and Engineering in Moscow in 1949. From Vechnyaya Moskva. Jan-Dec 1949.

Also Sum 71

MELYUKOV, A. N., VESELOV, N. A.

Pastures

Utilization of sown pasturage.

Sots. zhiv. 14, No. 5, 1952.

9. Monthly List of Russian Accessions, Library of Congress, August 1952. UNCLASSIFIED.



MELYUKOV, A.N.

**USSR**

The application of vitamins to animal husbandry, Providing cattle with vitamin A. I. M. Zakharchenko. *Vitaminnye Resursy i Ispol'zovanie, Akad. Nauk S.S.S.R., Inst. Biokhim. im. A. N. Bakha, Sbornik 2, 7-34 (1954).*—The carotene (I) content of summer green fodder is high in the early stages of growth. In the period of maturity it is reduced to  $\frac{1}{2}$ — $\frac{1}{4}$ . Summer green fodder should, therefore, be harvested and dried before such I reduction sets in. If permitted to dry in the sun as it is mowed down, summer green fodder suffers an intense breakdown of the I, which can be prevented to a considerable degree by raking the grass into rolls or shocks. When stacked in the open for 9 months (August–April), green fodder loses 36.1–66.2% and 87.4–89.7% of the I, depending upon the nature of the green fodder. Even with such great loss of I, enough of the vitamin remains to prevent harmful consequences in cattle. When preserved as silage, corn lost 35.2%, sorghum 26%, and African millet 40.6% of their vitamin. This constitutes less of a loss than by the best method of drying. Red carrots and squash are particularly rich in vitamin A even though they lose 42.2–54.2% of it during winter storage. The most suitable methods for summer and winter feeding of milk and dry cows and pedigree and nonpedigree calves are discussed. Raising calves on minimum of whole milk by supplementing the basic ration with vitamins A and D. J. Berzina (Inst. Zootech. and Zoobyg., Acad. Sci. Latv. S.S.R.). *Ibid.* 35–53.—High grade pedigree calves were raised by feeding them skimmed-milk rations supplemented by a min. of whole milk and green fodder rich in vitamins A and D. The addition of vitamin A concentrate to the ration of high milk producers. V. E. Kondyrev (All-Union Sci. Research

1/8

0-087

2. alkaline phosphates

... Agr. Animal Feeding). *Ibid.* 66-7.—Increase of the  
 level of the animal ration to 600-800 mg. assures a vita-  
 min A milk activity equal to 1.5-2.0 I.U. per ml. of milk,  
 or a level high enough for high-producing milk cows.  
 The use of vitamin concentrates and of cobalt salts in  
 cattle fattening. A. M. Popov (Inst. Zootech. and Zoohyg.,  
 Acad. Sci. Latv. S.S.R.). *Ibid.* 88-70.—Three groups of 9  
 cows each were fed the same basic ration. Group 1 re-  
 ceived in addn. 20,000 I.U. of vitamin A, 600 I.U. of vita-  
 min D, and 40 mg. of  $CoCl_2$ /cow/day. Group 2 received  
 vitamins A and D as above, but no  $CoCl_2$ . Group 3,  
 the control group, was given the basic ration only. Feed-  
 ing expts. extended over 70 days. The av. daily wt.  
 increase of group 1 was 32.3%, and of group 2, 13.5%  
 above that of group 3. D-hypervitaminosis in calves.  
 A. N. Melnikov (Agr. Inst., Ivanovo). *Ibid.* 71-5.—Four  
 groups of 12-13 pregnant cows each were fed a daily pre-  
 scribed basic ration. Group I received in addn. 30,000  
 I.U. of vitamin D per head per day; group II received in-  
 addn. 50 g. of chalk per head per day; group III received  
 both the vitamin and the chalk; animals of group IV, as  
 the control group, received the basic exptl. ration only.  
 Blood of all animals was examd. for Ca and inorg. P.  
 Expts. extended over 6 months. The Ca and inorg. P  
 level of the blood of the cows of group III throughout the  
 exptl. period was higher than in the cows of the control  
 group. Clinically the cows of the control group presented  
 a picture of ill health, but not those of groups I and III.  
 Calves born to cows of the control group weighed on the av.  
 4.7 kg. less than those of the other groups and their pro-  
 gressive gain in wt. was of a lesser magnitude. It was  
 concluded (1) that in pregnant cows and young calves the  
 serum Ca and inorg. P can be used as an indicator of suf-  
 ficiency or insufficiency of the dietary vitamin; (2) that  
 the rations of pregnant barn-confined cows must be well bal-  
 anced as regards the mineral and vitamin content; and  
 (3) that during the winter period it may be necessary to

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(1) 21

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reinforce the daily rations with Ca and vitamin B to the extent of 25,000-30,000 I.U. daily. *Requirements of farm animals, their characteristic manifestations and methods of prevention*, A. S. Solov (Moscow Vet. Acad.) - *Ibid.* 74-84. The vitamin value of colostrum and milk of cattle of the Latvian Brown breed, depending upon the conditions of feeding and maintenance. S. A. Reznishaya (Acad. Agr. Sci. Latv. S.S.R.) - *Ibid.* 89-102. Cows which receive fodder of high vitamin content produce a vitamin-rich colostrum. The vitamin is highest in the colostrum of the first milking, becoming gradually reduced. In any one milking the vitamin of the colostrum is highest at the end of the milking, at which point it is most suitable for calf feeding. Injecting gestating cows with vitamin concentrates leads to the production of a colostrum very rich in vitamins. The addition of I to the diet of the cows raises the vitamin A content of the colostrum to a slight degree only. The injection of leithin concentrates increases the vitamin E content of the colostrum. Red carrot silage considerably increases the vitamins A and E and I content of the colostrum. By reinforcing the ration of milked cows with vitamin concentrates or by feeding them rations rich in vitamins, the vitamin A content of the milk can be increased 150-250%, and that of vitamin E 20-50%. Analyses of cow milk at different stages of milking indicated that with the butterfat increase the levels of vitamins A and E and of I also increase, though not in a strictly parallel manner. The content of vitamins A, E, and I in milk. R. Davydov

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and L. B. Gul'ko (K. A. Timiryazev Agr. Acad.). *Ibid.* 113-12.—The av. vitamin A content of animal milk is 700-900 I.U. per l. It varies through the year, being highest during the June-October period. The av. vitamin B<sub>1</sub> content of animal milk is 465-443  $\gamma$ /l. It is not subject to great variations. The av. riboflavin content of animal milk is 951-1037  $\gamma$ /l, being higher in the winter months. The vitamin content of colostrum and of milk of farm animals. A. Vablmans and B. Tauciņš (Inst. Zootech. and Zool. Acad. Sci. Latv. S.S.R.). *Ibid.* 112-35.—Dets. of vitamins A, B, C, and E were made in the milk and colostrum of cows, mares, goats, sheep, and hogs. Vitamin A was detd. with the ShCl<sub>2</sub> reaction. Final calcs. were made according to: vitamin A (in mg. %) =  $1.63E + 8.1V/a$ , where a = g. wt. of milk or colostrum; V = CHCl<sub>3</sub> ext. in ml.; E = extraction factor. I (in mg. %) =  $0.8E \cdot V/a$ , where E, V, and a are as above. Vitamin E (in mg. %) =  $4.8 \cdot E \cdot V/a$ , where V = alc. ext. in ml. Vitamin C (in mg. %) =  $aK C(0.058/100)/5$ , where a = ml. of 2,6-dichloroindophenol soln.; K = correction factor; C = diln. factor; 0.058 = mg. of ascorbic acid decolorizing 1 ml. 0.001N 2,6-dichloroindophenol; and 5 representing the amt. of dild. milk used in the titration. The milk and colostrum of goats, sheep, and hogs are higher in both butter fat and fat-ool. vitamins A and E. Mare milk, the butter-fat content of which is only 1/10 that of cow milk, is not poorer in vitamins A and E. The vitamin content of the milk and colostrum of cows, mares, sheep, goats, and hogs is conditioned by the intensity of their synthesis in the animal organism. It is independent of the content of vitamin C of the feed and varies with the animal

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species. Hox milk is the richest in vitamin C. Its content in mare milk in the mid-period of lactation is considerable, poorer at the onset and end of the period. Colostrum and milk of sheep are approx. twice as rich in vitamin C as are those of the goat or cow. During the pasturing period the content of vitamins C and A of the milk of all animals is lowered.  $CaCl_2$ ,  $CaSO_4$ , and  $CaCl_2$  lower the vitamin C content of milk 50-60% but raise somewhat the content of vitamins A and E in milk. The presence of vitamins A and C and the almost complete absence of I in the colostrum of mares, sheep, goats, and hogs and in the milk of mares and hogs indicates that these vitamins are necessary to the newborn up to the time their organisms begin to synthesize their own vitamins. The intensive feeding of vitamin A to mothers favorably affects their sucklings. This is not true of I. The choline content of colostrum and of milk. R. Cielens (Inst. Zootech. and Zoohyg., Acad. Sci. Latv. S.S.R.), *Ibid.*, 136-8. The choline content of the colostrum of farm animals is considerably higher than that of all other vitamins combined. It varies within well defined limits and begins to decrease on the second day following parturition. Pasturing increases and barn confinement decreases the choline content of milk and colostrum of farm animals. Milk fermentation, whether natural, or

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purc... induced following pasteurization of the milk, markedly reduces the choline content of the milk. The vitamin content of organs of farm animals. A. Valdmans and B. Tautis (Inst. Zootech. and Zoohyg., Acad. Sci. Latv. S.S.R.). *Ibid.* 139-48. Vitamin biosynthesis in the digestive tract of farm animals. A. Valdmans (Inst. Zootech. and Zoohyg., Acad. Sci. Latv. S.S.R.). *Ibid.* 149-54. The use of vitamins A<sub>1</sub>, D, B<sub>1</sub>, B<sub>2</sub>, C, and PP in hog feeding. N. P. Tomme and L. G. Tomme (All-Union Sci. Research Inst. Meat Ind.). *Ibid.* 155-73. The effect of vitamins A and D on the fertility of farm animals. E. P. Polikarpova (A. N. Severtsov Inst. Animal Morphol., Acad. Sci. U.S.S.R.). *Ibid.* 174-80. Vitamins A and D affect beneficially the fertility of astrakhan fur-producing sheep and of hogs. The effective doses for the sheep are 3,000 I.U. of vitamin A and 500-1000 I.U. of vitamin D and for rams 6000 I.U. of vitamin A and 1000 I.U. of vitamin D daily. In hogs effective doses are 15,000 I.U. of vitamin A and 7000 I.U. of vitamin D for females, and 20,000 I.U. of vitamin A and 15,000 I.U. of vitamin D per head per day in males. The effect of vitamins A and D on the fertility of hogs. P. P. Bogdanov (Moscow Vet. Acad.). *Ibid.* 187-94. Results are essentially the same as given immediately above. The effectiveness of vitamins A and D, concentrates in the feeding of young hogs. V. N. Kizhev and A. D. Artemov (All-Union Sci. Research-Vitamin Inst.). *Ibid.* 195-9. The admin. of vitamins A and D resulted in a 1.1 kg. per capita wt. increase, which was considered statistically significant and economically profitable. The value of vitamin concentrates in raising suckling pigs. A. Valdmans (Inst. Zootech. and Zoohyg., Acad. Sci. Latv. S.S.R.). *Ibid.* 203-5. See C.A. 47, 12540. The use of protein-vitamin paste in raising young pigs. F. A. Grachev (Animal

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Harborside Sta., Veronezh. Dist). *Ibid.* 229-32.—As a supplement to the usual basic ration of young pigs during the period of barn-confinement the greens effects a more rapid growth, higher wt. gain, and better general health of the animals. Coniferous greens as a vitamin feed for hogs and sheep. K. Bronck (Inst. Zootech. and Zoolhyg., Acad. Sci. Latv. S.S.R.). *Ibid.* 213-22. cf. *C.A.* 48; 363c.—The green parts of the fir and pine trees and of the juniper shrub are rich in ascorbic acid, and other vitamins. A daily dose of 0.2 kg. of the greens per 100 kg. of body wt. of hogs stimulates their appetite resulting in a 20% increase in food consumption and to a considerable increase in body wt. The best dosage for sheep is 0.25 kg. per head per day. In hogs there is a notable accumulation of ascorbic acid in the internal organs and of vitamin A in addn. in the liver. Such green supplement must be fresh and appropriately comminuted. Overlarge doses are apt to be harmful and in sows may lead to vaginal discharges due to the excess stimulation of the sex organs by the ascorbic acid and the tocopherol. Hereditary changes in the productivity of hens as a result of feeding conditions. G. Ya. Kurepanova (Inst. Genetics, Acad. Sci. U.S.S.R.). *Ibid.* 223-44. Vitamin A metabolism in farm fowls. O. T. Masheva (Sci. Research Inst. Aviculture). *Ibid.* 215-61.—The vitamin A content of egg yolk, liver and blood present a reliable diagnostic index of the vitamin A sufficiency of the bird's organism, of biol. wholesomeness of the egg, and of vitamin quality of the food rations. The following are recommended as indices of wholesome and productive eggs: for hens 10-14, for ducks 12-16 and for geese 13-17 % of vitamin A per g. of egg yolk. The effect of vitamin A of different sources on the productivity of geese. M. Ya.

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Chalkovskaya (Sci. Research Inst. Aviculture). *Ibid.* 263-76.—Most effective is vitamin A of natural feeds, such as nettle and red carrots. Somewhat less effective are prepups of the vitamin. When the vitamin A content of the fodder is so low as to constitute only 35-60% of daily need its favorable effect on the birds' fertility is the lowest. The biosynthesis and accumulation of vitamin A in fowl. A. Vahimants and E. Tausch (Inst. Zootech. and Zoolhyg., Acad. Sci. Latv. S.S.R.). *Ibid.* 277-82. A biological method for determination of vitamin D activity of fish oil and concentrates in which chicks are used. A. Valdmants (Inst. Zootech. and Zoolhyg., Acad. Sci. Latv. S.S.R.). *Ibid.* 283-5. Natural sources of vitamin B<sub>12</sub>. V. N. Bukin, L. S. Kutseva, and Z. I. Zaitseva (A. N. Bakh Inst. Biokhim., Acad. Sci. U.S.S.R.). *Ibid.* 286-97.—Vitamin B<sub>12</sub> content of kidneys, liver and intestines of fish considerably exceeds that of the muscle tissues.

It is recommended that the fish in its entirety be ground to a meal (flour) for use as a vitamin supplement. Salting and compressing fish prior to drying and grinding cause a considerable loss of the vitamin. It is recommended that the fish be ground into flour when it is fresh, rather than after storage, and where salting and compression are unavoidable, the expressed and "locked out" liquid be dried and reincorporated in the final flour. Sea mollusks are particularly rich in vitamin B<sub>12</sub> and in provitamin D. Mycelia of actinomycetes and activated sludge of water purification plants are also rich in this vitamin. Appendix. Provisional daily norms of vitamins A and D for farm animals and birds. (Author's name not given.) *Ibid.* 298-301. W. S. Levine



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tekhn. nauk; SVENTITSKIY, I.I., kand. tekhn. nauk; SOKOLOV, M.V.,  
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AUTHORS: Nevodnichanskiy, G.; Mel'zatskiy, K.; Petrushka, Y.; Pilyayeva, Y.TITLE: Photoelectric spectrometer 1026  
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SOURCE: Ref. zh. Fizika, Abs. 9A148

REF. SOURCE: Tr. Komis. po spektroskopii. AN SSSR, t. 2, vyp. 1, 1964, 665-669

TOPIC TAGS: spectrometer, photoelectric method, spectral line, line intensity/KS-55 spectrometer

TRANSLATION: Apparatus has been developed, capable of recording the time variation of the intensities of two spectral lines arbitrarily selected from the spectrum obtained with a type-E478 Hilger spectrograph or a type KS-55 spectrograph, and of automatically recording the spectrum of a continuous source of radiation. Two entrance slits separate two arbitrary spectral lines. A system of light pipes guides the radiation flux from the slits to the cathodes of two photomultipliers. The slits can be moved with the aid of two micrometer screws. One of them is driven by a synchronous motor. The spectrum is automatically recorded by using a second synchronous motor. The apparatus can be attached to the spectrograph without any supplementary changes in their construction.

SUB CODE: 20

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Abs Jour: Ref Zhur-Khimiya, No 23, 1968, 26121.

Author : Polzer, A.

Inst : Not given.

Title : Problems of Purification of Sewage in Rumanian People's Republic.

Orig Pub: Mikrotshina, 1968, 3, No 1, 14-20.

Abstract: No abstract.

Card 1/1