

SOV/51-7-4-23/32

AUTHORS: Shklyarevskiy, I.N., Verkhovtseva, B.T. and Polyakova, G.E.

TITLE: On the "Vernier Effect" Observed when the Thickness of Thick Layers is Measured Using an Interferometric Method.

PERIODICAL: Optika i spektroskopiya, 1959, Vol 7, Nr 4, pp 566-568 (USSR)

ABSTRACT: In a preceding paper Shklyarevskiy (Ref 1) described an interferometric method of measuring thickness of thin and thick films. Two plates were used, distance  $t_1$  apart. A layer of thickness  $t$  deposited on, say, one half of one of the plates, reduced the air gap locally to  $t_2$ , i.e.  $t = t_1 - t_2$ . If these plates were placed in front of a spectrograph slit and illuminated with a parallel beam of white light, then two systems of equal-chromatic-order lines were observed in the focal plane of the spectrograph camera. By selecting the air gaps  $t_1$  and  $t_2$  it was possible to make one line of  $m$ -th order of one system to coincide with an  $n$ -th order line of the second system. The wavelength  $\lambda_0$  of the coincident lines and their interference orders determine the layer thickness:

$$t = (m - n)\lambda_0/2. \quad (1)$$

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This formula is independent of the phase shifts (Ref 1). A new coincidence between lines of the equal-chromatic-order systems should

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On the "Vernier Effect" Observed when the Thickness of Thick Layers is Measured  
Using an Interferometric Method

occur after  $k$  lines of one system and  $(k + 1)$  lines of the second system, i.e. the so-called vernier effect should be observed. The authors show that the exact vernier effect would be possible only if the dispersion of the phase shift was absent. If such dispersion occurs exact coincidence of more than one pair of lines is impossible. When not even one pair of lines is coincident on an interferogram, the film thickness can be calculated using

$$t = t_1 - t_2 = \frac{m\lambda_0}{2} - \frac{n\lambda'_0}{2}, \quad (10)$$

where  $n$  and  $m$  are the orders and  $\lambda_0$ ,  $\lambda'_0$  are the wavelengths of the two lines which almost coincide. Neglect of the phase shifts in Eq (10) leads to an error in the fifth place. This is unimportant in measurement of thicknesses of the order of several microns as shown by the practical example of a ZnS layer whose interferogram is given in a figure on p 568. The wavelengths and the interference orders of the almost coincident lines

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Using an Interferometric Method

shown in the figure, are listed in a table on p 568. The mean thickness of the ZnS layer, calculated using Eq (10) was 49998.45 Å, which differs only slightly from 50 000.2 Å calculated using Eq (1) for the  $\lambda = 5263.18$  Å. Acknowledgment is made to K.D. Sinel'nikov for his advice. There are 1 figure, 1 table and 5 references, 2 of which are Soviet, 2 English and 1 translation from English into Russian.

SUBMITTED: March 27, 1959

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L 40987-65

ACCESSION NR. AB 00563

detected in this preparation, but was shown to be due to the scintillation effectiveness. The scintillation effectiveness was determined from the photoelectric current in an FEU during irradiation with gamma rays from  $^{60}\text{Co}$ . Kerim Markus

ENCL: 00

SUB CODE OF, 100

2/3

L 14059-66 EWT(1)/EWA(j)/T/EWA(b)-2 RO/JK  
ACC NR: AP6003600 SOURCE CODE: UR/0016/65/000/010/0047/0054

AUTHOR: Pilipenko, V. G.; Shchekina, T. A.; Verkhovtseva, G. N. 32  
B

ORG: Stavropol' Plague Institute of the Caucasus and Transcaucasus (Stavropol'skiy protivochumnyy institut Kavkaza i Zavrkaz'ya)

TITLE: Properties of a dry cutaneous associated vaccine <sup>6, 4, 5</sup> against plague, tularemia, and brucellosis, prepared in a single ampoule

SOURCE: Zhurnal mikrobiologii, epidemiologii i immunobiologii, no. 10, 1965, 47-54

TOPIC TAGS: vaccine, immunity, infectious disease, microbiology, brucellosis, tularemia

ABSTRACT: Tests on animals and humans showed that the dry associated trivalent vaccine prepared by the authors in a single ampoule was equivalent to a mixture of dry standard live univalent vaccines or agar subcultures in reaction-producing properties, nature of the vaccinal process, and creation of immunity against plague, tularemia, and brucellosis. As in the univalent vaccines, the associated vaccine contained, after drying, the following quantities of live bacteria: 10-20% plague,

UDC: 615.371 : [576.851.45+576.851.48]

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ACC NR: AP6003600

10-20% tularemia, and 50-60% brucellosis. The trivalent vaccine is particularly suited for large-scale production should the need arise. Orig. art. has: 4 figures, 7 tables.

SUB CODE: 06/    SUBM DATE: 11Feb65/    ORIG REF: 004/    OTH REF: 000

Card 2/2 BK

PILIPENKO, V.G.; BECHSKINA, T.A.; VERKHOVISEVA, G.N.

Characteristics of a dry epicutaneous polyvalent vaccine  
against plague, tularemia, and brucellosis prepared in  
one ampule. Zhur.mikrobiol., epid. i immun. 42 no.10:47-  
54 0 '65. (MIRA 18:11)

1. Stavropol'skiy protivochumnyy Institut Kavkaza i  
Zakavkas'ya.

VERKHOVTSEVA, M.I.; RUBAN, Ye.L.; SUVOROV, N.N.

Tryptophan isolation from the culture fluid with the help of  
ion-exchange resins. Prikl. biokhim. i mikrobiol. 1 no.5:  
585-586 S-O '65. (MIRA 18:11)

1. Moskovskiy khimiko-tehnologicheskii institut imeni  
Mendeleeva.



VERKHOVTSEVA, M.I.

Study of cellulase produced by thermophilic bacteria.  
Mikrobiologiya 34 no.3:430-436 My-Je '65.

1. Institut mikrobiologii AN SSSR.

(MIRA 18:11)

LOGINOVA, L.G.; VERKHOVTSEVA, M.I.

Aminopherase activity in thermotolerant *Saccharomyces cerevisiae*  
yeasts. *Mikrobiologiya* 33 no.1:38-41 Ja-F '64.

(MIRA 17:9)

1. Institut mikrobiologii AN SSSR.

VERKHOVTSEVA, T.P.; LEVITOV, M.M.

Enzymatic conversion of mercaptoacetic acid amino derivatives in  
the biosynthesis of penicillin. Antibiotiki 9 no.7:583-587 J1 '64.  
(MIRA 18:3)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov,  
Moskva.

ORLOVA, N.V.; VERKHOVTSEVA, T.P.

Comparative physiological characteristics of two strains of Actinomyces rimosus LS-F 118 and 293 which produce oxytetracyclins. Antibiotiki 4 no.1:26-31 Ja-F '59. (MIRA 12:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov.

(ACTINOMYCES,

rimosus, strains prod. oxytetracycline (Rus))

(OXYTETRACYCLIN,

Actinomyces rimosus prod. oxytetracycline (Rus))

RABINOVICH, M.S.; LEVITOV, M.M.; KULIKOVA, G.N.; VERKHOTSEVA, T.P.;  
MELLER, F.M.

Study of the precursors and fragments of antibiotics. Part 9:  
Carbonyl and tricarboxylic derivatives of thioglycolic acid.  
Zhur.ob.khim. 33 no.10:3135-3140 0 '63. (MIRA 16:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibioti-  
kov.

K.

USSR/Forestry - Forest Cultures. -

Abs Jour : Ref Zhur - Biol., No 4, 1958, 15393

Author : Ye.P. Verkhovtsev

Inst : Siberian Technological Forestry Institute.

Title : The Seed Respiration Rate of Siberian Larch and Its Importance in Forest Seed Planting Practice. (Intensivnost' dykhaniya semyan listvennitsy sibirskoy i znachenie etogo yavleniya dlya praktiki lesoscmennogo delta).

Orig Pub : Tr. Sibirsk. lesotekhn. in-ta, 1956, sb. 14, 73-81.

Abstract : The respiration rate was determined (with twenty-four hour exposure by computing the emitted CO<sub>2</sub> according to the additional weight of absorptive tubes with soda lime) at moistures of 7.14, 17.89 and 24.0% and at a temperature of 5-55° with intervals of 50 in seeds from the

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USSR/Forestry - Forest Cultures.

K.

Abs Jour : Ref Zhur - Biol., No 4, 1958, 15393

current year harvest in Sonskiy timberland, Khakassaya Autonomous Oblast'. With increased moisture the respiration rate grew. The maximum respiration temperature for seeds with 7.14% moisture was 50°, for seeds with average moisture 45°, and for the most moist 40°. Lifting the temperature above the critical limit caused a drop in germination and seedling power. When Siberian larch seeds are extracted from the cones in fire heated drying rooms, it is recommended that the temperature be kept for the first 4-5 hours at 35-40 and later at 45-50°.

Card 2/2

Verkhovtsev, Ye. P.

USSR / Forestry. Forest Plants.

K-5

Abs Jour: Ref Zhur - Biologiya, No. 1, 1958, 1385

Author : Verkhovtsev, Ye. P.

Inst : Siberian Forest Engineering Institute

Title : Forest Ameliorative Measures in the Tuvinskaya Autonomous Oblast'

Orig Pub: Tr. Sibirsk. lesotekhn. in-ta, 1955, 11, 1-30

Abstract: Examined are problems of the formation and development of the second group of protective-water preserving-regulating forests and those of the first group on islands, river beds, and bottom lands. The significance of field-protecting forest belts for the oblast', the methods and agricultural technique of creating

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USSR / Forestry. Forest Plants.

K-5

Abs Jour: Ref Zhur - Biologiya, No. 1, 1958, 1385

them, the types of belts in connection with the ecological characteristics of the territories proposed for afforestation, and questions of seed preparation are all discussed.

Card 2/2

SAMOKHVALOVA, G. V.; VERKHOVTSEVA, M. I.; DAVYDOVA, I. M.

Amino acid composition of *Scorzonera hispanica* L. Report No. 1:  
Qualitative amino acid composition. Nauch. dokl. vys. shkoly;  
biol. nauki no.3:155-157 '62. (MIRA 15:7)

1. Rekomendovana kafedroy biokhimi rasteniy Moskovskogo  
gosudarstvennogo universiteta im. M. V. Lomonosova.

(SCORZONERA) (AMINO ACIDS)

ORLOVA, N.V.; POPOVA, L.A.; MAKAREVICH, V.G.; VERKHOVTSEVA, T.P.

Physiological features of the fungi which produce tetracyclins.  
Trudy Inst. mikrobiol. no. 6:251-264 '59. (MIRA 13:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov.  
(ACTINOMYCES)

RABINOVICH, M.S.; LEVITOV, M.M.; KULIKOVA, G.N.; YAKUSHINA, L.M.;  
VERKHOVTSEVA, T.P.; MELLER, F.M.

Synthesis of precursors and fragments of antibiotics. Part 7:  
Carboxy derivatives of mercaptoacetic acid. Zhur.ob.khim. 32  
no.4:1167-1172 Ap '62. (MIRA 15:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov.  
(Acetic acid) (Antibiotics)

SHOSTAKOVSKIY, M.F.; RABINOVICH, M.S.; LEVITOV, M.M.; VERKHOVTSEVA, T.P.;  
PREOBRAZHENSKAYA, Ye.V.; KULIKOVA, G.N.; KALINOVSKIY, O.A.

Synthesis of the precursors and fragments of antibiotics. Part 4:  
Thioglycolic acid derivatives. Zhur.ob.khim. 31 no.5:1453-1458  
My '61. (MIRA 14:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov.  
(Acetic acid) (Antibiotics)

VERKHOVSEVA, T. P., KLAFOVSKAYA, K. I., LEVITOV, M. M., GOTOVTSEVA, V. A.,  
and YUDINA, O. M. (USSR)

"The Biosynthesis of Penicillins and Penicillin-like Substances in  
fermentation without a precursor."

Report presented at the 5th International Biochemistry Congress,  
Moscow, 10-16 Aug 1961

SEVERIN, V.A.; VERKHOVTSEVA, T.P.

Studies on a possibility of the synthesis of synnematin by *P. chrysogenum*. Antibiotiki 5 no.3:11-15 Mye '60. (MIRA 14:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotkov.  
(SYNNEMATINE) (PENICILLIUM)

VERKHOVTSEVA, T.P.; ORLOVA, N.V.

Some problems of amino acid metabolism in organisms producing  
oxytetracycline. Antibiotiki 5 no.1:37-42 Ja-F '60. (MIRA 13:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov.  
(ACTINOMYCES) (AMINO ACID METABOLISM)



LEVITOV, M.M.; VERKHOVTSEVA, T.P.; RABINOVICH, M.S.; PREOBRAZHENSAYA, Ye.V.;  
KULIKOVA, G.N.; BUYANOVSKAYA, I.S.; SHVEYERSON, A.N.

Biosynthesis of new penicillins using propylmercaptoacetic  
acid derivatives as precursors. Antibiotiki 6 no.7:575-581  
Jl '61. (MIRA 15:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov.  
(PENICILLIN) (ACETIC ACID)

VERKHOVTSEV, Ya.V.

Furnace maintenance in my sector. Metallurg no.5:26-27 My '56.  
(MIRA 9:9)

1. Starshiy master martenovskogo tsekha No.2 Magnitogorskogo  
metallurgicheskogo kombinata.  
(Magnitogorsk--Open-hearth furnaces)

MAKAREVICH, V.G.; VERKHOVTSEVA, T.P.; LAZNIKOVA, T.N.

Some features of vitamin B<sub>12</sub> biosynthesis in cultures of *Propionibacterium shermani* and *Actinomyces olivaceus* [with summary in English].  
Mikrobiologiya 27 no.1:19-26 Ja-F '58. (MIRA 11:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov,  
Moskva.

(ACTINOMYCES, metab.

vitamin B<sub>12</sub> synthesis by *Actinomyces olivaceus* (Rus)

(PROPIONIBACTERIUM, metab.

vitamin B<sub>12</sub> synthesis by *Propionibacterium shermani* (Rus)

(VITAMIN B<sub>12</sub>, metab.

*Propionibacterium shermani* & *Actinomyces olivaceus*  
synthesis (Rus)

ORLOVA, N.V.; VERKHOVTSEVA, T.P.

Significance of phosphorus, nitrogen and lactic acid of corn extract  
for the biosynthesis of oxytetracycline. Mikrobiologiya 28 no.4;  
514-521 JI-Ag '59. (MIRA 12:12)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov,  
Moskva.

(OXYTETRACYCLINE metab.)  
(PHOSPHORUS metab.)  
(NITROGEN metab.)  
(CULTURE MEDIA)

*VERKHOVTSEVA, T.P.*

ORLOVA, N.V.; VERKHOVTSEVA, T.P.

Comparative study of the physiological characteristics of terramycin and biomycin producers [with summary in English]. Mikrobiologiya 26 no.5:565-572 S-0 '57. (MIRA 10:12)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov, Moskva.

(ACTINOMYCES,  
strains prod. oxytetracycline & chlortetracycline (Rus))  
(OXYTETRACYCLINE, metabolism,  
Actinomyces synthesis (Rus))  
(CHLORTETRACYCLINE, metabolism,  
same)

VERKHOVTSOVA, T.P.; SURIKOVA, Ye.I.

Quantitative chromatography of vitamin B<sub>12</sub> produced by some microorganisms [with summary in English]. Vop.med.khim. 2 no.6:438-442 N-D '56. (MLRA 10:3)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov Ministerstva zdravookhraneniya SSSR, Moskva.

(VITAMIN, B12, determ.

quantitative chromatography of vitamin b 12 produced by some microorganisms)

F

Country : USSR  
Category : Microbiology. Antibiosis. and Symbiosis. Antibiotics.  
Abs. Jour : Ref Zhur-Biol., No 23, 1958, No 103717  
Author : Orlova, N. V.; Verkhovtseva, T. P.  
Institut. : --  
Title : Comparative Investigation of the Physiological Characteristics of Terramycin and Blomycin Producers  
Orig Pub. : Mikrobiologiya, 1957, 26, No 5, 565-572  
Abstract : In experiments on oscillators the physiological properties of the chlortetracycline producer, A. aureofaciens No 536 and of the oxytetracycline producer, A. rimosus No 8229 were compared. On a medium containing corn extract and ammonium salts strain 536 grows more quickly during the first 24 hours and consumes the nitrogen and carbohydrates sooner than strain 8229. On the second to third day, the weight of the mycelia reach a maximum, after which autolysis occurs. A. rimosus accumulates the greatest biological mass on the third to fourth day, and at the end of the fermentation the weight of the mycelia does not decrease. An early (first to second day) decomposition into spores with a subsequent

Card: 1/2

Country :  
Category : F  
Abs. Jour : Ref Zhur-Biol., No 23, 1958, No 105717  
Author :  
Institut. :  
Title :  
Orig Pub. :  
Abstract (Cont.) : alternation of generations is characteristic of this strain. This phenomenon was not noted in A. aureofaciens. In contrast to A. rimosus, strain 536 forms only a small quantity of proteolytic enzymes and utilizes the nitrate nitrogen to a much smaller extent than does A. rimosus; in contrast to the latter, it does not grow on media containing maltose, galactose and mannitol. Strain 8229 does not form oxytetracycline on medium containing glucose. A. aureofaciens is more sensitive to a deterioration of aeration conditions than is A. rimosus. It is noted that neither antibiotic is formed during the period of most active growth (first twenty four hours).--  
K. O. Blinov.

Card:

2/2

F-28



VERKHOVTSEVA, T.P.; SURIKOVA, Ye.I.

Method for quantitative determination of the true vitamin B<sub>12</sub>  
by the bio-autographic technique. Lab. delo 3 no.2:24-26  
Mr-Ap '57 (MLRA 10:5)

1. Iz Vsesoyuznogo nauchno-issledovatel'skogo instituta antibiotikov  
(dir. M.A. Guberniyev), Moskva.  
(VITAMINS--B) (CHROMATOGRAPHIC ANALYSIS)

11 - D

*CA*

Aftereffect of various temperatures on adsorption of invertase by tissues of higher plants. N. M. Siakyan and T. P. Verkhovtseva. *Doklady Akad. Nauk S.S.S.R.* 59, 107-10 (1948).—Samples of winter wheat were vacuum-infiltrated with mannitol solns. and the sprouts were kept at various temps. 3 hrs. before detn. of degree of adsorption, which was done by slicing and detn. of the ability to absorb invertase from a surrounding soln. according to Kurbanov (C.A. 41, 5014) for 30 min. at 30°. The temp. range covered -13° to 27°, with each set being held within 1-2° during the expt. Lower temp. increases the adsorption ability (extreme temp. range gave variation of 60-70%). The preliminary administration of mannitol strongly activates the later adsorption, especially noticed at lower temp. This appears to be a protective mechanism of protoplasm against the action of low temp. The raised adsorption at low temp. is accompanied by increased enzymic sucrose synthesis and drop of its hydrolysis. G. M. Kosolapov

ASB.SLA METALLURGICAL LITERATURE CLASSIFICATION

PROCESSING AND PROPERTY INDEX

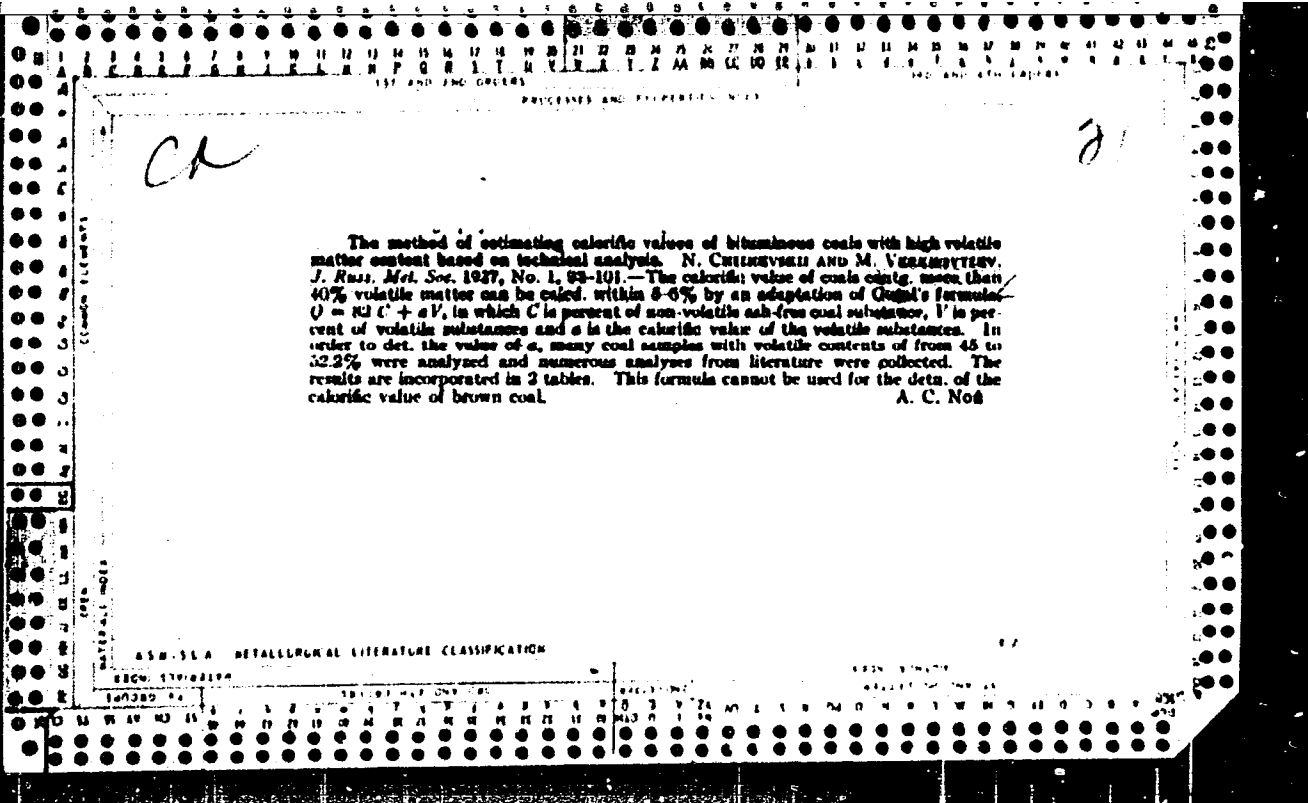
11-1-2

Determination of calorific value of bituminous coals with high volatile matter content. N. TCHIRZHEVSKI and M. KASHCHENKO (J. Russ. Met. Soc., 1977, No. 1, 93-101).—The calorific value of coal containing more than 40% of volatile matter can be calculated ( $\pm 5-6\%$ ) from the equation  $Q = 820 + aV$ , where  $Q$  is the percentage of non-volatile, ash-free, coal substance,  $V$  is the percentage of volatile substances, and  $a$  is the calorific value of the volatile substances. Analyses to determine the value of  $a$  were made. The equation is inapplicable to brown coal.

CHEMICAL ABSTRACTS.

ASB-51A METALLURGICAL LITERATURE CLASSIFICATION

SEARCHED	INDEXED	SERIALIZED	FILED



1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

LIST AND ZONE CODES

PROCESSES AND PROPERTIES INDEX

CR

9

Removal of copper from Ridder crude lead. M. E. VERNIKOVSKY—*Trudy vuzovskogo Metall. 1930, 90-101.* The Pb was heated with S or metal sulfides, such as PbS and pyrites, in pots of a capacity of 200 kg. Pb. The amt. of Cu in the Pb was thus reduced from 3.11-0.52 to 0.054-0.070%, while 92% of the Au and 90% of Ag were retained in the Pb. The best results were obtained with PbS ore as reagent. S. I. MAJORSKY

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

BC

B-7-C

Removal of copper from Ridder crude lead.  
M. F. VANDERKAM (Trans. Met., 1930, 90-101).—By heating the crude Pb with S or metallic sulphides, preferably PbS, the Cu was reduced from 3.11-0.62 to 0.054-0.010%, while 83% of the Au and 90% of the Ag were retained in the Pb.

ABB-51A METALLURGICAL LITERATURE CLASSIFICATION

GROUP	SECTION	SUBSECTION	CLASSIFICATION	REMARKS

L 27490-66 EWT(1)/EWA(h)

ACC NR: AP6015341

SOURCE CODE: UR/0119/66/000/005/0011/0012

AUTHOR: Verkhovtsev, V. S. (Engineer); Rakov, M. A. (Candidate of technical sciences)

ORG: none

TITLE: The polytron <sup>25</sup>—a multistable circuit

SOURCE: Priborostroyeniye, no. 5, 1966, 11-12

TOPIC TAGS: frequency conversion, frequency converter, frequency multiplication

ABSTRACT: The principle of operation, the design, and the circuitry of a multistable polytron are described. The device is a frequency converter with a regulated conversion factor in which a transistorized keyed phase detector detects the fundamental frequency as well as the sub- and higher-harmonics. Basically, the device consists of a phase detector, a dc-amplifier and a dc to ac converter. The circuit is shown in Figure 1. A sequence of rectangular pulses (voltage  $V_e$ ) with a frequency  $f_1$  is applied to the phase detector which consists of two transistors,  $T_1$  and  $T_2$ . The rectified output voltage, smoothed by capacitor C, is amplified by a two stage dc-amplifier ( $T_3, T_4$ ). An amplification factor of about 50—70 provides the required signal level to drive the following dc to ac converter ( $T_5, T_6$ ). Varying the control voltage from 1 to 5 v yields a frequency change of the converter output from 10 to 50 kc. Initially, switch K is in position 2, thus applying the dc voltage  $E_{start}$  to the input of the dc amplifier. The value of  $E_{start}$  is determined by the

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UDC: 621.374.4

L 27490-66

ACC NR: AP6015341

0

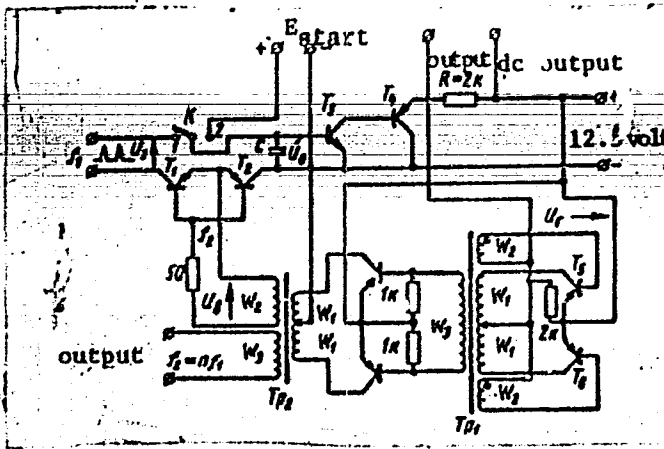


Fig. 1. Polytron circuit

number of the harmonic desired. Switching to position 1 then excites the polytron at the given harmonic, and the circuit remains in this state as long as required. The output signal is a sequence of rectangular pulses ( $f_2$ ) with an amplitude of up to 5 volts. The output power is not less than 50 mw. The circuit shown has ten stable states, corresponding to ten output frequencies between 15 kc and 42 kc, and thus can be used as a converter from dc to decimal digital code. Orig. art. has 3 figures and 1 table.

Card 2/2 <sup>6LG</sup> SUB CODE: 09/ SUBM DATE: none/ ORIG REF: 003/ AID PRESS: 4260 [CS]



VERKHOVTSOV, Z. V.

2

L 15200-65 ENT(m)/ENA(d)/ENP(t)/ENP(b) ASD(f)-2/ASD(m)-3/APMOC/ESD(gs) WJH/  
JD/JG/MLK S/0000/64/000/000/0209/0213  
ACCESSION NR: AT4048715

AUTHOR: Vvedenskiy, V. S., Prokhorenko, K. K., Zhdanov, P. L., Semenchenko, G. V., Vasil'yev, N. Ye., Vorkhovtsov, Z. V., Nakonechny'y, N. F. 13

TITLE: A study of the effect of rare earth metals on the quality of stainless steels and steel R18 6 27 4

SOURCE: Vsesoyuznoye soveshchaniye po splavam redkikh metallov, 1963. Voprosy teorii i primeneniya redkozemel'nykh metallov (Problems in the theory and use of rare-earth metals); materialy soveshchaniya. Moscow, Izd-vo Nauka, 1964, 209-213

TOPIC TAGS: rare earth metal, stainless steel, cerium modifier, steel plasticity, austenite-carbide steel, austenite-ferrite steel, ferrocium, steel inclusion, cerium oxysulfide, red hardness/steel R18

ABSTRACT: The study was undertaken to determine whether cerium introduced as a modifier would increase plasticity during rolling of steels 10Kh16N25M6 (austenite-carbide) and 07Kh25N13 (austenite-ferrite) which resist deformation. Tests were conducted under industrial conditions; ferrocium corresponding to a Ce concentration of up to 0.4% was added to the metal before discharge or into the ladle. Additions of 0.2% to either steel increased plasticity during hot deformation. Increasing the Ce to 0.4% decreased

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L 15200-65  
ACCESSION NR: AT4048715

plasticity, owing to the formation of specific defects near the surface in the transcrystal-line zone consisting of accumulations of small inclusions, possibly cerium oxides and sul-fides. In the 10Kh16N25M6 steel, such addition led to a change in the distribution of car-bides in the cast metal, owing probably to a decrease in carbon solubility; an increase in cerium favored carbide segregation throughout the grains rather than at their boundaries, leading to a more even distribution of carbides in the outer ingot layers. Such addition had no significant influence on the amount of the alpha phase and its distribution in the 07Kh25N13 steel. Its introduction led to a new form of non-metallic dot-like inclusions, apparently cerium oxysulfides, accumulating unevenly in the steel. Increasing the cerium addition led to a sharp decrease (to almost complete disappearance) of manganese and iron sulfides and silicates. Cerium modification of the 10Kh15N25M6 steel at a 0.15-0.20% concentration resulted in increased exterior and interior plasticity and increased the yield of suitable blooms by 8%. Ferrocium or a mixture of rare earth metals was added to the R18 steel after reduction; performance and red hardness were determined after oil quenching. Red hardness increased by 25C, due to the increased resistance of the martensite to heating. Polished specimens of the cast steel showed a more even distribu-tion of the ledeburite eutectic; this increased the plasticity during rolling. The modifier did not increase the yield. Orig. art. has: 4 figures.

Card 2/3

L 15200-65  
ACCESSION NR: AT4048715

ASSOCIATION: None

SUBMITTED: 13Jun64

NO REF SOV: 000

ENCL: 00

SUB CODE: MM

OTHER: 000

Card 3/3

LOGINOVA, L.G.; VERKHOVTSEVA, M.I.

Amino acid requirement of thermotolerant yeasts. Mikrobiologiya  
32 no.2:216-221 Mar-Apr '63. (MIRA 17:9)

1. Institut mikrobiologii AN SSSR.

VERKHOVTSEVA, T.P.; BUYANOVSKAYA, I.S.; LEVITOV, M.M.

Di- and tricarboxylic sulfide-containing acids: precursors of  
new biosynthetic penicillins. Mikrobiologiya 33 no.1:16-22  
Ja-F '64. (MIRA 17:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov.

VERKHOVYKH, F.P., VORONOV, A.M., GALPERIN, A.L., GIRILOVICH, M.A., MAKSEMOV, P.M.,  
RAVISH\*~~S~~ CHERBO, V.A., BRODSKII, A.L. and BANDAR, N.I.

"Blood transfusion in treatment of Tuberculosis."

[Probl. Tuberk.] No. 1,3-14, Jan.- Feb., 1950. 2 figs., 3 refs.

Much work has been done in the Soviet Union to prove that tuberculous patients are not allergic to human blood. It has also been proved that blood transfusions in these cases need not produce any general or local reactions whatsoever. The very severe reactions which were produced by transfusion at the beginning of the experiments have now been eliminated it has been of asepsis in the technique of administration. Transfusion cannot be regarded as a basic method of treatment but serves a subsidiary purpose: (a) as a haemostatic; (b) as a stimulator of the connective tissues; (c) as substitution therapy after great blood loss. Blood transfusion is also important as a preliminary to surgical intervention and in post-operative treatment. More work could be done on the desensitizing effect of blood transfusion in the presence of pleural reactions to treatment with artificial pneumothorax. The use of dry serum is advisable as a haemostatic agent. Blood transfusions are contraindicated in hopeless cases such as those of acute caseous pneumonia, acute haematogenous spread, and terminal exacerbations.

H.W. Swann

SO: Abstracts of World Medicine. Vol. 8, 1950.

VERKHOVYKH, F. P.

Thoracic aspirator in intrapleural pneumonolysis. Probl. tuberk.  
Moskva no.4:71-72 July-Aug 1951 (CIML 21:1)

1. Docent. 2. Of Voronezh Oblast Tuberculosis Dispensary (Head  
Physician -- N. S. Pokhvisneva).

FUCHKOVSKIY, B.S.; VANKHOVYKH, I.I.; SKRIPKA, A.I.

Protective action of gelatin and peptone towards sodium potassium tartrobismuthate. Ukr.khim.zhur. 20 no.5:523-526 '54. (MLRA 8:1)

1. L'vovskiy meditsinskiy institut, kafedra obshchey khimii.  
(Gelatin) (Peptones) (Bismuthates)



GRIZODUBOVA, V.S., polkovnik, Geroy Sovetskogo Soyuza; VERKHOZIN, A.M.,  
polkovnik

From the same regiment. Vest.Vozd.Fl. no.3:72-80 Mr '61.  
(MIRA 14:6)

1. Byvshiy komandir 31-go gvardeyskogo polka bombardirovshchikov  
(for Grizodubova). 2. Byvshiy nachal'nik shtaba 31-go gvardeyskogo  
polka (for Verkhazin).  
(World War, 1939-1945--Aerial operations)

ACC NR: AP6037059

SOURCE CODE: UR/0056/66/051/005/1321/1327

AUTHOR: Krinchik, G. S.; Verkhozin, A. N.

ORG: Moscow State University (Moskovskiy gosudarstvenny universitet)

TITLE: Investigation of the magnetic structure of a ferromagnetic substance by magneto-optic apparatus with micron resolution

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 51, no. 5, 1966, 1321-1327

TOPIC TAGS: nickel, iron, ferromagnetism, magnetic domain boundary, magnetic structure, magneto-optic effect, permalloy, magnetization, hysteresis loop, magnetic hysteresis, *physics laboratory instrument*

ABSTRACT: The authors illustrate some possibilities of employing a local method of measuring magnetization. The employed magneto-optic method and the apparatus is based on measurements of light reflections from minute regions of a ferromagnetic surface, about one square micron in area, and was described in detail earlier (PTE no. 4, 171, 1964). It makes it possible to determine the change of magnetization of the investigated local portion of the surface under the influence of some external action (field or elastic stress). The apparatus was used to measure the thickness of the transition layers between domains in nickel and iron. In the case of nickel values on the order of  $0.35 \mu$  are obtained for the thickness, close to the theoretical  $0.206$ . In the case of iron, a value of  $0.5 \mu - 1.0 \mu$  was obtained, which did not

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ACC NR: AP6037059

agree well with the theory. The reasons for the discrepancy are briefly discussed. The authors also measured the orientation angle of the magnetization vector in surface domains 0.65  $\mu$  to 1.8  $\mu$  thick in permalloy films with a "transcritical" hysteresis loop and found it to be of the order of  $\pi/2$ . The authors thank Professor L. S. Palatnik and L. I. Lukashenko for supplying the samples of the "transcritical" films. Orig. art. has: 5 figures and 4 formulas.

SUB CODE: 20/    SUBM DATE: 03Jun66/    ORIG REF: 006/    OTH REF: 003

Card 2/2

VERKHRATSKAYA, D.A. [Verkh rats'ka, D.A.], dotsent; ASMALOVSKIY, G.V. [Asmalóvs'kyi, H.V.], assistant

Use of cobalt chloride in atonic hemorrhage in labor. Preliminary report. Ped., akush. i gin. 23 no.4:40-41 '61. (MIRA 17:1)

1. Kafedra akusherstva i ginekologii (zav. kafedroy - prof.A.V. Anisimov) Stanislavskogo meditsinskogo instituta (direktor - dotsent G.A.Babenko [Babenko, H.A.]).

~~VERKHRA TS'KIY, N.S.~~

VERKHRATS'KIY, N.S.

Biological activity of polyphenols occurring in conifer needles.  
[with summary in English]. Ukr.biokhim.zhur. 29 no.4:479-485 '57.  
(MIRA 11:1)

1. Kafedra biokhimi Kiivs'kogo medichnogo institutu.  
(PHENOLS) (SCURVY) (SPRUCE)

VERKHRATSKIY, N.S.

Age-related characteristics of adrenaline and noradrenaline  
oxidation in the heart of white rats under the action of  
monoamine oxidase. Vop. geron. i geriat. 4:117-121 '65.  
(MIRA 18:5)

1. Institut gerontologii AMN SSSR, Kiyev.

VERKHRAT'SKIY N. S.

USSR / Pharmacology, Toxicology. Vitamins. V

Abs Jour: Ref Zhur-Biol., No 18, 1958, 85210.

Author : Verkhrat'skiy, N. S.

Inst : Not given.

Title : The Problem of the Biological Activity of the Polyphenols of Acerose Leaves (Needles of Conifers).

Orig Pub: Ukr. biokhim. zh., 1957, Vol 29, No 4, 479-485.

Abstract: Combined treatment of experimental scurvy in guinea pigs with peroral doses of 10 mg of polyphenols of spruce needles (SN) and 10 mg ascorbic acid (AA) for a period of 30 days led to recovery of all animals. Treatment with AA alone was less effective. The level of AA in the organs of animals which had received both SN and AA was higher than in animals treated only with AA. The addition of

Card 1/2

50

USSR / Pharmacology, Toxicology. Vitamins.

v

Abs Jour: Ref Zhur-Biol., No 18, 1958, 85210.

Abstract: SN to liver slices of animals kept on a scorbuto-  
genic diet stimulated the reduction of dihydro-  
ascorbic acid to AA. The addition of SN to liver  
slices of animals on a diet rich in vitamin P pro-  
duced no such stimulation. SN increases the cap-  
illary resistance in mice, also. From the author's  
resume.

Card 2/2



DANILEVSKIY, N.F., kand.med.nauk (Kiyev); VERKHVATSKIY, N.S., assistant  
(Kiyev); TARNAVSKAYA, M.I., assistant (Kiyev)

Morphological picture of parodontosis in the treatment of  
vitamin C deficiency in guinea pigs with ascorbic acid and a  
vitamin P preparation from conifer needles. Probl.stom. 4:73-  
80 '58. (MIRA 13:6)

(GUMS--DISEASES) (DEFICIENCY DISEASES)  
(ASCORBIC ACID) (VITAMINS--P)

*VERKHRATSKIY*  
SHAMRAY, Ye.F.; VERKHRATSKIY, N.S.; KUZ'MINSKAYA, U.A.; NIKONOVA, V.A.

The effect of a vitamin P preparation from the dog rose on the endurance of animals in a rarified atmosphere [with summary in English].  
Vop.med.khim. 4 no.2:120-124 Mr-Apr '58. (MIRA 11:5)

1. Kafedra biokhimi Kiyevskogo meditsinskogo instituta.

(VITAMIN P,

prep. from wild rose hips, eff. on endurance of mice & rats to high altitude (Rus)

(ATMOSPHERIC PRESSURE,

low pressure endurance of mice & rats, eff. of vitamin P from wild rose hips (Rus)

(ALTITUDE,

high altitude endurance of mice & rats, eff. of vitamin P from wild rose hips (Rus)

(PLANTS,

wild rose hips containing vitamin P, prep. & eff. on endurance of mice & rats to high altitude (Rus)

SHAMRAY, Ye.F.; VERKHRATSKIY, N.S.; KUZMINSKAYA U.A.; NIKONOVA, V.A.; SPILIOTI, Z.I.

Chemical and functional relationships of vitamin C and vitam P-like substances. Vit. res. i kh isp. no.4:30-40 '59. (MIRA 14:12)

1. Miyevskiy meditsinskiy institut.  
(VITAMINS—P) (ASCORBIC ACID)

VERKHRATSKIY, N.S.

Biological activity of polyphenols from conifer needles. Vit. res.  
i ikh isp. no.4:47-55 '59. (MIRA 14:12)

1. Kiyevskiy meditsinskiy institut. (PHENOLS)  
(ASCORBIC ACID)

VERKHRATSKIY, N. S., Cand Med Sci -- "Biological activity  
of conifer<sup>us needle</sup> polyphenols." Odessa, 1961. (Odessa State Med  
Inst im N. I. Pirogov) (KL, 8-61, 259)

- 441 -

BUSHMAKINA, Z.I.; VERKHRATSKIY, N.S.; KONSTANTINOVSKIY, G.A.; KOSTYUK, L.V.;  
KUZ'MINSKAYA, U.A.; KUL'CHITSKIY, K.I.; MIL'KO, V.I.; FROL'KIS, V.V.

Neurohumoral regulation of the cardiovascular system in experimental  
arteriosclerosis. Vrach. delo no.1:3-11 Ja '62. (MIRA 15:2)

1. Institut gerontologii i eksperimental'noy patologii AMN SSSR,  
Kiyevskiy meditsinskiy institut.  
(ARTERIOSCLEROSIS) (CARDIOVASCULAR SYSTEM)  
(REFLEXES)

GOREV, N.N., red.; FROL'KIS, V.V., red.; CHEBOTAREV, D.F., prof., red.;  
SHURUPOVA, Ye.A., red.; VERKHRATEKIY, N.S., red.

[Mechanisms of aging] Mekhanizmy starenia Kiev, Gos.med.  
izd-vo USSR, 1963. 499 p. (MIRA 16:11)

1. Akademiya meditsinskikh nauk SSSR. Moscow. Institut gerontologii  
i eksperimental'noy patologii. 2. Chlen-korrespondent AMN BSSR  
(for Chebotarev). 3. Institut gerontologii i eksperimental'noy  
patologii AMN SSSR (for Verkh ratskiy).

(GERIATRICS)

FROL'KIS, V.V.; SVECHNIKOVA, N.V.; VERZHIKOVSKAYA, N.V.; VERKHRATSKIY, N.S.

Characteristics of the course of the general adaptation syndrome in old and young animals under the influence of neural and humoral stimulators. Fiziol.zhur. [Ukr] 9 no.3:330-337 My-Je '63.

(MIRA 18:1)

1. Laboratory of Physiology and Endocrinology of the Institute for Gerontology and Experimental Pathology of the Academy of Medical Sciences of the U.S.S.R., Kiyev.



FROL'KIS, V.V.; VERKHRATSKIY, N.S.

Changes in the sensitivity of effectors to the action of neural and humoral stimulants during the aging of the organism. (MIRA 16:3)  
Dokl. AN SSSR 148 no.5:1228-1230 F '63.

1. Institut gerontologii i eksperimental'noy patologii. AMN SSSR.  
Predstavleno akademikom L.S.Shtern.  
(AGING) (STIMULANTS) (NEUROCHEMISTRY)

VERKHRATSKYI, N.S. [Verkhrats'kyi, N.S.]

Changes in the cholinesterase activity in skeletal muscles  
and heart of white rats of various ages. Fiziol. zhur. [Ukr.]  
10 no.2:265-268 Mr-Apr '64. (MIRA 18:7)

1. Laboratoriya fiziologii Instituta gerontologii i eksperi-  
mental'noy patologii AMN SSSR, Kiyev.

VERKHRAATSKIY, S.A., professor; SENYUTOVICH, V.F.; KOVSHAR', F.V., professor, zaveduyushchiy kafedroy; ANTONOV, Yu.G., dotsent, direktor.

Changes in the peritoneum following the administration of penicillin into the abdominal cavity. Vest.khir. 73 no.4:29-30 J1-Ag '53. (MLBA 6:8)

1. Kafedra gosptal'noy khirurgii Stanislavskogo meditsinskogo instituta (for Verkhraatskiy). 2. Kafedra farmakologii Stanislavskogo meditsinskogo instituta (for Kovshar'). 3. Stanislavskiy meditsinskiy institut (for Antonov).  
(Peritoneum) (Penicillin)

SENYUTOVICH, V.F., kandidat meditsinskikh nauk; VERKHRATSKIY, S.A., professor.  
zaveduyushchiy.

Peridural segmental anesthesia. Vest.khir. 73 no.5:25-28 S-0 '53.  
(MLRA 6:11)

1. Gospital'naya khirurgicheskaya klinika Stanislavskogo meditsinskogo insti-  
tuta. (Anesthesia)

VEP'HRATSKIY, S.A., professor

Thrombophlebitic splenomegaly of tuberculous origin. *Khirurgia*  
no.3:66 Mr '55. (MLRA 8:7)

1. Iz kliniki gosptal'noy khirurgii Stanislavskogo meditsinskogo  
instituta.

(SPLENOMEGALY, complications,  
thrombophlebitis, tuberc. etiol.)

(THROMBOPHLEBITIS, complications,  
splenomegaly, tuberc. etiol.)

(TUBERCULOSIS, complications,  
thrombophlebitic splenomegaly of tuberc. etiol.)

VERKHRATSKIY, S.A., professor

Maduromycosis of the jaws. Stomatologia no.5:61 S-0 '55.(MIRA 9:2)

1. Iz kliniki gospital'noy khirurgii Stanislavskogo meditsinskogo instituta.

(MYCEPOMA) (JAWS--DISEASES)

YERKHRAATSKIY, S.A., professor (Stanislav (oblastnoy), ul Shchorsa, d.17  
Lv.6); SENYUTOVICH, V.F., dotsent

Using the great omentum for creating collateral renal circulation.  
Nov.khir.arkh. no.1:52-55 Ja-I '57. (MIRA 10:6)

1. Kafedra gospital'noy khirurgii Stanislavskogo meditsinskogo  
instituta,  
(OMENTUM--SURGERY) (KIDNEYS--BLOOD SUPPLY)

VERKHRAATSKIY, S.A., professor (Stanislav)

Report on the activity of the Stanislav Province Surgical Society  
in 1955-1956. Nov.khir.arkh. no.2:87-88 Mr-Ap '57. (MLRA 10:8)  
(SURGERY)



VERKHATSKIY, S.A., prof. (Stanislav)

Brief outline of the development of surgery in the Ukraine. Nov.  
khir. arkh. no.5:17-27 S-0 '57. (MIRA 10:12)  
(UKRAINE--SURGERY)

VERKHRATSKIY, S.A., prof. (Stanislav).

"Achievements in public health in the Ukrainian S.S.R." Reviewed  
by S.A. Verkhatskii. Vrach.delo no10:1107-1108 0 '58 (MIRA 11:11)  
(UKRAINE--PUBLIC HEALTH)

VERKHRATSKY S. A.  
EXCERPTA MEDICA Sec 9 Vol 13/2 Surgery Feb 59

1285. UTILIZATION OF GREATER OMENTUM FOR CREATION OF COLLATERAL BLOOD CIRCULATION IN THE KIDNEYS (Russian text) - Verkhkrat-  
skiy S. A. and Senyutovich V. F. - NOV. KHIR. ARKH. 1957, 1 (52-55)  
It was found that, after ligature of the main renal vessels, enveloping of the kidney with omentum was followed by an abundant ingrowth of omental vessels into the kidney. However, they do not secure normal renal function and the kidney atrophies if all the vessels of the renal hilum are interrupted. After such operations only animals with a blood circulation maintained via a supplementary main vessel can survive. (S)

VERKHNATSKIY, S.A., prof.

Report on the work of the Stanislav Province Surgical Society for  
1958. Nov.khir.arkh. no.3:127-128 My-Je '59. (MIRA 12:10)  
(STANISLAV PROVINCE--SURGICAL SOCIETIES)

VERKHNATSKIY, S.A., prof. (Stanislav (obl.), ul. Shchorsa, d.19, kv.4)

Some errors in the technic of stomach resection. Nov.khir.  
arkh. no.3:101-103 My-Je '59. (MIEA 12:10)

1. Kafedra gosspital'noy khirurgii Stanislavskogo meditsinskogo  
instituta.

(STOMACH--SURGERY)

DUMKA, Nikita Savvich [Dumka, M.S.], dotsent; VERKHRATSKIY, S.A.  
[Verkhrats'kyi, S.A.] red.; POTOTSKAYA, L.A. [Potots'ka, L.A.],  
tekhn.red.

[Medicine among the Scythians; an historical medical study]  
Pro medytsymu skifiv; istoryko-medychne doslidzhennia.  
Kyiv, Derzh.med.vyd-vo URSR, 1960. 112 p.

(MIRA 15:5)

(SCYTHIANS) (MEDICINE, ANCIENT)

VERKHRATSKIY, S.A., prof.

Annual report of the Stanislay Province Association of Surgeons for  
1959. Nov. khir. arkh. no.4:133 J1-Ag '60. (MIRA 15:2)  
(STANISLAV SURGERY)

VERKHRATSKIY, S.A., prof. (Stanislav, ul. Shchorsa, d. 19, kv. 4)

Protracted compression disease; traumatic toxicosis. Klin. khir.  
no. 5: 22-30 My '62. (MIRA 16:4)

1. Kafedra gospital'noy khirurgii Stanislavskogo meditsinskogo  
instituta.

(CRUSH SYNDROME)



VERKHRATSKIY, Sergey Avraamovich [Verkh rats'kyi, S.A.]; DUPL ENKO,  
~~K.F., red.~~

[History of medicine] Istoiia medyt syny. Kyiv, Zdorov'ia,  
1964. 333 p. (MIRA 18:2)

GROMEKA, V.P.; REZNIKOV, N.Ya., inzh.; CHERKASOV, B.P.; POLOZOV, M.A.;  
VERKHUNOV, N.G.; EKK, V.Ya., inzh.; BILLER, S.R., inzh.

Foresters discuss protective tree planting. Put! i put.khoz. 7 no.4:  
38-39 '63. (MIRA 16:3)

1. Starshiy inzh. Zaporozhskoy distantsii zashchitnykh lesonasazhdeniy, Pridneprovskoy dorogi (for Gromeka). 2. St. Zaporozh'ye, Pridneprovskoy dorogi (for Reznikov). 3. Nachal'nik proyektno-izyskatel'skogo otryada po zashchitnym lesonasazhdeniyam, Rostov-na-Donu (for Cherkasov). 4. Starshiy inzh. proyektno-izyskatel'skogo otryada po zashchitnym lesonasazhdeniyam, Rostov-na-Donu (for Polozov). 5. Nachal'nik distantsii zashchitnykh lesonasazhdeniy, Karaganda, Kazakhskoy dorogi (for Verkhunov). 6. Stantsiya Karaganda, Kazakhskoy dorogi (for Ekk, Biller).

(Windbreaks, shelterbelts, etc.)

VERKHUNOV, P.M., kand. sel'skokhoz. nauk; FADEYEV, M.S., nauchnyy  
sotrudnik; PUSTYNSKIY, V.M., nauchnyy sotrudnik

Stand structure classification of timber bases in Krasnoyarsk  
Territory. Trudy VSNIPILesdrev no.11:49-56 '64. (MIRA 18:11)

... ..  
... ..  
ABS. JOUR. : Ref Zhur-Biologiya, No.1, 1959, No. 1454

AUTHOR : Verkhunov, P.M.  
INST. : Siberian Sci.-Res. Inst. of Forest Management

TITLE : Defectiveness of Linden Timber Stands of the  
South-western Ural.

ORIG. PUB. : Sb. statey po lesn. Khoz. Sibirst.  
n.-1 in-t lesn. Kh-vr, Krasnoyarsk, 1958,  
1-33

ABSTRACT : A study was made of 2791 rooted trees  
and 276 felled specimens of linden in the  
Gafuriysky, Voskresensky, Makarovsky and Zigaz-  
insky Leskhozov of Bashkiriya at 14 test  
areas in mixed plantings of 50 to 115-year old  
III - IV \* classes with goutweed and gramineous  
sorts (0.4 - 0.6) participating in the forest  
types. Only 17.3 % of the trees did not have  
trunk defects. Crookedness, rot, hollowness,  
frostbite, knottiness and canker are the most

--- \*locality  
1/2

CARD:

COUNTRY :  
CATEGORY :  
ABS. JOUR. : REF ZHUR . BIOLOGIYA, NO.1, 1959 : NO. 1254  
AUTHOR :  
INST. :  
TITLE :  
ORIG. PUB. :

ABSTRACT : prevalent among the 30 kinds of defect met. With age the number of defective trees is increased. The greatest average length of commercial trunk wood ( 7.1 m. ) was in trees without defects. It was found that the wood of the late-flowering forms of linden are less subject than the early-flowering forms to defectiveness ( especially rot). Forestry measures to combat defectiveness are described.

-- V.I. Klimov

CARD: 2/2

VERKHUNOV, P. M.: Master Agric Sci (diss) -- "The marketability of the linden of the southwestern Urals". Moscow, 1959. 20 pp (Min Higher Educ USSR, Moscow Forestry Engineering Inst), 150 copies (KL, No 18, 1959, 126)

VERKHUNOV, P.M.

[Efficient use of the timber resources of Siberia]Ratsio-  
nal'noe ispol'zovanie lesosechnogo fonda Sibiri. Moskva,  
Goslesbumizdat, 1961. 53 p. (MIRA 15:8)  
(Siberia--Lumbering)

VERKHUNOV, P.M., kand.sel'skokhoz.nauk

Evaluating the timber resources in heavily wooded areas of Siberia.  
Trudy VSNIPILesdrev no.5:71-75 '62. (MIRA 16:5)  
(Siberia--Forests and forestry--Valuation)



VERKHUNOV, P.M., kand.sel'skokhoz.nauk; FADDEYEV, M.G., mladshiy nauchnyy  
sotrudnik

Estimating the remnants of wood during the inspection of cutting  
places in heavily wooded areas of Siberia. Trudy VSNIPILesdrev  
no.5:11-14 '62. (MIRA 16:5)

1. Laboratoriya lesosyr'yevykh resursov Vostochno-Sibirskogo  
nauchno-issledovatel'skogo i proyektного instituta lesnoy i  
derevoobrabatyvayushchey promyshlennosti (for Verkhunov).  
(Siberia--Forest management)

VERKHUNOV, V.M.

Scientific and pedagogical activity of F.I. Lobachevskii as a  
physicist. Vest.Mosk.Un.Ser.mat., mekh., astron., fiz., khim.  
14 no.1493-103 '59. (MIRA 13:8)

1. Kafedra obshchey fiziki Moskovskogo universiteta.  
(Lobachevskii , Nikolai Ivanovich, 1793-1856)

RYBNIKOV, K.A., prof., red.; SPASSKIY, B.I., dots., red.; KUDRYAVTSEV,  
P.S., prof., red.; KULIKOVSKIY, P.G., dots., red.; LITINETSKIY,  
I.B., dots., red.; MIKHAYLOV, G.K., st. nauchnyy sotr., red.;  
VERKHUNOV, V.M., kand. fiz.-matem. nauk, red.; KONONKOV, A.F.,  
kand. fiz.-matem. nauk, red.; SOROKINA, L.A., nauchnyy red.;  
VERKHUNOV, V.M., nauchnyy red.; GRIDASOVA, Ye.S., red. izd-va;  
GOROKHOVA, S.S., tekhn. red.

[Problems of the history of the physical and mathematical sci-  
ences] Voprosy istorii fiziko-matematicheskikh nauk. Moskva, Gos.  
izd-vo "Vysshaya shkola," 1963. 522 p. (MIRA 16:7)  
(Physics) (Mathematics)

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P.S., prof., red.; KULIKOVSKIY, P.G., dots., red.; LITINETSKIY,  
I.B., dots., red.; MIKHAYLOV, G.K., st. nauchnyy sotr., red.;  
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AUTHOR:

Verkhunov, V. M.

TITLE:

Meteorological Observations in Kazan' in the 19th Century

PERIODICAL:

Meteorologiya i gidrologiya, 1959, Nr 10, pp 40 - 44 (USSR)

ABSTRACT:

This is a historical survey of meteorological observations made in Kazan' from 1733 to 1912.

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(Mathematics--Study and teaching)



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MIKHAYLOV, G.K., starshiy nauchnyy sotrudnik, red.; KHRGIAN, A.Kh.,  
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AUTHOR:Verkhunov, V. M.

SOV/55-58-6-11/31

TITLE:

N. I. Lobachevskiy and Mechanics (N. I. Lobachevskiy i mekhanika)

PERIODICAL:

Vestnik Moskovskogo universiteta. Seriya matematiki, mekhaniki, astronomii, fiziki, khimii, 1958, Nr 6, pp 77-89 (USSR)

ABSTRACT:

In the present article the activity of the Russian scientist and creator of non-Euclidian geometry, Nikolay Ivanovich Lobachevskiy, is dealt with in detail and a development of his ideas is given. He was teacher at Kazan' university from 1812-1847, where he delivered a number of lectures in the field of physics and mathematics. His lectures were based upon the knowledge of the fundamentals of physics, such as space, time, motion, velocity, and force. They were original and not confined to the teaching of existing opinions and theories. He was mainly interested in the definition of motion. In his paper on "New Beginnings of Geometry" he wrote, "In nature we call motion only that without which sensations (concerning the outer world) are impossible. Geometric conceptions of motion are therefore artificial"

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