OKSEN', I.S.; KUCHERENKO, V.M.

Controlling complete roof caving by mechanized removal of timbering in a steep seam. Ugol.' 40 no.1:8-10 Ja '65.
(MIRA 18:4)

1. Glavnyy inzh. shakhty No.5 im. Lenina tresta Gorlovskugol' (for Oksen'). 2. Donetskiy nauchno-issledovatel'skiy ugol'nyy institut (for Kucherenko).

OKSENENKO, G. F.

Chemical means of controlling weeds in vegetable crop fields. Kons.i ov. prom. 15 no.6:37 Je '60. (MIRA 13:9)

1. Cherkasskiy opornyy punkt.
(Weed control)

OKSENENKO, N.I., aspirant

Fertilizers for millet in turf-Podzolic soils of Ivanovo Province. Sbor. nauch. trud. Ivan. sel'khoz. inst. no.21: 150-157 '63. (MIRA 18:5)

OKSENENKO, I.A.

Mixed sowing of barley and oats. Zemledelie 5 no.4:87 Ap '57.
(Barley) (Oats) (MLRA 10:6)

OKSENENKO, I. A., Cand Agr Sci -- (diss) "Problems of [illegible] agricultural engineering [illegible] of barley in [illegible] Khar'kovskaya Oblast." Khar'kov, 1958. 21 pp (Min Agr USSR. Khar'kov Order of Labor Red Banner Agr Inst im V.V. Dokuchayev). 200 copies.

(KL,12-58,100)

OKSENENKO, I.A.

Determination of sowing rate according to size of seed. Zemledelie 6 no.3:31-32 Mr '58. (MIRA 11:4)
(Sowing)

OKSENENKO, I.A., assistant

Determining the seeding rate on the basis of the size of seeds. Sbor.nauch.trud. Ivan.sel'khoz.inst. no.16:102-108 '58. (MIRA 13:11)

1. Kafedra rasteniyevodstva Ivanovskogo sel'skokhozyaystvennogo instituta.
(Sowing)

KLIMAKIN, N.V.; OKSENENKO, P.Y.

Using herbicides to control weeds in vegetable plantings. Kons. i ov. prom. 12 no.3:37-38 Mr '57. (MLRA 10:5)

1. Cherkasskiy opornyy punkt Vsesoyuznogo nauchno-issledovatel'skogo instituta konservnoy i ovoshchesushil'noy promyshlennosti.
(Weed control) (Herbicides)

OKSENENKO, P.F.

Using organomineral fertilizers in growing tomatoes. Kons. i ov. prom. 12 no.4:35-37 Ap '57. (MLRA 10:6)

1. Cherkasskiy opornyy punkt Vsesoyuznogo nauchno-issledovatel'skogo instituta konservnoy i ovoshchesushil'noy promyshlennosti.
(Fertilizers and manure) (Tomatoes)

OKSENGENDLER, G.I., kapitan meditsinskoy sluzhby

Dynamometer for the measurement of neuromuscular fatigue.
Voen.med.zhur. no.3:81 '59. (MIRA 12:6)
(MUSCLES, physiol.
fatigability, dynamometer for determ. (Rus))
(NERVES, physiol.
same))

OKSENGENDLER, G.I.

A method for analyzing obtained by the adjustment method. Gig.i san. 25 S '60. (MIRA 13:9)
(ATTENTION) (PSYCHOLOGICAL APPARATUS)

22032

27-6330

S/177/61/000/001/008/010
D211/D306

AUTHORS: Oksengendler, G.I., Captain of Medical Services, Aralov, S.S., Senior Engineer-Lieutenant, and Yemel'yanenko, M.I., Major of Medical Services

TITLE: An apparatus for studying the stability of attentiveness

PERIODICAL: Voyenno-meditsinskiy zhurnal, no. 1, 1961, 74 - 76

TEXT: The proposed apparatus permits the automatic recording of the above-mentioned test. It consists of a panel with nos. 1 - 25 not given in sequence. Under each number there is an electric contact; the airman undergoing the test touches the contact with a connecting rod and closes the circuit; only when he touches the correct consecutive number are the results registered on a tape recorder and the graphs obtained show the times needed to find individual numbers as well as the total time taken during the test. A schema-

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22032
S/177/61/000/001/008/010
D211/D306

tic diagram of the apparatus is given. The automatic tape recorder requires an alternating current of 220 volts and the stepfinder a direct current of 24V. In the author's opinion this apparatus may be used for studying the psycho-physiological characteristics of flying personnel. There are 3 figures.

SUBMITTED: April, 1960

Card 2/4

YEMEL'YANENKO, M.I., mayor meditsinskoy sluzhby; OKSENGENDLER, G.I., kapitan meditsinskoy sluzhby

Simple method for determining the permeability of the vascular wall. Voen.-med. zhur. no.11:79 N '61. (MIRA 15:6)
(BLOOD VESSELS--PERMEABILITY)

OKSINGENDLER, G.I., kand.med.nauk, mayor meditsinskoy sluzhby

Effect of work at a control panel on the functional state of the central nervous system in naval specialists. Voen.-med.zhur. no.1:72-76 '65. (MIRA 18:10)

ACC NR: AP6007590 SOURCE CODE: UR/0240/66/000/001/0035/0038

AUTHOR: Oksengendler, G. I. (Candidate of medical sciences)

ORG: none

TITLE: Effect of running a control panel on some indices of motor function

SOURCE: Gigiyena i sanitariya, no. 1, 1966, 35-38

TOPIC TAGS: human physiology, fatigue test, naval physiology, operator physiology

ABSTRACT: A study of motor functions in nine control panel operators on a ship in northern waters is reported. Each control panel contained 50 or more controlled elements. The work mostly involved the visual and kinesthetic analyzers. The operators, aged 21—24, worked either day or night shifts. Grip strength, statokinetic endurance, repetition of specified muscular effort, and tremor were measured. Statokinetic endurance decreased, proprioceptive sensitivity weakened, and tremor increased after an 8-hr shift. These physiological changes were apparently due to weakening of conditioned inhibition in the motor analyzer cortex and impaired regulation of the state of peripheral motor system structures, as well as to variations in motor coordination. No significant difference between day- and night-shift physiological factors was noted. This is explained by long-term habituation to abnormal working hours under shipboard conditions. [03]

SUB CODE: 06/ SUBM DATE: 03Aug64/ Orig Ref: 019/ OTH REF: 003/ ATD PRESS: 4215

Card 1/1 UDC: 612.766.1:621.316.345

TROYANOV, I. A.; OKSENGENDLER, G. M.[deceased]; KOSTOMAROVA, Ye. F.

Preparation of thioindigoid dyes by sulfuration of acetylnaphthalenes. Ukr. khim. zhur. 28 no.3:367-370 '62.
(MIRA 15:10)

1. Rubezhanskiy filial Nauchno-issledovatel'skogo instituta poluproduktov i krasiteley.

(Acetonaphthone) (Sulfuration)
(Thioindigo)

OKSENGENDLER, L.M.

Universal pitch gauge for checking the axial pitch of racks and thread chasers. Stan.i instr.26 no.10:37 O'55. (MLRA 9:1)
(Gauges) (Screw threads)

S/122/60/000/010/012/015
A161/A030

AUTHOR: Oksengendler, L.M., Engineer

TITLE: Plant Experience with the Elimination of Grinding Burns and with Electro-Polishing of Case-Hardened Gear Teeth

PERIODICAL: Vestnik mashinostroyeniya, 1960, No.10, pp.69-71

TEXT: Experiments were carried out to find ways to eliminate damage of the case-hardened-gear-teeth-surface in grinding. Grinding 1st class accuracy gears with high tooth finish without burns proved possible on "Naag" grinders with 1st class ЭБ 60М3К (EB60M3K) or ЭБ 60СМ1К (EB60SM1K) wheels, but only with a too slow output rate. Finally, a new and faster way was found - with 146 and 184 rockings per minute for "Naag SS-60" and "Maag SS 1/2" respectively, at grinding depth 0.03-0.04 mm, the grinding wheel trued by diamond after every pass, using same Czechoslovakian EB60M3K wheels and wheels of Zavod imeni Il'yicha (Imeni Il'yich Works). The abrupt transition between the tooth flank and base (formed previously in flanking) was eliminated by using electro-polishing with a special device for spur gears, in which the gear presents the anode and a stainless-steel

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S/122/60/000/010/012/015
A161/A030

Plant Experience with the Elimination of Grinding Burns and with Electro-Polishing of Case-Hardened Gear Teeth

bushing the cathode, and flanking is produced by densened current force lines at the tooth addendum, and bombination (reduced tooth thickness on edges) by densened force lines on tooth edges. Bombination is controllable by cathode length and may be one or two-sided. Flanking and bombination is possible simultaneously or separately. Spots not to be electropolished are isolated by varnish "AK-20" or ХВЛ -21 (KhVL-21). The bath for the process consists of (weight %) 70% phosphoric acid, 15% sulfuric acid, 9% chrome anhydride, 6% water; the anode current density is 20-25 amp/square decimeter; the bath temperature is to be 70-90°C, and holding time 15-18 min. After electropolishing, the gear is rinsed in running water, removed from the device and neutralized in a 5% soda solution for 5 min. Then varnish is removed by acetone, and the gear oiled. The transition from the flanked portion of the tooth to the base profile is smooth. A gear ground in the old way and showing an unclear "Maag grid" is presented in Fig.2; the burns remained unnoticed in pickling directly after grinding. It is stated that

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S/122/60/000/010/012/015
A161/A030

Plant Experience with the Elimination of Grinding Burns and with Electro-Polishing of Case-Hardened Gear Teeth

burns can be revealed after running-in and electropolishing. Eight gears with burns of 0.005-0.045 mm depth were re-ground in the new process. The gear in (Fig.3) has a proper "Maag grid". It is concluded that electropolishing has proved an effective flanking means and it helps to reveal grinding burns. It is recommended to grind with increased depth and correspondingly raised rocking frequency of the rest with a somewhat slower grinding speed. The electropolishing method had been suggested by L.M.Shneyerson and put into use by Zh.S.Fatyuk and the author. There are 3 figures.

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S/122/60/000/010/012/015
A161/A030

Plant Experience with the Elimination of Grinding Burns and with Electro-Polishing of Case-Hardened Gear Teeth

Fig.2: Gear ground in the old way showing unclear "Maag grid"

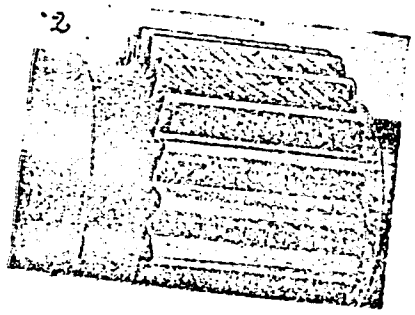
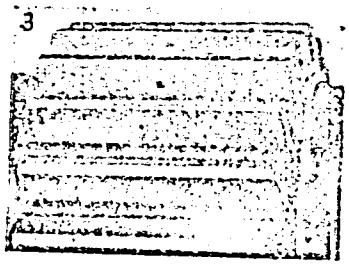


Fig.3: Gear with proper "Maag grid"



Card 4/4

L 12713-63 EPF(c)/EWT(m)/BDS Pr-4 RM/WW/AB
ACCESSION NR: AP3000295 S/0020/63/150/001/0071/0074

AUTHOR: Klyuyev, Yu. A.; Oksengorn, B.

TITLE: The effect of pressure on the infrared spectrum of benzol absorption

SOURCE: AN SSSR. Doklady, v. 150, no. 1, 1963, 71-74

TOPIC TAGS: infrared absorption, benzol, inductive lines

ABSTRACT: The previously studied infrared absorption of benzol in the near ultraviolet region of the spectrum at low pressures has been further investigated at high pressures. By increasing the pressure to 1500 kg per square cm, the absorption line A sub n sup 0 are shifted to the red spectrum without changing the line width and the integral intensity. The results of the investigation of pressure effect up to 25,000 kg per square cm on the absorption spectrum of benzol in the overtone region of the frequency oscillation of 4000-43000 cm sup -1 are presented in a graph. The work was performed with a monochromator of the IKS-12 with a LiF prism and a lead sulfide acceptor. During the transition of benzol into a solid phase under pressure, the following inductive lines appear in the spectrum. 4071, 4090, and 4195 cm sup -1. "We express sincere gratitude to the Corresponding Member L. F. Vereshchagin, AN SSSR, who made it possible for us to carry out this work, and also to the Academician A. N. Terenin and Ye. S. Alekseyev, who took part in the discuss.

Card 1/2 Institute of High Pressure Physics, Academy of Sciences

MYAGKOV, N.Ya.; OKSENICH, I.O.

Evaporation in Turkmenistan. Izv.AN Turk.SSR no.1:22-29 '56.
(MLRA 9:8)

1. Upravleniye gidrometsluzhby Turkmenskoy SSR.
(Turkmenistan--Evaporation)

MYAGKOV, N.Ya., kandidat geograficheskikh nauk; OKSENICH, I.O.

Hot weather in Turkmenistan. Priroda 45 no.8:126 Ag '56. (MLRA 9:9)

1.Akademiya nauk Turmenskoy SSR.
(Turkmenistan--Climate)

OKSENICH, I.G.

Let's improve the procedure of instrument certificates. Meteor. i gidrol. no.5:53 My '57. (MLRA 10:8)
(Turkmenistan--Thermometers)

OKSENICH, Igor' Gur'yevich; ORLOVSKIY, Nikolay Sergeyevich; PASHINSKIY, Aleksandr Zakharovich; ZLOBINA, M., red.; SAKHATOV, B., tekhn. red.

[Climate of Turkmenia] Klimat Turkmenii. Ashkhabad, Turkmengosizdat, 1962. 89 p. (MIRA 16:5)
(Turkmenistan--Climate)

ACCESSION NR: AR4015481 S/0169/63/000/012/B082/B082

SOURCE: RZh. Geofizika, Abs. 12B427

AUTHOR: Oksenich, I. G.

TITLE: Diurnal variation of air temperatures in Turkmenistan

CITED SOURCE: Sb. rabot Ashkhabadsk. gidrometeorol. observ., vy*p, 3, 1962, 5-16

TOPIC TAGS: Air temperature, temperature variation, orography, diurnal temperature variation, Turkmenistan, climatic regioning, climate

TRANSLATION: The four principal types of diurnal temperature variation under different physico-geographic conditions (provinces) in the territory of Turkmenistan are separated and discussed according to data from continuous registration of air temperatures at an altitude of 2-m above the earth's surface for the period from 1951-1960. The fluctuations of diurnal amplitude of air temperature is in good agreement with existing systems of climatic regioning for Turkmenistan. Diurnal amplitude is most sharply expressed and reaches maximum values in southeastern Turkmenistan, noticeably decreases in the Central Karakums, and has a minimum value in the mountainous region of Kopet-Dag and in a narrow belt along the coast of the

Card 1/2

ACCESSION NR: AR4015481

Caspian Sea. N. Davydov.

DATE ACQ: 09Jan64 SUB CODE: AS, PH ENCL: 00

Card 2/2

KONDRAT'YEV, A.P.; OKSENKRUG, B.Ye.

Modernization of "GPS-e" presses. Shvein.prom. no.2:33-34 Mr-Ap '62. (MIRA 15:4)
(Pressing of garments--Equipment and supplies)

OKSENOV, B.A., [deceased].

Instincts of the weevil Deporaus betulae L. (Coleoptera). Trudy Len.ob-va est. 69 no.4:146-168 '47. (MLRA 9:3)

1. Laboratoriya biologii nasekomykh (zavedyushchiy professor S.I. Malyshev) i Nauchno-issledovatel'skogo instituta evolyutsionnoy fiziologii i patologii vysshey nervnoy deyatel'nosti imeni akademika I.P. Pavlova (direktor akad. Orbeli). Leningrad, Koltushi .

(Weevils)

BELOV, M.I., doktor ist. nauk, st. nauchn. sotr. Prinimali uchastiye KUZNETSOVA, V.V., nauchn. sotr., inzh.-kartograf; SHPITSBERG, I.P., st. nauchn. sotr.; LARICHOV, A.L.; KOBLENTS, Ya.P., st. nauchn. sotr.; OKSENOVA, Ye.I., red.

[First Russian Antarctic Expedition, 1819-1821 and its resultant navigational chart] Pervaia russkaia antarkticheskaia ekspeditsiia 1819-1821 gg. i ee otchetnaia navigatsionnaia karta. Pod red. M.I.Belova. Leningad, Izd-vo "Morskoi transport," 1863. 164 p. (MIRA 17:4)

1. Leningrad. Arkticheskiy i antarkticheskiy nauchno-issledovatel'skiy institut. 2. Arkticheskiy i antarkticheskiy institut, Leningrad (for Belov, Kuznetsova, Koblents). 3. Institut teoreticheskoy astronomii AN SSSR (for Shpitsberg). 4. TSentral'nyy muzey Voyenno-Morskogo Flota SSSR (for Larionov).

BORISENKOV, Ye.P.; ROBINSON, A.F., red.; CHERNOVA, Ye.I., red.;
STUL'CHIKOVA, N.P., tekhn.red.

[Physicostatistical methods for analyzing and predicting meteorological fields] Fiziko-statisticheskie metody analiza i predvychisleniia meteorologicheskikh polei. Leningrad, Izd-vo "Morskoi transport," 1963. 241 p. (Leningrad. Arkticheskii nauchno-issledovatel'skii institut. Trudy, vol.263). (MIRA 17:4)

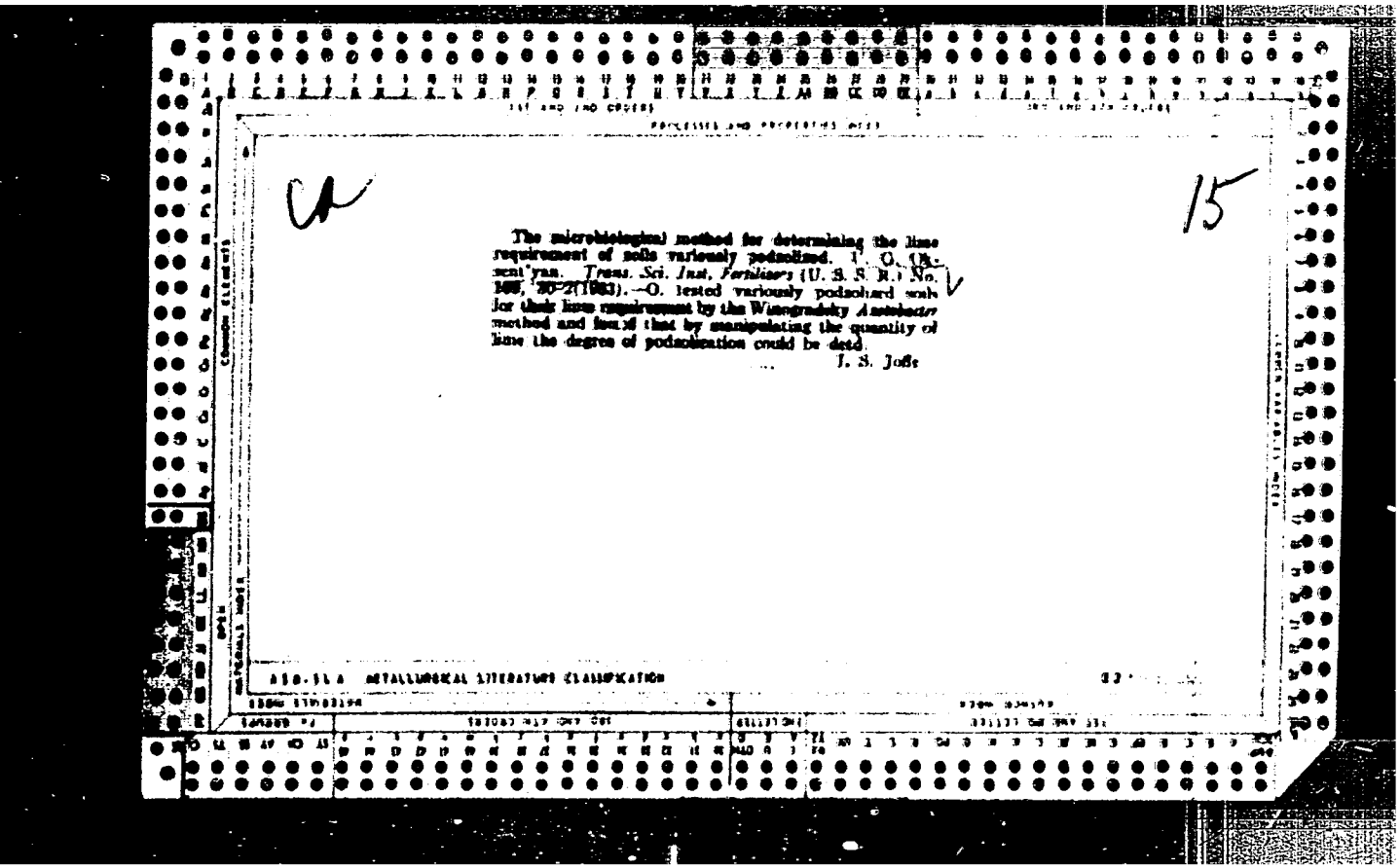
BELOV, M.I., doktor ist. nauk, red.; OKSENOVA, Ye.I., red.

[Russian Arctic expeditions of the 17th-20th centuries; problems in the history of studying and mastering the Arctic] Russkie arkticheskie ekspeditsii XVII-XX vv.; voprosy istorii izucheniia i osvoeniia Arktiki. Leningrad, Gidrometeoizdat, 1964. 231 p. (MIRA 18:5)

1. Leningrad. Arkticheskiy i antarkticheskiy nauchno-issledovatel'skiy institut. 2. Arkticheskiy i antarkticheskiy nauchno-issledovatel'skiy institut, Leningrad (for Belov).

KRUCHININ, Yuriy Aleksandrovich; GAKKEL', Ya.Ya., doktor geogr. nauk, red.; OKSENOVA, Ye.I., red.

[Shelf ice of Queen Maud Land] Shel'fovye ledniki Zemli Korolevy Mod. Leningrad, Gidrometeoizdat, 1965. 178 p. (MIRA 18:7)

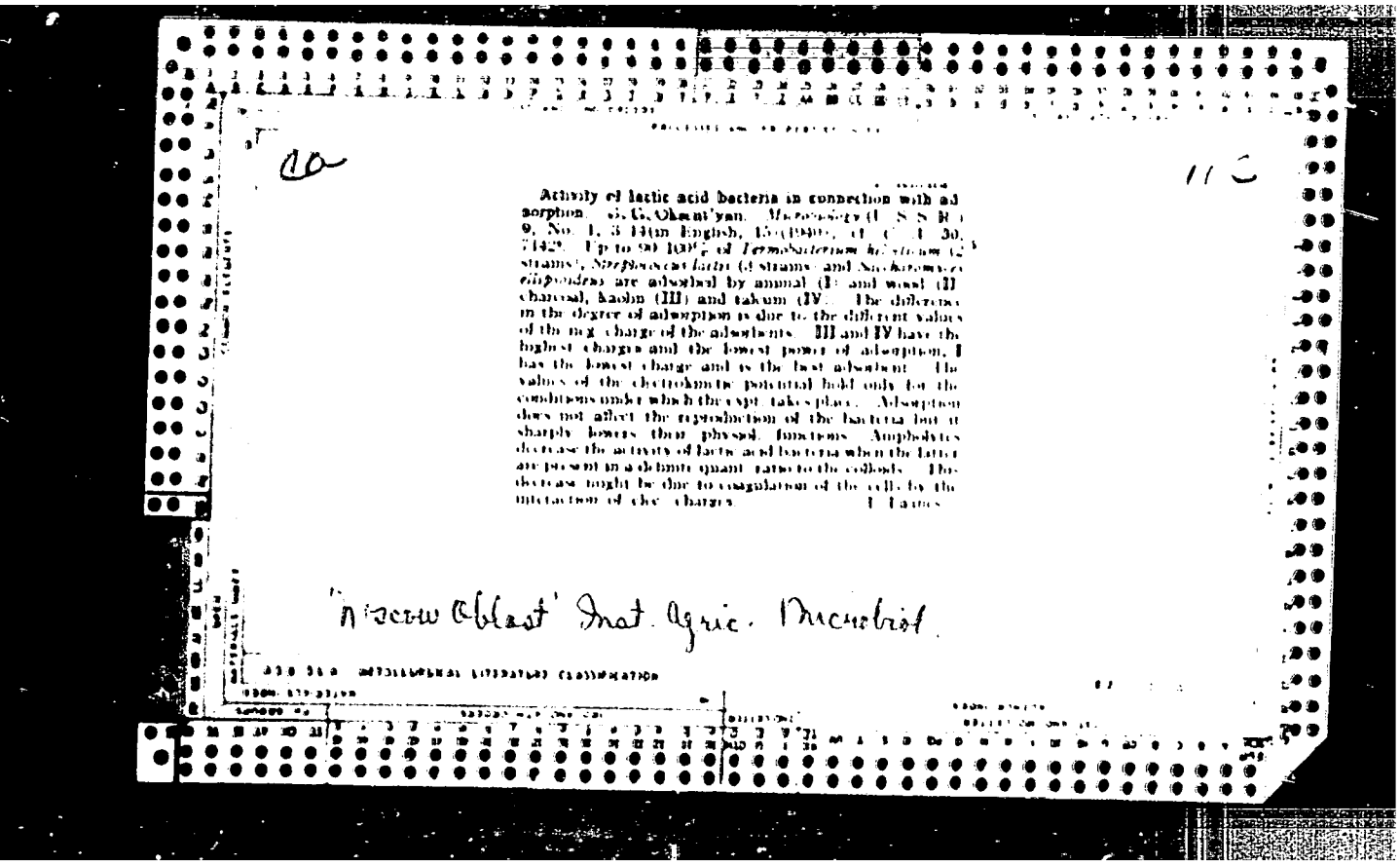


The microbiological method for determining the lime requirement of soils variously podzolized. I. O. Ustsenyan. *Trans. Sci. Inst. Fertilizers* (U. S. S. R.) No. 168, 20–2(1953).—O. tested variously podzolized soils for their lime requirement by the Winogradsky *Azotobacter* method and found that by manipulating the quantity of lime the degree of podzolization could be detd.

J. S. Joffe

15

A10-51A METALLURGICAL LITERATURE CLASSIFICATION



Activity of lactic acid bacteria in connection with ad sorption ... G. Okunev'yan. *Mikrobiologiya* (U.S.S.R.) 9, No. 1, 3-14 (in English, 15 (1940), cf. C. A. 30, 7142⁹. Up to 90-100% of *Termobacterium helveticum* (2 strains), *Streptococcus lactis* (4 strains and *Saccharomyces ellipsoideus* are adsorbed by animal (I) and wood (II) charcoal, kaolin (III) and talcum (IV). The differences in the degree of adsorption is due to the different values of the neg. charge of the adsorbents. III and IV have the highest charges and the lowest power of adsorption. I has the lowest charge and is the best adsorbent. The values of the electrokinetic potential hold only for the conditions under which the expt. takes place. Adsorption does not affect the reproduction of the bacteria but it sharply lowers their physiol. functions. Amphoteric decrease the activity of lactic acid bacteria when the latter are present in a definite quant. ratio to the colloids. The decrease might be due to coagulation of the cells by the interaction of the charges. I. James

Moscow Oblast' Inst. Agric. Microbiol.

OKSENT'YAN, U. G.

PA 15/49T80

USSR/Medicine - Wheat
Medicine - Plants, Diseases Apr 48

"Spreading and Diagnosis of Bacteriosis of Wheat, Caused by Pseudomonas Atrofaciens," U. G. Oksent'yan, Cand Biol Sci, 3 pp

"Dok V-S Ak Selkhoz Nauk" No 4

Reviews recent advances. Describes tests to determine pathogenicity of cultures of Ps. atrofaciens on adult plants under field conditions at Sinel'nikovsk Experimental Field, Ukrainian Inst of Grain Husbandry. Tabulates results.

15/49T80

USSR/Biology (Agriculture) - Plant Diseases Mar/Apr 52

"Etiology of Black Bacteriosis of Wheat," U. G. Oksent'yan, Moscow Div (Otdeleniye), Inst of Agr Microbiol

"Mikrobiol" Vol XXI, No 1, pp 205-209

The causative factor of black chaff, Xanthomonas translucens var. undulosum, is not present among the yellow-pigmented bacteria occurring on USSR wheats which show typical signs of blackening of the upper parts of scales on the ears. It has been

210T16

USSR/Biology (Agriculture) - Plant Diseases (Contd) Mar/Apr 52

demonstrated experimentally that blackening of wheat ears, which is typical for black bacteriosis, can be produced by external conditions (high temp and high humidity).

210T16

OKSENT'YAN, U. G.

STARYGINA, L.P.; OKSENT'YAN, U.O.

Characteristics of smooth and rough forms of Pseudomonas fluorescens liquefaciens. Mikrobiologiia 25 no.5:529-532 S-O '56. (MLRA 10:1)

Moskovskoye otdeleniye instituta sel'skokhozyaystvennoy mikrobiologii
(PSEUDOMONAS,
fluorescens liquefaciens, smooth & plicated fors (Rus))

KOSHEL'KOV, P.N.; OKSENT'YAN, U.G.; OSIPOVA, Z.M.; KHAR'KOV, D.V.

Effect of manure and mineral fertilizers on the fertility of Turf-Podzolic soils [with summary in English]. Pochvovedenie no. 6:91-99 Je '58. (MIRA 11:7)

1. Dolgoprudnaya agrokhimicheskaya opytnaya stantsiya imeni D.N.Pryanishnikova.

(Soil fertility)
(Fertilizers and manures)
(Podzol)

OKSENT'YAN, G. G.

SOV/30-59-1-50/57

30(1)

AUTHORS: Afrikyan, E. K., Kuchayeva, A. G., Candidates of Biological Sciences

TITLE: Use of Antibiotics in Plant Cultivation (Primeneniye antibiotikov v rasteniyevodstve)

PERIODICAL: Vestnik Akademii nauk SSSR, 1959, Nr 1, pp 142-143 (USSR)

ABSTRACT: A conference dealing with this subject took place in Yerevan from 8 to 13 October, 1958; it had been called by the Institut mikrobiologii Akademii nauk SSSR (Microbiological Institute of the Academy of Sciences USSR), the Vsesoyuznyy institut sel'skokhozyaystvennoy mikrobiologii VASKhNIL (All-Union Institute for Agricultural Microbiology of the VASKhNIL) and the Sektor mikrobiologii Akademii nauk Armyanskoy SSR (Department for Microbiology of the Academy of Sciences of the Armyanskaya SSR).
M. Kh. Chaylakhyan spoke about microbe metabolites which promote the development of higher plants.
V. I. Bilay reported on investigations of several years' duration carried out by Ukrainian mycologists on soil fungus flora and its utilization in the fight against agricultural plant diseases.
Ya. ... , N. V. Markaryan dealt with the utilization of the fungus Trichoderma in fighting the diseases of cotton bushes, potatoes and some other agricultural breeds.
N. G. Mirzabekyan's report dealt with the examinations of actinomycetes which produce active antibiotics against the carriers of potato wart disease and diplodia in maize.
E. ..., V. V. Mamunina spoke about the utilization of the actinomycetes antagonists in fighting potato ring rot and mucous bacteria in cabbage.

Card 1/3

G. M. Kublanovskaya reported on the effect of preparations from cultures of actinomycetes to prevent wilt of the cotton bush.
Ye. ..., E. K. Afrikyan, M. A. ..., Ya. V. ... spoke about the successful utilization of several bacteria against diseases of vegetable cultures and potato wilt.
... , ..., A. D. Valbandyan dealt with the utilization of epiphyte microflora in fighting several fungus diseases in plants.
..., L. P. ..., D. V. ..., ... mentioned results obtained in investigations of phytobacteriomycine as well as its utilization in fighting diseases occurring in cotton bushes and beans.
N. V. ..., Ye. P. Protsenko, A. G. Kuchayeva, ... tried the effect of antibiotic preparations on tomatoes and stone fruit against bacterial cankers in fighting diseases of decorative plants.
Ye. Ya. ..., K. I. Bel'tyukova described the investigation of plant antibiotics.
... spoke about the production of the preparations "griseoful'vin" and "trikhotetsin" and their effect on fungus carriers of diseases in cabbage, wheat and water melons.

Card 2/3

A. G. Kuchayeva reported on results achieved in the utilization of antibiotics against unpaired mill moths.
I. P. Izrail'skiy, N. D. Mayarova, M. D. Kulikovskaya dealt with the formation of phytopathogen forms of bacteria resistant to antibiotics.
N. A. Vinogradova, ... described a method of rapid determination of the effect of antibiotics on plants. The participants in the conference found the work carried out in this field in the USSR insufficient. The organization of an industrial production of antibiotics and microbe preparations for the purpose of their large-scale practical introduction in agriculture was pointed out as necessary. The necessity of an intensification of joint investigation of the growth stimuli and the development of plants of microbial origin was further pointed out. The importance of coordination of work for purposes of research and utilization of antibiotics in plant breeding was emphasized as well as the holding of periodical conferences dealing with this problem.

Card 3/3

OKSENT'YAN, U.G.

Stimulating properties of antibiotics. Trudy Vses. inst. sel'khoz. mikrobiol. 17:29-36 '60. (MIRA 15:3)
(Antibiotics) (Plants, Effect of antibiotics on)

OKSENT'YAN, U.G.; VORONKOVA, L.V.; DROZD, A.M.

Using antibiotics in controlling bacteriosis in phaseolus. Trudy Vses. inst. sel'khoz. mikrobiol. 17:68-82 '60. (MIRA 15:3)
(Beans--Diseases and pests) (Antibiotics)
(Bacteria, Phytopathogenic)

[illegible], [illegible]; [illegible], [illegible]

Characteristics of the yellow pigmented bacteria of wheat. Mikrobiologiia [illegible] no.[illegible]:[illegible] [illegible] '64.

(MIRA [illegible]:[illegible])

1. Vsesoyuznyy nauchno-issledovatel'skiy institut sel'skokhozyaystvennoy mikrobiologii, Moskovskoye otdeleniye.

OKSENT'YAN, U.G.; FEDOTINA, V.L.; ROBISHEVA, Z.N.

Change in the properties of Pseudomonas fluorescens under the influence of plants. Agrobiologiia no.1:56-62 Ja-F '65. (MIRA 18:4)

1. Moskovskoye otdeleniye Vsesoyuznogo nauchno-issledovatel'skogo instituta sel'skokhozyaystvennoy mikrobiologii.

AUTHOR: [illegible]

TITLE: The electronic component of the "Khronotron" [illegible]

SOURCE: [illegible]

TEXT: This paper explains the [illegible] "Khronotron" dynamic mass-spectrometer (similar in principle to the [illegible] Flight" mass-spectrometer of W. [illegible] and J. McLaren (cf. Rev. Sci. Inst. 26, no. 12, 1955, 1150) for the study of [illegible] of the composition of [illegible] cluding the presence of [illegible] sourced, and the [illegible] space; some [illegible] root of the mass of the ion, ions with [illegible] time [illegible] Wiley-McLaren [illegible] sensitivity that at low [illegible]

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The electronic component of the "K[illegible]

statistics derived from the few individual ion pulses were [illegible]
desirability of increasing the sensitivity of the apparatus [illegible]
ionization, the present effort endeavors to achieve the following
(1) An increase in sensitivity without affecting the resolving pow[illegible]
time; (2) improved accuracy; (3) design improvements to enhance [illegible]
various physical experiments. This is achieved through the use of [illegible]
tive amplifier and a "burst"-type pulse recorder, following which [illegible]
ions are ejected by a steep-front pulse, so that an elevated number of [illegible]
with equal mass and, thereby, an increase in ionization current without [illegible]
of resolving power is attained. The importance of and means for the [illegible]
of the blurring of the bunches of ions are set forth. A block diagram of [illegible]
ic component of the device, consisting essentially of the pulse-produc[illegible]
the detector block, is shown, together with a detailed block diagram of the [illegible]
producing block, also photographs of typical mass-spectra obtained in [illegible]
and one-shot observation. The continuous regime serves in the detection [illegible]
rapid and slow gasdynamic processes and their recording on movie film ([illegible]
frames/sec, with inclusion of the image of a second-counter). The one-[illegible]
serves in the single registration of the partial concentration of a gas mixture [illegible]
primary problem resolved in the design of the amplifier-recorder unit is [illegible]
shown) is the need for outstandingly good overload characteristics, [illegible]

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The electronic component of the "Rhumotron"... S/725/61/000/[illegible]

which follows directly after an exceptionally strong signal is not distorted [illegible] ly lost. Theoretical analysis and experimental verification indicate that [illegible] ion of the dynamic range of the terminal stages with simultaneous limitation [illegible] upper level of the amplified signals is preferable to the use of a wide-band [illegible] amplifier. A photograph is shown of a mobile setup of the electronic [illegible] the mass-spectrometer, equipped with stabilized power supply. The pulse [illegible] acteris ed by a frontal buildup in less than 0.03 μsec with a loss in height of [illegible] more than 5%. The time duration of the aft front of the ionization puls[illegible] exceed 0.[illegible] μsec with a loss in height no greater than 10%. Photographic [illegible] of the overload characteristics of the indicator amplifier is shown, as a pair of pulses [illegible] 1 μsec apart the amplitude of the second pulse reading in relation [illegible] no more than 2 to 3%. An amplification of 300,000 over [illegible] with a mass-resolving power in excess of 60. Maximum [illegible] The device weighs approx. 200 kg. Attention is drawn to the [illegible] unavoidable noise pickup tendency of such a highly sensitive [illegible] with powerful sharp-front pulses, especially when the [illegible] are located at some distance from the recording unit. [illegible] save shielding of cables must be used. Thanks are expressed to D. [illegible] Yegiazarov, & V. V. Borisov for their assistance in [illegible] G. P. Servoz for design aid. There are 10 figures and [illegible] English

ASSOCIATION: Not given.

Card 3/3

DOLMATOVSKIY, Yu.A., kand.tekhn.nauk; OKSENT'YEVICH, A.Ye.

Automobile bodies made of glass reinforced plastics. Avt.prom. no.11:18-23 N '60. (MIRA 13:11)

1. Gosudarstvennyy soyuznyy ordena Trudovogo Krasnogo Znameni nauchno-issledovatel'skiy avtomobil'nyy i avtomotornyy institut.
(Automobiles—Bodies) (Glass reinforced plastics)

OKSENT'yEVICH, L. A. KORPOV, V. L., NIKITINA, T. S. and KUZ'MINSKIY, A. S.

"Radiation Vulcanization of Rubber'

Truly Transactions of the First Conference on Radioaction Chemistry, Moscow, Izd-vo AN SSSR, 1958. 330pp.
Conference -25-30 March 1957, Moscow

KUZMINSKIY, A. S., NIKITINA, T. S., ZHURAVSKAYA, E. V., OKSENT"YEVICH, L. A., SUNITSA, L. L., and VITUSHKIN, N. I.

"The Effect of Ionizing Radiations on Crude and Vulcanized Rubbers."

paper to be presented at 2nd UN Intl. Conf. on the peaceful uses of Atomic Energy, Geneva, 1 - 13 Sep 58.

OKSENT'YEVICH, L.A.; ZHURAVSKAYA, Ye.V.

Effect of radiations on crude and vulcanized rubbers.
Trudy NIIRP no. 6:102-110 '60. (MIRA 13:12)
(Rubber) (Radiation)

OKSENT'YEVICH, L.A.

Conference on the aging and stabilization of high polymers. Kauch.i rez. 19 no.1:60 Ja '60. (MIRA 13:5)
(Polymers--Congresses)

15.8600 only 2209

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S/138/61/000/001/009/010
A051/A029

AUTHORS: Kuz'minskiy, A. S., Oksent'yevich, L. A.

TITLE: The II All-Union Conference on Radiation Chemistry

PERIODICAL: Kauchuk i rezina, 1961, No. 1, pp. 53-55

TEXT: On October 10 - 14, 1960, the II Vsesoyznoye soveshchaniye po radiatsionnoy khimii (II All-Union Conference on Radiation Chemistry) took place in Moscow, called together by the USSR State Committee on Chemistry at the Council of Ministers. Academician A. P. Vinogradov opened the meeting and stressed the significance of radiation chemistry as a new branch of science which studies the energy of the atom. Its development follows two lines: 1) industrial application of nuclear emissions, 2) extensive theoretical studies of the chemical transformations taking place under the action of nuclear emissions. N. A. Bach, Chairman of the organizing committee of the conference, underlined the importance of radio chemical investigations as the basis of radiation-resistant materials and for the application of nuclear emissions when conducting directed chemical processes. Special interest was expressed in the possibility of radiation polymerization at low

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The II All-Union Conference on Radiation Chemistry

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temperatures. G. V. Uvarov, Vice Chairman of the State Committee on Chemistry, said that radiation polymerization of ethylene, radiation vulcanization of special rubbers and telomerization will be introduced into the industry. There were five sections of the conference: 1) the action of emissions on aqueous solutions and 2) on organic substances, 3) radiation polymerization and action of emissions on polymers, 4) action of emissions on a solid body, 5) routine questions of radiation-chemistry investigations. A total of 120 papers were submitted (representing 35 institutions). Some of the more important papers submitted are mentioned: A. D. Abkin gave a short characteristic outline of the radiation polymerization process. The process takes place according to the ionic mechanism. In the process of radiation polymerization in an emulsion the independence of the general rate of polymerization on the temperature is underlined. The rate of polymerization is proportional to the intensity of the emission in the first degree. Cases of the combined polymerization of isobutylene and vinylidine chloride, styrene and methylmethacrylate were discussed. The significant role in ionic polymerization is said to be played by the surface. Yu. L. Khmel'nitskiy, Ye. M. Kononova and V. V. Nesterovskiy dealt with the radiation polymeriza-

tion of propylene, isobutylene and one of the amylenes (2-methylbutene-2) at various temperatures and at various degrees of purity of the monomer. It was shown that with a drop in the temperature and an increase in the degree of purity of the monomer the polymer yield and the average molecular weight increases. I. P. Barkalov, A. A. Berlin, V. I. Gol'danskiy, B. G. Dzantiyeva, et al., presented a study on the kinetics and mechanism of radiation polymerization of acetylene hydrocarbons. Ye. V. Volkova, A. F. Forkin, A. D. Sorokin and V. M. Belikov handled the question of radiation polymerization of trifluorochloroethylene and tetrafluoroethylene. A study is being conducted at present on the kinetics of the process in the gaseous phase under the action of beta-emissions of Sr^{90}. The paper of Kh. U. Usmanov, U. N. Musayev and R. S. Tillayev submitted the data of copolymerization of acrylonitrile with methylfurane (silvane), copolymers were obtained through the grafting of polyvinylchloride-acrylonitrile, polyvinylchloride-silvane, perchlorovinyl-silvane systems; R. S. Klimanova, V. I. Serenkov and N. S. Tikhomirova investigated the copolymerization by grafting with styrene and polyethylene. The paper of B. L. Tsetlin, S. R. Rafikov, L. I. Plotnikov and P. Ya. Glazunov dealt with the radiation grafting of various polymer chains to the surface of mineral particles and also to carbon black.

The II All-Union Conference on Radiation Chemistry S/138/61/000/001/009/010
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V. L. Karpov and Yu. S. Lazurkin gave a general characteristic outline of the processes taking place under the action of nuclear emissions. L. G. Gurvich developed a theory of radiation destruction of linear polymers. Several papers were dedicated to the investigation of the mechanism of radiation-chemical transformations in polymers: Yu. D. Tsvetkov, Ya. S. Lebedev and V. V. Voyevodskiy - on the method of electronic paramagnetic resonance used for the study of the kinetics of recombination of the fluoroalkyl and peroxide radicals formed in teflon under the action of gamma-emissions of Co^{60}; A. G. Kiselev, M. A. Mokul'skiy, Yu. S. Lazurkin - on the investigation of radicals occurring when irradiating various orientated polymers in a reactor or in a beta-source; N. Ya. Buben, A. T. Koritskiy and V. N. Shamshev on the investigation of the effect of admixtures (CCl_4, benzene, toluene, CS_2) on the kinetics of accumulation of radicals in paraffin and polyethylene under the action of fast electrons; N. A. Slovokhotov, A. T. Koritskiy, et al. - on the structure of polyethylene irradiated in liquid nitrogen with fast electrons using the method of infra-red spectroscopy. V. G. Nikol'skiy and N. Ya. Buben - on the thermo-luminescence of polyethylene, paraffin, teflon, rubbers and certain aromatic hydrocarbons irradiated

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with fast electrons, in order to determine the structural transformations in these compounds; G. P. Ushakov, Yu. S. Lazurkin and Yu. A. Gushcho - on an investigation of the effect of the phase state of polyethylene of low pressure on its physical and mechanical properties when irradiated in a reactor; V. L. Karpov, S. S. Leshchenko and E. E. Finkel' - on the effect of various additions on the change of the strength properties of polyethylene irradiated in a Co^{60} source during the process of thermal aging. Some papers were dedicated to the action of radiation on rubbers. B. A. Dogadkin, Z. N. Tarasova, M. Ya. Kaplunov, et al. read on the effect of sulfur on the kinetics of radiation structuralizing of natural and butadiene-styrene rubbers and the properties of the irradiated vulcanizates; B. A. Dogadkin, V. I. Gol'danskiy, Z. N. Tarasova, M. Ya. Kaplunov, et al. - on a method for vulcanizing various samples of rubbers on a linear impulse accelerator and on the kinetics of formation of transverse bonds and the structural changes of the natural, butadiene-styrene and carboxylic rubbers, when irradiated by a beam of 2 Mev-energy electrons; I. Ya. Poddubnyy and S. V. Aver'yanov - on the radiation vulcanization of siloxane rubbers, where the vulcanization conditions were selected for various polysiloxanes ensuring the production of rubbers with a very high thermal stability. A. S. Kuz'minskiy,

The II All-Union Conference on Radiation Chemistry

L. S. Fel'dshteyn, Ye. V. Zhuravskaya and L. I. Lyubchanskaya - on the laws of radiation aging of deformed rubbers based on natural rubber, СКС-30 (SKS-30), СКБ (SKB) and СКН-26 (SKN-26); G. A. Blokh, V. L. Karpov, Yu. M. Malinskiy, L. P. Ol'shanskiy and M. S. Khloplyankin - on the action of the gamma-emission of Co^{60} on various cable rubbers and constructions. It was established that after irradiation with a 50 - 100 Mrad dose the main physico-mechanical and electro-insulating properties are impaired. The question of distribution and energy transformation of emissions in organic systems and the mechanism of radiochemical processes were discussed. At the final meeting it was pointed out that the three years since the first conference were characterized by: 1) noticeable general growth of the radiochemical investigations, 2) extensive increase in research and investigations into the mechanism of these processes, 3) appearance of many papers on the action of radiation on a solid body, 4) the application of physics and complex methods of investigations, such as electronic paramagnetic resonance, chromotographic, electrical, spectral and other methods. It was decided to conduct a meeting in 1961 on the industrial application of radiochemical processes, in 1962 on general theoretical questions and studies

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The II All-Union Conference on Radiation Chemistry S/138/61/000/001/009/010
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on the mechanisms of radiochemical processes. In 1963 the III All-Union Conference on Radiation Chemistry will be convened.

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OKSHTEYN, L.S.

Acid-base hydraulic fracturing in deep wells without using a packer. Neftepron. delo no.10:28-29 '63. (MIRA 17:6)

1. Neftepromyslovoye upravleniye "Shirvanneft'".

BLOKHIN, A.S.; BORODZYUK, G.G.; LESHCHINSKIY, A.A.; OKSMAN, A.K.; KOSMINSKIY, O.F.; MANUSHKIN, A.Ye.; MILEVSKIY, Yu.S.; DRIATSKIY, N.M.; VASIL'YEV, V.V.; L'VOVICH, A.A.; ORLEYEVSKIY, M.S.; MOROZ, I.A.; OKSIAN, A.K.; KNKL', G.S.; SOROKIN, M.F.; BUTLITSKIY, I.M.; VASIL'YEV, L.N. [deceased]; GINTS, Yu.R.; VASIL'YEV, G.K.; LUGOVSKOY, N.Ye.; KIRILLOV, Ye.V.; STRUYKINA, N.S.; LEVINOV, K.G.; BLOKHIN, A.S., otv. red.; GURIN, A.V., red.; SLUTSKIN, A.A., tekhn. red.

[K-1920-frequency telephone system] Sistema vysokochastotnogo telefonirovaniia K-1920; informatsionnyi sbornik. [By]A.S. Blokhin i dr. Moskva, Sviaz'izdat, 1962. 319 p. (MIRA 16:4)
(Telephone)

AKUTIN, M.S.; GURMAN, I.M.; STAL'NOVA, M.A.; Prinimali uchastiye: NIKULINA, O.S., inzh.; OKSINA, R.P., laborantka

Block copolymer from epoxide and dimethylresorcinol resins as a binder for glass reinforced plastics. Plast.massy no.5:10-11 '60. (MIRA 13:7)

(Glass reinforced plastics)
(Resorcinol)

OKSINSKI, J.

OKSINSKI, J. From the diary of a revolutionist in 1863. p. 11.

No. 13, July 1956
ZOLNIERZ POLSKI
MILITARY & NAVAL SCIENCES
Warszawa, Poland

So: East Wuropean Accession, Vol. 6, No. 2, Feb. 1957

ARTYUSHENKO, O.T.; OKSIYUK, O.P.

Results of analysing the spores, pollen and diatoms of bottom deposits in the Tur Lake. Bot.zhur.[Ukr.] 12 no.2:70-76 '55. (MLRA 8:10)

1. Institut botaniki Akademii nauk URSR, viddil sporovikh roslin
2. Kiivs'kiy universitet imeni T.G.Shevchenka, kafedra nizhchikh roslin.

(Tur, Lake--Paleobotany)

OKSIYUK, O. P., master biolog sci--(diss.) "The flora of the diatom algae in the Ukrayn' coast lakes, and its history." Kiev, 1957, 14 pp. (Kiev State University im. T. G. Shevchenko. Dept of [redacted] plants), 100 copies.

(KL, No. 41, 1957, p.108)

OKSIYUK, O.P.

Diatom flora in the lakes of Volyn Province and its history.
Ukr. bot. zhur. 14 no.1:30-42 '57. (MLRA 10:5)

1. Kiivs'kiy derzhavniy universitet im. T.G. Shevchenka, kafedra nizshchikh roslin.
(Volyn Province--Diatoms)

OKSIYUK, O.P.

Diatoms hitherto unknown in the Ukraine. Visnyk Kyiv. un. Ser. biol, no.1:35-42 '58. (MIRA 15:6)
(UKRAINE--DIATOMS)

TOPACHEVSKIY, Aleksandr Viktorovich [Topachevs'kyi, O.V.]; OKSIYUK, Ol'ga Petrovna; OKSNER, A.M., doktor biolog.nauk, otv.red.; BRAGINSKIY, L.P. [Brahins'kyi, L.P.], red.izd-va; KOVAL', V.A., red.izd-va; MATVIYCHUK, O.O., tekhn.red.

[Key for the identification of fresh-water algae of the Ukrainian S.S.R.] Vyznachnyk prisnovodnykh vodorostei Ukrains'koi RSR. Kyiv, Vyd-vo Akad.nauk URSR. No.11. [Diatomaceous algae - Bacillariophyta (Diatomeae)] Diatomovi vodorosti - Basillariophyta (Diatomeae). 1960. 411 p. (MIRA 13:11)

1. Akademiya nauk USSR, Kiyev. Institut botaniki.
(Ukraine--Diatoms)

OKSIYUK, O.P.

Analysis of diatoms in the deposits of the Kardashinka peat bog. Visnyk Kyiv.un. no.3. Ser.biol. no.1:10-12 '60.
(MIRA 16:4)

(KARDASHINKA REGION--PEAT BOGS)
(KARDASHINKA REGION--DIATOMS, FOSSIL)

OKSIYUK, O.P.

Analysis of diatoms in brown coal from Vinogradov District, Transcarpathia. Ukr.bot.zhur. 17 no.1:76-84 '60. (MIRA 13:6)

1. Kiyevskiy gosudarstvennyy universitet im. T.G.Shevchenko, kafedra nizhnikh rasteniy.
(Vinogradov District (Transcarpathia)--Diatoms)

OKSIYUK, O.P.

Analysis of diatoms in the deposits of the Girlovo[illegible] Swamp in Poltava Province. Visnyk. Kyiv. un. no.4. Ser. [illegible]. no.2: 3-5'61. (MIRA 16:6)
(POLTAVA PROVINCE—SWAMPS)
(POLTAVA PROVINCE—DIATOMS, FOSSIL)

TOPACHEVSKIY, A.V.; OKSIYUK, O.P.; CHERNITSKAYA, L.N.; YURCHENKO, V.V.; PUCHKOVA, L.V.; POLIVANNAYA, M.F.

Hydrobiological characteristics of canals in the southern part of the Ukrainian S.S.R. based on the materials of 1962. Trudy Gidrobiol. ob-va 14:163-169 '63. (MIRA 17:6)

1. Institut gidrobiologii AN UkrSSR, Kiyev.

OKSIYUK, O.P.

Planktonic diatoms of the Northern Donets - Donets Basin canal and their effect on the quality of water. Ukr. bot. zhur. 22 no.2:84-90 '65. (MIRA 18:6)

1. Institut gidrobiologii AN UkrSSR, Kiyev.

OKSIYUK, O.P.

Stephanodiscus hantzschii Grun. as an organic organism giving water a fishy flavor. Gidrobiol. sbor. 1 no.3:50-53 '45. (MIRA 18:6)

1. Institut gidrobiologii AN UkrSSR, Kiyev.

OKSKIY, O.A.

[Producing three-dimensional effect in photography] Plasticheskaia obrabotka fotografii. Moskva, Izd-vo "Znanie," 1953. 22 p. (MLRA 6:10)
(Photography)

OKSMAN, A.A.

Fluctuation noise in an intercity television coaxial cable. (MIRA 10:10)
Elektrosviaz' 11 no.10:3-10 O '57.
(Coaxial cables)

OKSMAN, A. K.

"Problems of Transmission of Television Programs over Long-Distance Lines." Min Communications USSR, Leningrad Electrotechnical Inst of Communications imeni Professor M. A. Bonch-Bruyevich, Leningrad, 1954. (Dissertation for the Degree of Candidate in Technical Sciences)

SO: M-955, 16 Feb 56

OKSMAN, A-K.

FD-1060

USSR/Electronics - Frequency converter

Card : Pub 90 - 8/12

Author : A. K. Oksman

Title : Push-pull frequency converter transmitting a carrier-frequency residual current (Author's abstract)

Periodical : Radiotekhnika 9, 71-73, Jul/Aug 1954

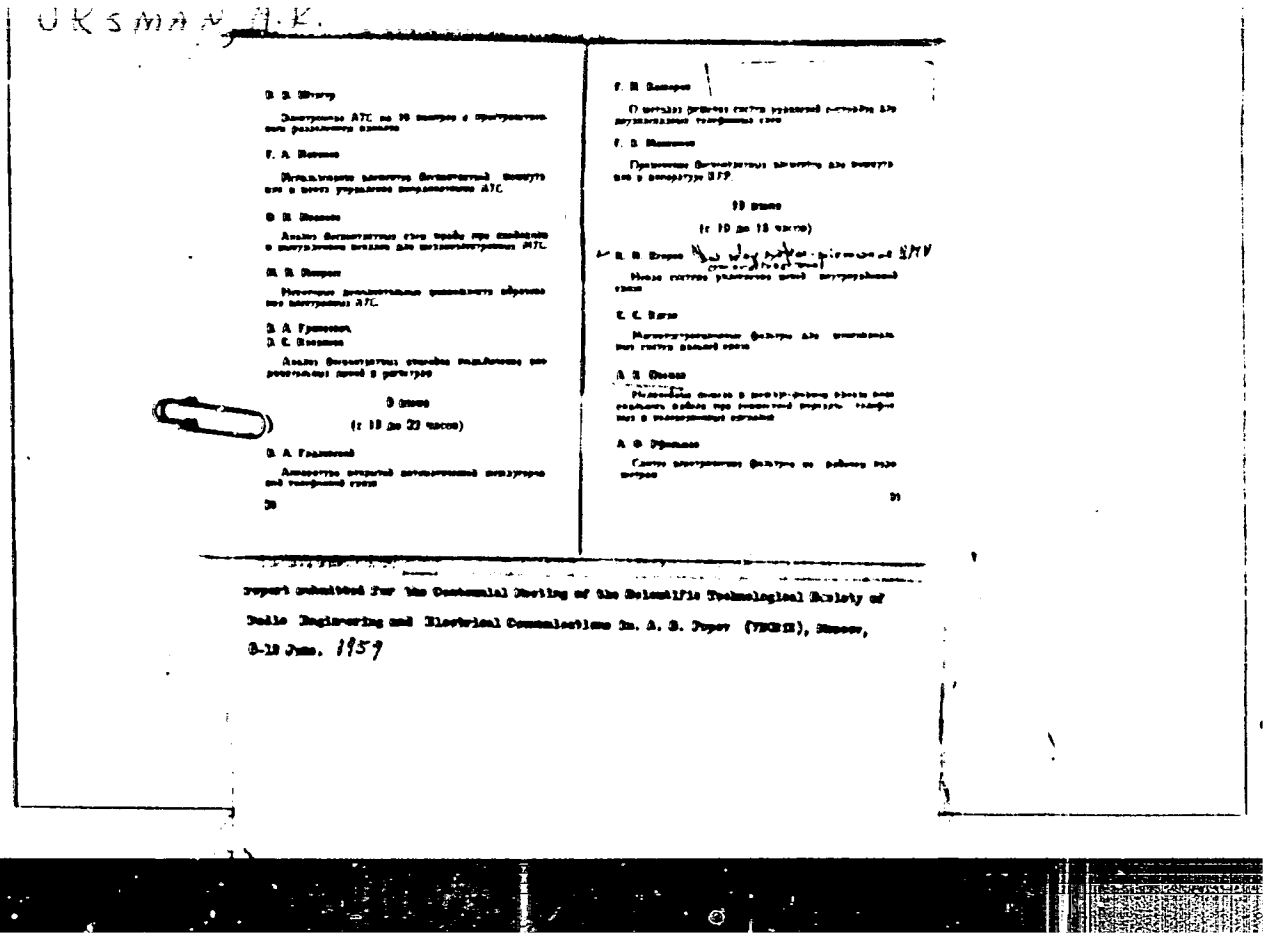
Abstract : Push-pull tube frequency converters are usually used in non carrier communication systems. But in some cases it is necessary to transmit a carrier-frequency current to the output of a converter, i. e., to obtain an ordinary modulated wave. The author examines the operation of such a modulator on the example of a parallel circuit using multigrid tubes with selective load. Schematic diagram.

Institution : --

Submitted : 3 March 1952 (Article); 1 April 1954 (Author's abstract)

OKSMAN, A.K.

Demodulation of modulated television signals having unsymmetrical side bands. Elektrosviaz' 10 no.7:3-21 Jl'56. (MLRA 9:9)
(Television) (Coaxial cables)



UKSMAN A.K.

Report submitted for the Centennial Meeting of the Scientific Technological Society of Radio Engineering and Electrical Communications im. A. S. Popov (VNIIR), Moscow, 8-12 June. 1959

AUTHOR: Oksman, A.K. SOV/106-59-6-7/14

TITLE: Optimum Modulation Depth of Television Signals in Coaxial Cable Communication Systems (Optimal'naya glubina modulyatsii televizionnykh signalov v sistemakh svyazi po koaksial'nym kabelyam)

PERIODICAL: Elektrosvyaz', 1959, Nr 6, pp 50-58 (USSR)

ABSTRACT: The article discusses the problem of selecting the optimum modulation depth for a coaxial system, in which telephone and television signals are amplified in common amplifiers. The optimum depth enables the amplifiers to be used most effectively, subject to minimum distortion of the pulse shape and obtaining a high signal/noise ratio. In systems using linear detection of the modulated signal at the receiving end, the permissible depth of modulation (for transmitting a signal with asymmetrical side bands) is determined largely by the quadrature distortions and cannot usually be greater than 50%. Improvement in the interference-stability can be obtained by introducing preliminary distortion into the line television signals at the transmitting end (Ref 1). With synchronous reception (symphase demodulation) the

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Optimum Modulation Depth of Television Signals in Coaxial Cable Communication Systems

signals can be demodulated without substantial distortion for any modulation depth (Ref 2). Fig 1 shows a suitable disposition of the telephone and television signals in the frequency spectrum of the cable. The modulation of the line television signal is defined as

$$\eta = \frac{\text{swing of the envelope}}{\text{amplitude of the modulated signal}}$$

With 100% modulation (Fig 2) $\eta = 1$ and for full overmodulation, $\eta = 2$. The modulation depth can be controlled by changing the value of the carrier-frequency current in the modulated signal. Because the video signal contains a constant component, balancing of the carrier-frequency current to zero value at the output of a balanced modulator leads, not to full, but to partial overmodulation. The modulation depth can be further increased by unbalancing the modulator in the opposite sense. Thus, the spectrum of the modulated and overmodulated signals differ only in their amplitudes and in the phase of the carrier-frequency current (Fig 3). The modulation depth η equals:

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Optimum Modulation Depth of Television Signals in Coaxial Cable Communication Systems

$$\eta = \frac{A}{A_1 + A} \quad (2)$$

and $A_1 + A = 1$ (Fig 2).
An actual line signal has asymmetrical sidebands (Fig 1) and can be presented as the sum of two components - the synphase and the orthogonal or quadrature component (Ref 2).

$$f(t) = Q(t) \cos (\omega t + \varphi_\omega) + P(t) \sin (\omega t + \varphi_\omega) \quad (3)$$

where $Q(t)$ is the useful synphase component and $P(t)$ is the distortion component due to asymmetry of the sidebands (quadrature component). The envelope of the modulated signal is

$$F(t) = \sqrt{[Q(t)]^2 + [P(t)]^2} \quad (4)$$

and its shape depends on the modulation depth of the line signal, and on the relative value of the remnant of the suppressed sideband, on the characteristics of the shaping filters and on the width of the transmitted sideband, (Ref 2). Expression (4) relates to a modulated

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Optimum Modulation Depth of Television Signals in Coaxial Cable Communication Systems

signal when $\omega \geqslant 2\Omega_m$ (Ω_m is the maximum video-signal frequency transmitted). For approximate determination of the envelope of the signal, the expressions for P(t) and Q(t), produced in the author's previous work (Ref 3), are used. For simplicity, the simple case of modulated signal with a rectangular envelope passing through a shaping filter is considered (Fig 5). The components P(t) and Q(t) for this case are expressed by Eqs (5) and (6). Fig 6 shows curves of F(t) of line signal for different modulation depths and a constant swing of the modulated signal with reference to the steady-state value of Q(t), since this component determines the signal/noise ratio. The left part of the diagram represents the envelope of the signal with two complete sidebands and the right hand side with asymmetrical sidebands, determined by Eqs (4), (5), (6). For modulation depths up to 100% ($\eta \leqslant 1$), the effect of the quadrature component is small, but with considerable overmodulation. the swing of the line signal is determined practically by the quadrature component. The signal/noise ratio in a

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system without predistortion is next considered. In a system where the two sidebands are fully transmitted, changing from $\eta = 1$ to $\eta = 2$ doubles the signal/noise ratio. Denoting the signal/noise ratio, when $\eta = 1$ by b_ω, then the change in the noise-stability Δb_ω when η changes to some other value equals

$$\Delta b_\omega = \log \eta - \log \frac{U_{max}\ (\eta)}{U_{max}\ (\eta=1)} \qquad (8)$$

If the power of the amplifier is fully used, then the dependence of Δb_ω on η (Fig 7a) shows that the signal/noise ratio is practically constant when η changes from 1.4 to 2.0, having a small maximum at 1.5 - 1.6. In a system using predistortion, the predistortion apparatus takes the form of a tuned amplitude circuit with an attenuation characteristic $b_1(f)$ (Fig 8) and the predistortion corrector is a circuit with an attenuation characteristic $b_2(f)$

Card 5/7 $b_1(f) = b_2(f) = b_k = \text{const.}$

Optimum Modulation Depth of Television Signals in Coaxial Cable Communication Systems

In Ref 1 it was shown that such predistortion weakens the harmonics of the line carrier frequency and reduces the effect of noise in the channel for a modulation depth up to 100%. Fig 9 shows schematically the signal envelopes at the input and output of the predistorting apparatus for various modulation depths. The signal/noise ratio increases to a value S_1, and as shown in Ref 1, for a rectangular video signal (Fig 10) S_1 is as given in Eq (10). This formula is true for $0 \leq \eta \leq 1.6$. If the modulation depth is greater than 1.6, then S_1 is given by Eq (11). Graph of Fig 11 shows calculated (full lines) and measured (dotted lines) values of S_1 as a function of η. Thus, the channel noise is reduced by predistortion only for modulation depth $\eta \leq 1.5$ and the use of predistortion for weakening wide band noise is obviously only practical for $\eta \leq 1$. The author then considers the effect of predistortion on cross talk. As shown in Ref 1, predistortion of the signal reduces the second harmonic of the line carrier frequency current [illegible] at the receiver by $(2b_0 - S_1)$ nepers, and the third

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harmonic by $(3b_0 - 2S_1)$ nepers. With the amplifier fully loaded, the signal/noise ratio reaches a maximum when $\eta = 1.5$. If the amplifiers are considerably underloaded, then the signal/noise ratio increases by about 0.25 nepers when the value of η changes from 1.0 to 2.0. The author then determines the modulation depth which, for a given signal/noise ratio, ensures least line interference, and it is finally concluded that, assuming that the amplifiers are fully loaded, the optimum modulation depth is $\eta = 1.4 - 1.6$ (Fig 7).

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There are 13 figures and 3 Soviet references.

SUBMITTED: January 13, 1959

OKSMAN, A.K.

Nonlinear interferences in the linear channel of a coaxial cable with simultaneous transmission of telephone and television signals. Elektrosviaz' 14 no.3:34-43 Mr '60. (MIRA 13:6)
(Coaxial lines) (Television--Transmitters and transmission)

OKSMAN, A. K.

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Title : Demodulation of Modulated Television Signals with Non-Symmetrical Sidebands

Orig Pub : Elektrosvyaz', 1956, No 7, 3-21

Abstract : Analysis of the demodulation of television signals, modulated with non-symmetric sidebands formed by filters having various characteristics, by means of linear, square-law, and synchronous detectors. Expressions are obtained for the output signals of a demodulator and these signals are analyzed from the point of view of the possiblity of reducing the distortion occurring upon demodulation.

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