LYAPIN, D.P.; YATSKIKH, V.G.; KOMAROV, N.I.; SHUMILOV, V.V.

The over-all mechanization of cleaning and preparation work.
Mekh. trud. rab. 10 no.9:5-9 S '56. (MLRA 9:10)

(Coal mines and mining)

YATSKIKH, V.G.

LYAPIN, D.P., inzh.; KOMAROV, N.I., inzh.; YATSKIKH, V.G., inzh.

The over-all mechanization of cleaning and preparatory work.
Mekh.trud.rab. 11 no.8:25-27 Ag '57. (MIRA 10:11)
(Coal mines and mining)

YATSKIKH, V.G., kand.tekhn.nauk

"Modern coal cutter-loaders" by A.I. Gornopol'skii, P.I. Rapoport. Reviewed by V.G. IAtskikh. Ugol' 33 no.11:45-47 N '58. (MIRA 11:11)

(Coal mining machinery) (Gornopol'skii, A.I.) (Rapoport, P.I.)

YATSKIKH, Valerian Grigor'yevich, kand.tekhn.nauk; ROZENBERG, Boris Lazarevich, kand.tekhn.nauk; IMAS, Aleksandr Davidovich, inzh.; MAKSIMOV, Vladimir Leonidovich, inzh.; Prinimal uchastiye: SPEKTOR, L.A., inzhener-konstruktor. LADYGIN, A.M., otv.red.; SHOROKHOVA, A.V., red.izd-va; IL'INSKAYA, G.M., tekhn.red.

[Mining machinery] Gornye mashiny. Moskva, Gos.nauchno-tekhn. izd-vo lit-ry po gornomu delu, 1959. 507 p. (MIRA 12:12)

1. Gorlovskiy zavod im. S.M.Kirova (for Spektor).
(Mining machinery)

KOMAROV, N.I.; YATSKIKH, V.G.

Performance of KN-1 cutter-loaders in Donets Basin mines.
Ugol' Ukr. 3 no.1:35-38 Ja '59. (MIRA 12:1)
(Coal mining machinery)

YATSKIKH, V.G., kand.tekhn.nauk

Manual for cutting machines operators ("PMG-2 cutting machine" by V.A.Mezhakov, S.I.Vasilenko. Reviewed by V.G.IAtskikh). Ugol' Ukr. 3 no.12:42 D '59. (MIRA 13:4)
(Coal mining machinery) (Mezhakov, V.A.)
(Vasilenko, S.I.)

KOMAROV, Nikolay Ivanovich; YATSKIKH, Valer'yan Grigor'yevich; ZAVOZIN, L.F., otv.red.; SABITOV, A., tekhn.red.; ALADOVA, Ye.I., tekhn.red.

[Experience in the effective operation of UKMG cutter-loaders in Donets Basin mines] Opyt effektivnoi raboty kombainov UKMG na shakhtakh Donbassa. Moskva, Ugletekhizdat, 1956. 53 p. (MIRA 14:1)

(Donets Basin--Coal mining machinery)

YATSKIKH, V.G., kand.tekhn.nauk; KUTOVOY, V.I., starshiy nauchnyy sotrudnik; POLYAKOVSKIY, V.F., starshiy nauchnyy sotrudnik

Ways to increase the capacity of narrow-range cutter-loaders. Ugol' Ukr. 4 no.5:8-9 Ag '60. (MIRA 13:8)

(Coal mining machinery)

YATSKIKH, Valerian Grigor'yevich [IAtskikh, V.H.]; KUTOVOY, Valentin Ivanovich [Kutovyy, V.I.]; POLYAKOVSKIY, Valentin Fomich [Poliakovs'kyi, V.F.]; KOVALENKO, Vladimir Aleksandrovich; YUROVSKIY, Lev Arkad'yevich [IUrovs'kyi, L.A.]; DYACHENKO, I., red.; SICHUGOV, V. [Sychuhov, V.], tekhn. red.

[Mechanization of coal mining on a flat incline] Mekhanizatsiia vyimannia vuhillia na polohomu padinni. Kyiv, Derzhtekhvydav URSR, 1961. 125 p. (MIRA 16:6)
(Ukraine--Coal mining machinery)

LYAPIN, D.P., inzh.; YATSKIKH, V.G., inzh.; YUROVSKIY, L.A., inzh.; CHEBOTKOV, I.P., inzh.; OVCHAROV, V.S., inzh.

Coal mining without miners using the UPD sawing machine in developing the "Izvestniachka" seam of Dzerzhinskugol' Trust Artem Mine. Sbor.DonUGI no.20:3-15 '61. (MIRA 15:6)
(Donets Basin--Coal mines and mining)

YATSKIKH, Valerian Grigor'yevich; KUTOVOY, Valentin Ivanovich; SHAPIRO, Iosif Genrikhovich; MIRONOVA, T.A., red.izd-va; SABITOV, A., tekhn. red.

[Coal sizing and ways for improving it during the operation of mining machinery]Sortnost' uglia pri rabote vyemochnykh mashin i puti ee uluchsheniia. Moskva, Gosgortekhizdat, 1962. 161 p. (MIRA 16:3)

(Coal mines and mining)

YATSKIKH, Valerian Grigor'yevich, kand. tekhn.nauk; SKAFA, Boris Filippovich, kand.tekhn.nauk; KAPLUNOV, Ivan Zakharovich, inzh.; CHERNEGOV, A.A., inzh., retsenzent; SEMENENKO, M.D., inzh., red.izd-va; SHAFETA, S.M., tekhn. red.

[Mechanization of mining pitching coal seams] Mekhanizatsiia vyemki krutopadaiushchikh ugol'nykh plastov. Kiev, Gos.izd-vo tekhn.lit-ry USSR, 1963. 201 p. (MIRA 16:8)
(Coal mining machinery)

YATSKIKH, Valerian Grigor'yevich, kand. tekhn. nauk; ROZENBERG, Boris Lazarevich, kand. tekhn. nauk; IMAS, Aleksandr Davydovich, inzh.; SPEKTOR, Leonid Abramovich, inzh.; KHORIN, D.N., doktor tekhn. nauk, retsenzent; LOKHANIN, K.I., inzh., retsenzent; FEYGIN, L.M., inzh., retsenzent; ABRAMOV, V.I., inzh., red.izd-va; MINSKER, L.I., tekhn. red.

[Mining machines] Gornye mashiny. [By] V.G.IAtskikh i dr. Moskva, Gosgortekhizdat, 1963. 382 p. (MIRA 16:10)
(Coal mining machinery)

YATSKIVH, V.G., kand.tekhn.nauk; KAZAROV, G.G., inzh.; CHERNYY, N.A., inzh.

Industrial testing of the "Trepanner" coal cutter-loader. Ugol'. prom. no.3:61-67 My-Je '62. (MIRA 18:3)

FEDOROV, Ye.P.; YATSKIV, Ya.S.

Causes of the spurious "bifurcation" of the period of the earth's free nutation. Astron. zhur. 41 no.4:764-768 Jl-Ag '64 (MIRA 17:8)

1. Glavnaya astronomicheskaya observatoriya AN UkrSSR.

YEVTUSHENKO, Ye.I.; YATSKIV, Ya.S.

Determining the value of one turn of the optical micrometer screw. Trudy Polt. grav. obser. 11:88-93 '62. (MIRA 15:11)

(Micrometer)

ACCESSION NR: AR3006011 S/0269/63/000/007/0011/0011

SOURCE: RZh. Astronomiya, Abs. 7.51.125

AUTHOR: Yatskiv, Ya. S.

TITLE: On daily latitude changes according to observations on the Zeiss zenith telescope at Poltava

CITED SOURCE: Astron. tsirkulyar, dek. 28, no. 232, 1962, 14-15

TOPIC TAGS: latitude variation

TRANSLATION: The author considers differences in latitudes obtained from two groups of stars observed during the same night. The differences averaged over hours of mean time (T) over the period 1947.7-1956.5 vary as a function of T. This can be explained mostly by the fact that the latitude varies non-linearly during the night. Assuming that this variation is represented by a quadratic function of time, the author obtained new data (see RZh. Astronomiya, 1955, No. 9, 3742) on nocturnal latitude variations:

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ACCESSION NR: AR3006011

1h	20h	22h	0	2h	4h
Δφ (0°,001)	−46	−20	0	+13	+20

L. N.

DATE ACQ: 15Aug63 SUB CODE: AS ENCL: 00

Card 2/2

YATSKIV, Ya.S.

Inaccuracy of the constant annual aberration and daily latitude variations. Trudy Polt. grav. obser. 11:94-103 '62. (MIRA 15:11)

(Aberration)
(Latitude variation)

L 06149-67 EWT(1) GW

ACC NR: AR6017545 SOURCE CODE: UR/0169/66/000/001/G002/G002

AUTHOR: Yatskiv, Ya. S.

25
13

TITLE: Spectral analysis of the motion of the Earth's poles

12

SOURCE: Ref. zh. Geofizika, Abs. 1G12

REF SOURCE: Sb. Izmenyayemost' shirot. Kiyev, Nauk. Dumka, 1965, 105-113

TOPIC TAGS: earth, earth nutation, earth nutation period, earth pole motion, free mutation period, EARTH ROTATION, EARTH MAGNETISM

ABSTRACT: The aim of this paper was a study of the twinning of the period of free nutation, discovered by classical analysis. A correlation scheme, identical with harmonic analysis, was utilized. The accepted causes of "twinning" are: a) the phase change of the Chandler motion in 1924-1926; b) continuous cyclic amplitude change of the Chandler component; c) real existence of two adjacent periods in the Chandler frequency band. For an estimate of the most probable magnitude of the free nutation period of the Earth, a spectrum of the coordinate X with a decreased resolving capability was obtained. From the computation it is found that T= 1,192 years. [Translation of abstract].

SUB CODE: 03

Card 1/1 nkc

UDC: 550.311

421540, A

USSR/General Division. Conservation of Nature.

A-5

Abs Jour: Ref. Zhur. Biologiia, No 4, 1958, 14251.

Author : Iatsko A.
Inst : —
Title : Tourism and the Conservation of Nature on Lake Seliger.

Orig Pub: Okhota i okhotn. kh-vo, 1957, No 7, 16

Abstract: No abstract.

Card : 1/1

1. MALEVANNYY, YE. T., YATSKO, I. YA.

2. SSSR (600)

4. Geology, Stratigraphic-Dnieper Valley

7. New data on the spread of Kimeridgian deposits on the left bank of lower Dnieper.
Dokl. AN SSSR 86 No. 6, 1952

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

YATSKO, I.Ya.

Geological sciences in the Odessa (Novorossiysk) University during the pre-revolutionary period. Och.po ist.geol.znan. no.2:158-175 '53. (MLRA 7:5)

(Odessa University) (Geology--Study and teaching)

YATSKO, I.Ya.

Result of the reconstruction of the hydrographic basin of the late Quaternary period in the northwestern part of the Black Sea. Trudy Inst.okean. 10:70-78 '54. (MLRA 7:11)

1. Vsesoyuznyy gidrologicheskiy trest.
(Black Sea--Coast changes) (Coast changes--Black Sea)

YATSKO, I. YA.

15-57-2-1339

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 2, p 23 (USSR)

AUTHOR: Yatsko, I. Ya.

TITLE: Sarmatian Representatives of the Unionidae in Southern Ukrainskaya SSR (Sarmatskiye predstaviteli semeystva Unionidae yuga UkrSSR)

PERIODICAL: Tr. Odessk. un-ta, 1955, Vol 145, ser. geol. i geogr. Nr 2, pp 25-40

ABSTRACT: The emergence of the unionidae in the Sarmatian of the Southern Ukrainskaya SSR is associated with the development of frosh water deposits. The area of their distribution became considerable as early as in the middle Sarmatian. In the east, the area extends to the Nikopol' meridian, in the west it reaches Moldavia, in the north--the region of Krivoy Rog and Alekseyevka on the Chichekleya River, and in the south--to Aleksandrovka on the Sukhoy estuary. Fresh water deposits are located mainly by drill holes. Three new species of

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Sarmatian Representatives of the Unionidae (Cont.) 15-57-2-1339

the Middle Sarmatian are described: Psilunio sacsaganis, Unio uschcalcensis, U. nicopolis. In the upper Sarmatian, the area of distribution of fresh water deposits has a triangular form with the vertex near Anan'yev and Syroye; its western side extends from here to Tiraspol' and Kaynary, and the eastern, in the worm of a winding line, extends from Syrovo and Neyzatts to North Pavlovka, and disappears near Snegirevka. The foundation of this area is being explored by drill holes in the Odessa region. From the upper Sarmatian, four species--two of them new--are described. These are: Unio eberzini and U. ucrainicus. A diagram of the genetic relationships of unionidae from the Neogene and partially from the Quaternary deposits of the Southern Ukrainskaya SSR is included.

Card 2/2

A. G. E.

YATSKO, I.Ya.; GAPONOV, Ye.A., prof.,otv.red.

[Continental facies of the upper Neogene in the southern part of the Ukrainian S.S.R. and their unionids] Kontinental'nye fatsii v verkhnem neogene iuga USSR i ikh unionidy. Odessa, 1959. 99 p. (Odessa. Universitet. Pratsi. Seriia geologicheskikh i geograficheskikh nauk. No.6, (vol. 149) (MIRA 12:8)
(Ukraine--Geology, Stratigraphic)

YATSKO, I. Ya. Doc Geol-Min Sci -- "The Upper Neogenic unionides and the paleogeography of the period of their existence in the southwestern UkSSR." Kiev, 1961 (Min of Higher and Secondary Specialized Educat ion UkSSR. Kiev Order of Lenin State Univ im T. G. Shevchenko). (KL, 4-61, 189)

YATSKO, I.Ya.

Traces of disease on the fossil skeletons of Pliocene camels from karst caves in the surroundings of Odessa. Trudy Od. un. 152 Ser. geol. i geog. nauk no.8:34-45 '62.

Phylogenetic and stratigraphic relations among inionids based on the finds in the southwestern territory of the Ukrainian S.S.R. and the Moldavian S.S.R. Trudy Od. un. 152 Ser. geol. i geog. nauk no.8:46-51 '62. (MIRA 17:9)

YATSKO, I.Ya.

Geological and geomorphological observations and opinions of G.I. Tanfil'ev. Trudy Od. un. 152. Ser. geol. i geog. nauk no.9:160-162 '62. (MIRA 17:6)

YATSKO, I. Ya.

Some data on the position of Kuyalnik sediments in the south of the U.S.S.R. in connection with the upper boundary of the Neogene. Trudy Kom. chetv. per. 20:173-175 '62.
(MIRA 16:1)

(Geology, Stratigraphic)

YATSKO, I.Ya.

Unionids and mammals in the Upper Pliocene sediments of the Moldavian S.S.R. Izv.AN Mold.SSR no.7:26-37 '64.
(MIRA 18:12)

RYAZANOV, A.V.; KHOKHLOV, I.A.; YATSKO, N.V.

Cutting in two chrome-tanned pigskins. Obm.tekh.opyt. [MLP] no.27:43-44 '56. (MIRA 11:11)

(Tanning)

GERNET, R.A.; MARKIN, I.V.; YATSKO, N.V.

Railless conveying of half-finished skins in plants manufacturing chrome-tanned leather. Obm.tekh.opyt. [MLP] no.27:45-49 '56.
(Conveying machinery) (MIRA 11:11)

YATSKO, N.V.

Checking the expediency of the processing of long-legged calfskins. Kozh.-obuv. prom. no.8:24-25 Ag '59. (MIRA 13:1)
(Hides and skins)

YATSKOV, V.S.

Economic evaluation of the variant solutions method in the reorganization and construction of coal mines. Ugol' 36 no.7:30-34 Jl '61. (MIRA 15:2)

1. Institut gornogo dela AN USSR.
(Mining engineering)

SEREDENKO, M.M., doktor ekon. nauk; ALEKSANDROVA, V.P.; KUGUSHEV, M.F. [Kuhushev, M.F.]; SHEVCHENKO, Ya.O.; GLAMAZDA, A.D.[Hlamazda, A.D.]; ZABORSKAYA, Z.M.[Zabors'ka, Z.M.]; KHOTIMCHENKO, M.M. [Khotymchenko, M.M.]; YATSKOV, V.S.; MEDVEDEV, V.M.[Medvediev, V.M.]; CHIRKOV, P.V.[Chyrkov, P.V.]; KHARCHENKO, P.F.; SOTCHENKO, Z.Ya.; PROFATILOVA, L.M.[Profatylova, L.M.]; MAULIN, M.O.; GORELIK, L.Ye.[Horelik, L.IE.]; RIZHKOV, I.I. [Ryzhkov, I.I.]; ZHEREBKIN, G.P.[Zherebkin, H.P.]; KHRAMOV, O.O.; LANDYSH, B.O., red.; ROZENTSVEYG, Ye.N.[Rozentsveih, IE.N.], tekhn. red.

[Economic efficiency of capital investments and the introduction of new machinery in industry]Ekonomichna efektyvnist' kapital'nykh vkladen' i vprovadzhenniia novoi tekhniky u promyslovosti. Kyiv, Vyd-vo Akad. nauk URSR, 1962. 260 p. (MIRA 16:2)

1. Akademiya nauk URSR, Kiev. Instytut ekonomiky.
(Capital investments) (Technological innovations)

PYATKIN, A.M.; YATSKOV, V.S.; SMIRNOV, [illegible].

Methodological problems in calculating the amortization of mine workings. Trudy Inst.gor.dela AN URSR no.11:112-117 '62.
(MIRA 16:2)
(Coal mines and mining—Accounting)

YATSKOV, V. S., gornyy inzh.-ekonomist

Estimation of the effectiveness of capital investments in the coal industry. Ugol' Ukr. 7 no.4:40-41 Ap '63. (MIRA 16:4)

1. Institut gornogo dela AN UkrSSR.

(Coal mines and mining—Accounting)

YATSKOV, V.S., inzh.

Response to D.O.Khablenko's article "How to evaluate the ways of increasing the economic efficiency of capital investments in the coal mining industry." Ugol' 37 no.11:56-58 N '62. (MIRA 15:10)

1. Institut gornogo dela AN UkrSSR.
(Coal mines and mining—Finance) (Khablenko, D.O.)

BERDINSKIY, I.S.; YATSKOVA, I.D.

Substituted hydrazides of hydroxycarboxylic acids. Part 8: p-Tolylhydrazides of diaryl- and dialkyl glycolic acids. Zhur.ob.khim. 33 no.3:943-945 Mr '63. (MIRA 16:3)

1. Permskiy gosudarstvennyy universitet imeni A.M. Gor'kogo.
(Hydrazides)
(Glycolic acid)

PLINER, L., inzh. po trudu; SLAVIN, A., inzh. (Novokuznetsk); YATSKOVETS, I.

From the editors' mail. Sots. trud 7 no.9:146-147 S '62.
(MIRA 15:9)

1. Nachal'nik otdela truda i zarabotnoy platy Upravleniya khimicheskoy promyshlennosti Belorusskogo soveta narodnogo khozyaystva (for Yatskovets).

(Latvia--Precast concrete construction)
(Kemerovo Province--Wages--Construction industry)
(White Russia--Chemical industries)

YATSKOVETS, P.F.

Bleeding leiomyoma of the small intestine. Vest.khir. no.7:123-124 '61. (MIRA 15:1)

1. Iz Petrozavodskogo gospitalya.
(INTESTINES--TUMORS)

L 09382-67 EWT(m)/EWP(t)/ETI IJP(c) JD

ACC NR: AR6033773 SOURCE CODE: UR/0058/66/000/007/A050/A050

AUTHOR: Dovgoshey, N. I.; Chepur, D. V.; Gryadil', I. A.; Nikolyuk, R. G.; Yatskovich, I. I.

TITLE: Microrelief and structure of thin films of cadmium sulfide and cadmium selenide

SOURCE: Ref. zh. Fizika, Abs. 7A426

REF SOURCE: Sb. Tezisy dokl. k XIX Nauchn. konferentsii. Uzhgorodsk. un-t, 1965. Ser. fiz. Uzhgorod, 1965, 25-29

TOPIC TAGS: cadmium selenide, cadmium sulfide, thermal spraying, cadmium film

ABSTRACT: CdS_x and $CdSe_{1-x}$ films were obtained by thermal spraying under vacuum (10^{-4} mm) on cold glass backings and glass backings heated to 120, 200, 250, and 300C. Cadmium sulfide and cadmium selenide powders mixed in a specific ratio served as the source material. The films consisted of small crystals of fine crystals of a substitutional solid solution of $CdS_x \cdot CdSe_{1-x}$. It was found that the films have a hexagonal grain orientation with an axis [0001] perpendicular to the backing. The non-correspondence of the source material composition and the

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L 09382-67

ACC NR: AR6033773

films was shown. P. Agalaradze, abstracter. [Translation of abstract]

SUB CODE: 07, 11/

Card 2/2 mla

VINKOVATOV, I.A.; YATSKOVSKIY, I.M.; VOYNALOVICH, V.N.

Results of mi[illegible] shaft sinking using [illegible] equipment. Metall gornorud. prom. no.6:77-80 N-D '63. (MIRA 18:2)

SKAZKIN, F.D., prof.; LOVCHINOVSKAYA, Ye.I.; MILLER, M.S.; ANIKIYEV, V.V.; YATSKOVSKAYA, K.N., red.; SIDOROVA, V.I., red.izd-va; PAVLOVA, V.A., tekhn.red.

[Laboratory manual of plant physiology] Praktikum po fiziologii rastenii. Izd.5., ispr. i dop. Pod red. F.D.Skazkina. Moskva, Gos.izd-vo "Sovetskaia nauka," 1958. 338 p. (MIRA 12:5)

1. Deystvitel'nyy chlen Akademii pedagogicheskikh nauk RSFSR (for Skazkin).

(Botany--Physiology)

AUTHORS: Novikov, S. S., Korsakova, I. S., Yatskovskaya, M. A. 20-118-5-29/59

TITLE: On the Reaction of the Addition of Nitroalkanes to Benzalacetone (O reaktsii prisoyedineniya nitroalkanov k benzal'atsetonu)

PERIODICAL: Doklady Akademii Nauk SSSR, 1958, Vol. 118, Nr 5, pp. 954-956 (USSR)

ABSTRACT: The authors give a bibliography going back to 1916 and state that nitroalkanes are added to α, β-unsaturated ketones in presence of basic catalysts and natriumethylate (references 1-3). Yet this reaction was not investigated in dependence on the number and on the position of the nitro groups in the nitroalkanes, which is done in the present paper. By interaction of nitroethane and benzalacetone (catalyst: alcoholic solution of ethoxy trimethylphenyl-ammonium) a small yield of 2-nitro-3-phenylpentanone-5 was obtained. 1,1-dinitroethane reacts much more easily and shows better yields of 2,2-dinitro-3-phenylhexanone-5. A much more acid nitroalkane-trinitromethane adds still more actively to

Card 1/2

On the Reaction of the Addition of Nitroalkanes to Benzalacetone

20-118-5-29/59

benzalacetone and forms without catalysts 1,1,1-trinitro-2--phenylpentanone-4 with a good yield (80%). Dinitromethane is easily added to benzalacetone in presence of catalysts and forms 1,1-dinitro-2-phenylpentanone-4 without yielding an addition product of dinitromethane to 2 molecules of benzalacetone, as is the case as a consequence of several other reactions of dinitromethane (reference 4). This is followed by an experimetnal part with the usual data. There are 7 references, 2 of which are Soviet.

PRESENTED: October 26, 1957, by B. A. Kazanskiy, Member of the Academy

SUBMITTED: October 11, 1957

Card 2/2

YATSKOVSKIY, A.I.

Route of the first ascent on the Kronotskiy volcano. Biul. Vulk. sta. no.26:81-85 '57. (MIRA 11:5)

(Kronotskiy volcano)

YATSKOVSKIY, A.I.

A glacial fumarole in Ichinskaya Sopka. Izv. Vses. geog. ob-va 90 no.1:66-69 Ja-F '58. (MIRA 11:4)
(Ichinskaya Sopka)

YATSKOVSKIY, A.I.

Geographical names in the Ichinskiy Volcano region, Kamchatka.
Vop. geog. no.58:165-166 '62. (MIRA 15:9)
(Ichinskiy Volcano region—Names, Geographical)

YATSKOVSKIY, S.; KLIMOV, L., inzh.; ANTIPENKO, I., inzh.; TEGEL', E., starshiy prepodavatel'; BELEVANTSEV, I., komandir samoleta (Maykop); LYSENKO, A.; BUZENKOV, S.; BULGAKOV, Yu.

Technological innovations. Grazhd. av. 22 no.7:22-24 Jl '65. (MIRA 18:7)

1. "Kryl'ya Sovetov" (for Yatskovskiy). 2. Krivorozhskoye aviatsionnoye uchilishche (for Tegel').

KHVAL'KOVSKIY, N.V.; YATSKOVSKIY, T.

Effect of the fibrous content and fluffiness of wool and lavsan yarn blends on their coefficient of tangential resistance. Izv. vys. ucheb. zav.; tekh. tekst. prom. no.3:15-21 '62.
(MIRA 17:10)

1. Moskovskiy tekstil'nyy institut i Lodzinskiy politekhnicheskiy institut.

L 13586-63 EWT(l)/EWP(q)/EWT(m)/BDS/EED-2 AFFTC/ASD JD

ACCESSION NR: AP3004097 S/0070/63/008/004/0600/0603

AUTHOR: Katsnel'son, A. A.; Yatskul'yak, K. 65 60

TITLE: X-ray investigation of Al, Co, Cr, and Sc solid solutions in lanthanum and praseodymium orthoferrites

SOURCE: Kristallografiya, v. 8, no. 4, 1963, 600-603

TOPIC TAGS: lanthanum orthoferrite, praseodymium orthoferrite, aluminum ion, chromium ion, cobalt ion, scandium ion, ferric ion, bismuth ion, solid solution, lattice spacing, lattice parameter, x-ray diffraction line, line broadening, covalent bond, magnetic anisotropy, coercive force, magnetic moment, lanthanum ferrate(III), praseodymium ferrite(III)

ABSTRACT: The partial substitution of Al^{3+}, Cr^{3+}, Co^{3+}, or Sc^{3+} for Fe^{3+} in lanthanum ($LaFeO_3$) and praseodymium ($PrFeO_3$) orthoferrites [ferrates(III)], and the substitution of Bi ions for Pr ions simultaneously with the substitution of Al^{3+} for Fe^{3+} in $PrFeO_3$ have been studied by x-ray analysis to correlate the remarkable magnetic properties previously observed with structural changes in $LaFeO_3$ and $PrFeO_3$. Experimental data on lattice spacing (d), width, and intensity ratio of x-ray diffraction lines were obtained with an RKU-114 camera and CrK_α x-rays and

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recorded on film in the URS-55 x-ray recorder. It was established that all samples acquire a rhombic structure on crystallization. The a, b, and c parameters of the rhombic lattice were found to decrease when Al^{3+}, Cr^{3+}, or Co^{3+} were substituted for Fe^{3+} and to increase when Sc^{3+} was substituted for Fe^{3+}. The changes were greatest along the b axis. Thus, the lattice structure became nearly cubic when Al^{3+} ions were substituted for 5—10% Fe^{3+} or Co^{3+} ions for 10% Fe^{3+}. On a further increase in Al^{3+} content, the symmetry moved away from the cubic. When Al^{3+} ions were substituted for Fe^{3+}, the intensity of lines with an uneven sum of indices decreased and that of lines with an even sum of indices remained unchanged; such phenomena were not observed when Co^{3+}, Cr^{3+}, or Sc^{3+} ions were substituted for Fe^{3+}. An orderly arrangement of Al^{3+} ions in the orthoferrite lattice and a difference between the atomic parameters of Fe^{3+} and those of the substituting ions seem to be the two causes of the intensity decrease. Line broadening was observed on x-ray diagrams for $LaFeO_3$ and $PrFeO_3$ in which Al^{3+}, Co^{3+}, or Sc^{3+} ions were substituted for part of the Fe^{3+} ions. Harmonic analysis of the line profile showed a high degree of scattering by the sample to be the cause of the line broadening. A plot of unit-cell volume versus substituting-ion radius indicated a strengthening of the covalent bond in an orthoferrite lattice in which Fe^{3+} is partially substituted. Fluctuations in magnetic anisotropy and in coercive force, observed simultaneously

L 13586-63
ACCESSION NR: AP3004097

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with the lattice deformations in the partially substituted $LaFeO_3$ and $PrFeO_3$, are explained in terms of variations in the magnetic moments of the respective magnetic sublattices. "Sincere appreciation is expressed to V. I. Iveronova for proposing an interesting subject of investigation and for valuable discussion and to K. P. Belov, M. A. Zaytseva, and A. M. Kadomtseva for making samples and the data of their current magnetic investigations available and for their fruitful discussion of our results." Orig. art. has: 1 figure and 1 table.

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

SUBMITTED: 05Mar63 DATE ACQ: 15Aug63 ENCL: 00

SUB CODE: PH, MA NO REF SOV: 004 OTHER: 004

Card 3/3

ACCESSION NR: AP4011744 S/0181/64/006/001/0101/0107

AUTHORS: Belov, K. P.; Iveronova, V. I.; Zaytseva, M. A.; Kadomtseva, A. M.; Katsnel'son, A. A.; Yatskul'yak, K.

TITLE: Magnetic and structural properties of lanthanum orthoferrite during partial replacement of Fe 3+ ions by other trivalent ions

SOURCE: Fizika tverdogo tela, v. 6, no. 1, 1964, 101-107

TOPIC TAGS: magnetic property, structural property, orthoferrite, lanthanum, lanthanum orthoferrite, Fe 3+, Al 3+, Sc 3+, Co 3+, thermoremanent magnetization, magnetization intensity, hysteresis loop, crystal lattice

ABSTRACT: In these studies the Fe^{+3} ion was replaced, in part, by Al^{+3}, Sc^{+3}, Cr^{+3}, and Co^{+3}. Thermoremanent magnetization of $LaFeO_3$ cannot be reduced to zero even in a field of 20 000 oersteds, but if Al^{+3} ions replace some of the Fe^{+3} ions ($LaFe_{0.9}Al_{0.1}O_3$), introduced by orthorhombic distortion of the crystal lattice, thermoremanent magnetization almost disappears, and the hysteresis loops become symmetrical. These changes may be explained by the finely dispersed character of the samples. The change in magnetic properties on substitution of the indicated ions

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ACCESSION NR: AP4011744

is associated with change in degree of dispersion and with the orthorhombic distortion of the lattice. Along with these changes, an increase was observed in magnetization intensity. This is explained by the ordered distribution of Al^{*3} ions in the crystal lattice. Orig. art. has: 3 figures.

ASSOCIATION: Moskovskiy gosudarstvenny*y universitet im. M. V. Lomonosova (Moscow State University)

SUBMITTED: 10Jul63 DATE ACQ: 14Feb64 ENCL: 00

SUB CODE: PH NO REF SOV: 002 OTHER: 002

Card 2/2

AYZINBUDAS, L.B. [Aizinbudas, L.]; YATSKUNAS, K.M. [Jackunas, K.]; SHUOPITE, O.I. [Suoppyte, O.]

Effectiveness of the use of the biomass of methane fermentation bacteria in mixed feeds for chicks. Vit. res. i ikh isp. no.6:140-144 '63. (MIRA 17:1)

1. Litovskiy nauchno-issledovatel'skiy institut zhivotnovodstva i Litovskaya veterinarnaya akademiya, Kaunas.

YATSKUNAS, K. M., Cand of Agricul Sci -- (diss) "Lithuanian geese 'vishtin-
improving
es' and 'pul'kines' and measures for/their future pedigree." Vil'nyus, 1957,

20 pp (Lithuanian Agricultural Academy) (KL, 30-57, 112)

BURBA, V.Z.; YATSKUNAS, K.M. [Jackunas, K.M.], kand.sel'skokhozyaystvennykh nauk

A profit of one hundred thousand rubles from geese farming.
Ptitsevodstvo 8 no.6:24 Je '58. (MIRA 11:6)

1.Glavnyy zootekhnik po ptitsevodstvu Ministerstva sel'skogo khozyaystva Litovskoy SSR.
(Lithuania--Geese)

YAICKUNAS, K.

JACKUNAS, Kazia, kand. sel'khoz. nauk; KILAS, M., red.; LUKOSEVICIUS, St., tekhn. red.

[Raising young poultry] Paukaciu priesuglio auginiras. Vilnius, Valstybine politines ir mokslines literaturos leidykla, 1961. 44 p. (MIRA 15:3)

(Poultry)

YATSKUNENE, A. V.

USSR / Farm Animals. Poultry. Q-6

Abs Jour : Ref Zhur - Biol., No 14, 1958, No 64549

Author : Yatskunene, A. V.
Inst : Lithuanian Scientific Research Institute of Animal Husbandry and Veterinary Medicine
Title : Effect of Azotobacter on the Growth and Development of Chicks

Orig Pub : Byul. nauchno-tekhn. inform. Lit. n.-i. in-t zhivotnovodstva i veterinarii, 1957, No. 2, 19-20

Abstract : The experiments were carriex out on 2 groups of one-day old chicks (10 chicks in each). In the experimental group, one-half of the amount of soybean oil meal was replaced by azotobacter culture. During 40 days of experimentation, the gain of one chick of the control group averaged 179.6 g., and that of the experimental group - 185.4 g. (10.32 more). In the experimental group, the Hb percentage was increased. The average comb height was 12.6 mm. in experimental chicks,

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Abs Jour : Ref Zhur - Biol., No 14, 1958, No 64549

and 8.5 mm. in the control ones. The internal organs (heart, spleen, sexual glands) were better developed in the experimental chicks.

KRASNOV, K.S.; KASHIRINA, F.D.; YATSMIRSKIY, K.B.

Thermodynamics of the extraction of ionic associates as exemplified by the extraction of triphenylmethane dye salts. Trudy Kom. anal.khim. 14:59-75 '63. (MIRA 16:11)

YATSMIRSKIY, K.B.; PRIK, K.Ye.

Complex formation of tungsten (VI) with some inorganic ligands in dilute solutions. Zhur.neorg.khim. 9 no.1:178-182 Ja '64. (MIRA 17:2)

YATSOVSKIY, S. A.

USSR/Engin
Metallurgy
Casting

Dec 1947

"Selection of Weight and Method of Casting Quality Steel Pig,"
S. Z. Yudovich, S. A. Yatsovskiy, Engineers, KMK, 6 pp

"Stal'" No 12

Experiments conducted at one of the plants of the Kuznets Combine. As result of data obtained, authors state that the weight of pig of quality steel could be increased to 6 tons or more. Also explain possibility of using siphon pouring. With the siphon method it is possible to decrease the number of flaws and air holes with no loss of quality.

PA 57T26

SHEVTSOV, Ye.I.; ZUBAKOV, S.M.; BABIN, P.N.; YATSOVSKIY, S.A.

A new rapid method for repairing basic hearths in openhearth furnaces. Izv. AN Kazakh. SSR Ser.gor.dela, met. i stroimat. no.2:151-163 '54. (MLRA 9:6)
(Open hearth furnaces)

YATSOVSKIY, S.A.

SHEVTSOV, Ye.I., kandidat tekhnicheskikh nauk; KLEYN, A.L., inzhener; YATSOVSKIY, S.A., inzhener.

Hidden resources of mazut-heated Martin furnaces. Stal' 15 no.1: 41-45 Ja '55. (MLRA 8:5)

1. Kazakhskiy metallurgicheskiy zavod.
(Open-hearth process) (Liquid fuels)

SHEVTSOV, Ye.I., inzhener; YATSOVSKIY, S.A., inzhener; ZYBAKOV, S.M., inzhener; BABIN, P.N., inzhener.

Overlay welding of basic hearths. Stal.proizv.no.1:109-119 '56. (MLRA 9:9)

1.Kazakhskiy metallurgicheskiy zavod (for Shevtsov, Yatsovskiy).
2.Institut arkhitektury, stroitel'stva i stroitel'nykh materialov AN KazSSR (for Zubakov, Babin).

(Open-hearth furnaces--Repairing)

ZUBAKOV, S.M.; BABIN, P.N.; SHEVTSOV, Ye.I.; YATSOVSKIY, S.A.

Repair and maintenance of basic fettlings. Vest.AN Kazakh.SSR 12 no.4:68-78 Ap '56. (MLRA 9:8)

1. Institut stroitel'stva i stroitel'nykh materialov AN KazSSR (for Zubakov, Babin); 2. Kazakhskiy metallurgicheskiy zavod (for Shevtsov, Yatsovskiy).
(Open-hearth furnaces--Repairing)

YATSOVSKIY, S.A.

BABIN, P.N.; KARLYSHEV, B.N.; AVER'YANOV, V.A.; VASHCHENKO, F.I.; YATSOVSKIY, S.A.

Using Chinese metallurgical magnesite in hot repair of the bottoms of open-hearth furnaces. Vest. AN Kazakh. SSR 13 no.3:79-86 Mr '57. (MLRA 10:6)

1. Institut stroitel'stva i stroitel'nykh materialov Akademii nauk Kazakhskoy SSR (for Babin and Karlyshev). 2. Kazakhskiy metallurgicheskiy zavod (for Aver'yanov, Vashchenko and Yatsovskiy).

(Open-hearth furnaces--Repairing) (Magnesite)

YATSOZHINSKIY, Yu.D., Cand Med Sci--(diss) "Extrapleural pneumolysis in a non-effective artifical pneumothorax." Kiev, 1958. 15 pp (Min of Health UkSSR. Kiev Order of Labor Red Banner Med Inst im Acad. A.A.Bogomolets), 200 copies (KL,43-58, 108)

GOROVENKO, G.G., starshiy nauchnyy sotrudnik; MIKHEL'SON, B.V., nauchnyy sotrudnik; YATSOZHINSKIY, Yu.D., nauchnyy sotrudnik TARAPON, Yu.G., nauchnyy sotrudnik

Causes of the ineffectiveness of lung collapse surgery in pulmonary tuberculosis. Pat.,klin.i terap.tub. no.8:377-381 '58. (MIRA 13:7)

1. Iz Ukrainskogo nauchno-issledovatel'skogo instituta tuberkuleza im. akad. F.G. Yanovskogo.
(TUBERCULOSIS) (LUNGS--COLLAPSE)

43

YATSOZHINSKIY, Yu.D.; KIMYAGAROV, Ya.E.; KRAULIS, V.Yu.; RASULOV, Kh.A.

Results of 100 resections of the lungs. Zdrav. Tadzh. 8 no.6:10-13 N-D '61. (MIRA 15:1)

1. Iz kafedry tuberkuleza Tadzhikskogo meditsinskogo instituta imeni Abuali ibni Sino i Respublikanskoy klinicheskoy tuberkuleznoy bol'nitsy Tadzhikskoy SSR.
(LUNGS—SURGERY)

YATSOZHINSKIY, Yu.D.; KIMYAGAROV, Ya.E.

Surgical treatment of pulmonary hemorrhage. Zdrav. Tadzh. 8 no.6: 14-16 N-D '61. (MIRA 15:1)

1. Iz kafedry tuberkuleza (zav. Yu.D.Yatsozhinskiy) Tadzhikskogo meditsinskogo instituta imeni Abuali ibni Sino i khirurgicheskogo otdeleniya Respublikanskoy klinicheskoy tuberkuleznoy bol'nitsy (glavnyy vrach Kh.A.Rasulov) Tadzhikskoy SSR.
(HEMORRHAGE) (LUNGS--SURGERY)

YATSOZHINSKIY, Yu.D.; KIMYAGAROV, Ya.E.; MURADOV, M.K.

Single-stage double-sided resection of the lungs in tuberculosis.
Zdrav. Tadzh. 8 no.6:31-33 N-D '61. (MIRA 15:1)

1. Iz kafedry tuberkuleza (zav. - dotsent Yu.D.Yatsozhinskiy) Tadzhikskogo meditsinskogo instituta imeni Abuali ibni Sino i Respublikanskoy klinicheskoy tuberkuleznoy bol'nitsy (glavnyy vrach - Kh.A.Rasulov) Tadzhikskoy SSR.
(TUBERCULOSIS) (LUNGS--SURGERY)

SHANSKIY, L.; YATSOZHINSKIY, Yu.

All-Union Conference on the Control of Tuberculosis. Zdrav. Tadzh. 8 no.6:41-43 N-D '61. (MIRA 15:1)
(TUBERCULOSIS--PREVENTION)

SHANSKIY, L.V.; YATSOZHINSKIY, Yu.D.

Present status of and problems in the control of tuberculosis in Tajikistan. Zdrav. Tadzh. 8 no.6:3-6 N-D '61. (MIRA 15:1)

1. Glavnyy vrach Respublikanskogo protivotuberkuleznogo dispansera Tadzhikskoy SSR (for Shanskiy). 2. Zaveduyuschiy kafedroy tuberkuleza Tadzhikskogo meditsinskogo instituta imeni Abuali ibni Sino.
(TAJISISTAN--TUBERCULOSIS--PREVENTION)

GOROVENKO, G. G.; BRUSILOVSKIY, B. M.; LOZOVOY, Ye. Kh.; MARSHAK, A. Yu.; MIKHEL'SON, B. V.; PILIPCHUK, N. S.; SLEPUKHA, I. M.; SOKOLIK, Yu. I.; TARAPON, Yu. G.; YATSOZHINSKIY, Yu. D.

Results of the use of thoracoplasty and extrapleural pneumolysis in pulmonary tuberculosis. Probl. tub. no.2:24-29 '62. (MIRA 15:2)

1. Iz 1-go khirurgicheskogo otdeleniya (zav, - st. nauchnyy sotrudnik G. G. Gorovenko) Ukrainskogo nauchno-issledovatel'skogo instituta tuberkuleza imeni akad. F. G. Yanovskogo (dir. - dotsent A. S. Mamolat)

(TUBERCULOSIS)
(LUNGS--COLLAPSE)
(CHEST--SURGERY)

YATSOZHINSKIY, Yu.D.; KRAULIS, V.Yu.

Results of resection and antibacterial therapy in bilateral pulmonary tuberculosis processes. Zdrav. Tadzh. 10 no.5:8-11 '63. (MIRA 17:2)

1. Iz kafedry tuberkuleza (zav. - dotsent Yu.D. Yatsozhinskiy) Tadzhikskogo meditsinskogo instituta.

CHERNYAGO, V.A.; YATSOZHINSKIY, Yu.D.

Errors in the diagnosis of tuberculomas and echinococcus of the lungs. Zdrav. Tadzh. 10 no.5:29-31 '63.
(MIRA 17:2)

1. Iz kafedry tuberkuleza (zav. - dotsent Yu.D. Yatsozhinskiy) Tadzhikskogo meditsinskogo instituta i khirurgicheskogo otdeleniya Tadzhikskoy respublikanskoy klinicheskoy tuberkuleznoy bol'nitsy (zav. - V.Yu. Kraulis).

SOV/109- -4-3-34/38

AUTHORS: Shestopalov, V.P., and Yatsuk, K.P.

TITLE: Applications of Slow Surface Waves for the Measurement of the Permittivities of Materials at Ultrahigh Frequencies (Ispol'zovaniye medlennykh poverkhnostnykh voln dlya izmereniya dielektricheskikh pronitsayemostey veshchestva na sverkhvysokikh chastotakh)

PERIODICAL: Radiotekhnika i Elektronika, Vol 4, Nr 3, 1959, pp 547-549 (USSR)

ABSTRACT: It is known (Ref 1) that a helix having a radius a and a winding angle has the scattering equation in the form:

$$\frac{k^2}{k_1^2}\,\mathrm{ctg}^2\,\psi = \frac{I_0(k_1a)\,K_0(k_1a)}{I_1(k_1a)\,K_1(k_1a)}\,, \qquad (1)$$

where $k = \frac{\omega}{c} = \frac{2\pi}{\lambda_0}$; $k_1^2 = k_3^2 - k^2$; $k_3 = \frac{\omega}{v_\phi} = \frac{2\pi}{\lambda_g}$;

where λ_0 is the wavelength in free space, λ_g is the length of the wave slowed-down by the helix, ω is the frequency of the generator and v_ϕ is the phase velocity of the wave in the helix. If the helix contains a dielectric rod of a radius a , the scattering equation

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Applications of Slow Surface Waves for the Measurement of the Permittivities of Materials at Ultrahigh Frequencies

can be written as Eq (2). On the basis of Eqs (1) and (2) it is possible to find the value of the permittivity ε of the rod and this is approximately given by:

$$\varepsilon = 2\left(\frac{\lambda_g}{\lambda'_g}\right)^2 - 1 \qquad (4)$$

If there is a clearance between the rod and the helix, the expression for ε is given by Eq (5), where b is the radius of the rod; λ'_g is the length of the wave slowed-down by the helix and the rod. If the helix is such that the radius of its conductor is small in comparison with its period, the expression for ε is given by Eq (6) where d is the period of the helix. On the other hand, when the period of the helix is small in comparison with the radius of the helix, the expression for ε is given by Eq (7). The above formulae were employed in the measurements of the permittivity of a number of dielectrics at wavelengths ranging from 18 to 33 cm. The results are shown graphically in Figs 1 and 2; the results of Fig 1 do not take into account the

Applications of Slow Surface Waves for the Measurement of the Permittivities of Materials at Ultrahigh Frequencies

clearance between the rod and the helix, while those of Fig 2 were evaluated by employing Eq (5).
There are 2 figures and 5 references, 4 of which are Soviet and 1 English.

ASSOCIATION: Khar'kovskiy Gosudarstvennyy Universitet imeni A.M. Gor'kogo (Khar'kov State University imeni A.M. Gor'kiy)

SUBMITTED: July 10, 1958

AUTHOR: Yatsuk, K.P. Dielectric SOV/109-4-7-19/25

TITLE: Measurement of the Permittivity of Liquids at Ultra-high Frequencies by Means of Surface Waves

PERIODICAL: Radiotekhnika i elektronika, 1959, Vol 4, Nr 7, pp 1205 - 1206 (USSR)

ABSTRACT: In two earlier works, the author proposed a method of measuring the permittivity of solid dielectrics by means of surface waves (Refs 1, 2). Here, the method is extended to liquid dielectrics. A metal helix having a radius a and a winding angle Ψ is immersed in an "infinite" liquid dielectric, having a permittivity $\varepsilon_{ж}$. The dispersion equation of the system can be written as Eq (1), where λ_g' is the wavelength of the oscillations delayed by the helix and the dielectric, v_φ' is the phase velocity of the waves in the helix-dielectric system. If this equation is solved simultaneously with the dispersion equation for the helix in free space, $\varepsilon_{ж}$ can be expressed

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by Eq (2), where λ_o is the wavelength in free space, λ_g is the wavelength in the helix, v_ϕ is the phase velocity in the helix (which is situated in free space), and $I_o(x)$, $I_1(x)$, $K_o(x)$ and $K_1(x)$ are modified Bessel functions of the first and second kind. In practice, the measurement is effected more conveniently by using a helix wound on a dielectric tube having a known permittivity ε_T. The tube is filled with the investigated liquid. If the winding of the helix is close and the thickness of the tube walls is (a - b), the expression for the permittivity is:

$$\varepsilon_{\text{ж}} = \frac{\varepsilon_T(2A - 1) - \varepsilon_T^2 B}{\varepsilon_T - (2A - 1)B} \qquad (4)$$

Measurement of the Permittivity of Liquids at Ultra-high Frequencies by Means of Surface Waves

where A and B are given by the next equations on p 1205. If it is first assumed that $\varepsilon_{\text{ж}} = 1$ (air dielectric), Eq (4) can be used to determine ε_T ; this is given by Eq (5). Next, Eq (4) is used to evaluate $\varepsilon_{\text{ж}}$. Eq (4) was checked experimentally by employing a glass tube having a length of 100 mm and a wall thickness of 0.5 mm. It was found that the measurements at frequencies from 1 000 - 1 500 Mc/s could be effected with an error of $\pm$ 10% . There are 2 Soviet references.

ASSOCIATION: Khar'kovskiy gosudarstvennyy universitet im. A.M. Gor'kogo (Khar'kov State University imeni A.M. Gor'kiy)

SUBMITTED: November 12, 1958

YATSUK, K. P., Cand Phys-Math Sci -- (diss) "Utilization of slow wave-surfaces for the measurement of dielectric permeability of matter at superhigh frequencies." Khar'kov, 1960. 7 pp; (Ministry of Higher and Secondary Specialist Education Ukrainian SSR, Khar'kov Order of Labor Red Banner State Univ im A. M. Gor'kiy); 150 copies; free; bibliography at end of text (15 entries); (KL, 26-60, 131)

24.2120

77309
SOV/57-30-2-6/18

AUTHORS: Yatsuk, K. P., and Bychkova, G. N.

TITLE: Application of Resonant Delay Systems for Dielectric Permittivity Measurements at Ultra High Frequencies

PERIODICAL: Zhurnal tekhnicheskoy fiziki, 1960, Vol 30, Nr 2, pp 165-167 (USSR)

ABSTRACT: As it was shown by Vladimirskiy (DAN SSSR, 52, 219, 1946), resonators obtained from sections of delay lines containing diaphragms (see Fig. 1) have field intensities decreasing when going toward the center along radial directions. Putting a dielectric specimen in the region of weak intensities modifies the properties of the system less than when located in the regions of strong intensities. The system may be, therefore, used for measurements of dielectric permittivity of materials producing significant losses. The authors noted that one can develop a simple equation for the relative frequency change $\triangle$ f/f for the case where the dielectric sample of small cross section is located along the axis of the system. Only the

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longitudinal component is then different from zero, and since then $E = E_{zo}$, we have

$$\frac{\Delta f}{f} = \frac{\varepsilon_0(\varepsilon - 1)v}{8} \frac{|E_{zo}|^2}{w}$$

where ε_0, ε - dielectric permittivity of the free space and the perturbing body, respectively; v - volume of the perturbing body; w - total energy stored in the resonator. The quantity $\frac{E_{zo}^2}{W}$, proportional to the coupling resistance, is fully determined by the geometry and frequency. It could, therefore, be either measured or computed, and Eq. (2) would then yield the dielectric permittivity. Experimentally one can measure the variation of frequency Δf_1 of a specimen of known permittivity ε_1; then the unknown permittivity ε_x is given by

$$\varepsilon_x = \frac{\Delta f_0}{\Delta f_1}(\varepsilon_1 - 1) + 1$$

Application of Resonant Delay Systems for Dielectric Permittivity Measurements at Ultra High Frequencies

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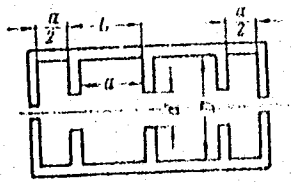

Fig. 1.

Tests were performed using waves in the ten-centimeter range. The dimensions of the resonator on Fig. 1 were: D = 9 cm, L = 2.6 cm, d = 3.4 cm and the diaphragm thickness L-a = 0.6 c,. The device resonated at f_1 = 2783 Mc, f_2 = 2750 Mc, f_3 = 2676 Mc, and f_4 = 2638 Mc, with respective phase-displacement per cell $\varphi_1 = \pi$, $\varphi_2 = 2/4\,\pi$, $\varphi_3 = 1/3\,\pi$, and $\varphi_4 = 0$. Maximum axial field intensity was,

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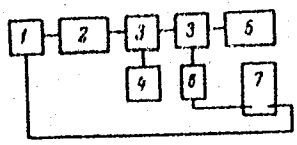
consequently, for $\varphi = 0$ and smallest for $\varphi = \pi$. The block diagram of the measuring device is on Fig. 2.



1 is the modulator of the saw-like potential; 2 - klystron generator; 3 - coaxial branch boxes; 4 - wavemeter VST-10; 5 - measuring resonator; 6 - detector; 7 - oscillograph. The authors investigated liquid dielectrics placed in glass capillaries with a 1 mm inner diameter and wall thickness of 0.05 mm. Distilled water was used as standard. They mixed carefully purified dioxane with water, and results obtained are given in table.

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Table. (a) ϵ comp; (b) ϵ exper.

(a)	(b)	(a)	(b)
23.5	22.6	51.5	50.4
48.3	46.6	63	65
50.22	50		

Computed values were obrained following Akerlof and Short (see reference). The authors measured also the permittivity of alcohol and aceton at frequencies f_2 and f_3 and found the values of 23.8 and 20.4, respectively. Formamide at f_2 yielded a value of ϵ = 86.6. The choice of frequencies depended on the properties of materials under investigation. Tests at the f_1 frequency resulted usually in low-frequency shift. At f_4

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and sometimes at f_3 the authors encountered spreading of the resonance curves due to large interactions between the field and samples. The authors advise use of large field intensities ($\psi = 0$) in the case of small dielectric permittivities, and vice versa. When significant losses are present in the material under investigation one should use weak fields. There are 2 figures; 1 table; and 4 references, 2 Soviet, 1 East German, 1 U.S. The U.S. reference is: G. Akerlof, O. A. Short, J. Am. Chem. Soc., 58, 1241, 1936.

ASSOCIATION: Khar'kov State University imeni A. M. Gor'kiy (Khar'kovskiy gosudarstvennyy universitet imeni A. M. Gor'kogo)

SUBMITTED: July 10, 1959

S/057/60/030/04/09/009
B004/B002

AUTHORS: Shestopalov, V. P., Yatsuk, K. P., Bugay, N. D.

TITLE: Consideration of the Periodic Properties of a Spiral in Measuring the Dielectric Constant in Substances by Means of the Spiral Waveguide Method

PERIODICAL: Zhurnal tekhnicheskoy fiziki, 1960, Vol. 30, No. 4, pp. 460-463

TEXT: The authors investigated the system consisting of a spiral and a dielectric, which completely fills the interior of the spiral, and which has the dielectric constant ε. Parameter a (radius of the spiral), ψ (angle of the winding), d (pitch of the spiral), 2b (bandwidth of the winding) were used for the calculation. First, the dispersion equations of a wide-band spiral are derived. Fig. 1 shows the dispersion curves drawn by means of them when porcelain is used as dielectric. The dispersion properties are little affected by 2b and d. Furthermore, the equations for spirals with narrow bands are derived. The experimental checking was conducted by means of an apparatus described in Refs. 1 and 2.

VB

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Consideration of the Periodic Properties of a Spiral in Measuring the Dielectric Constant in Substances by Means of the Spiral Waveguide Method

S/057/60/030/04/09/009
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The substances investigated were: viniplast, porcelain, and ebonite. Data are given in Table 1. The results of measurements with and without taking periodicity into account, are shown in Table 2. With narrow-band windings, the action of 2b and d upon the dispersion properties is slightly stronger. There are 1 figure, 2 tables, and 4 Soviet references.

ASSOCIATION: Khar'kovskiy gosuniversitet im. A. M. Gor'kogo
(Khar'kov State University imeni A. M. Gor'kiy)

SUBMITTED: July 2, 1959

/B

Card 2/2

SHESTOPALOV, V.P., SLYUSARSKIY, V.A., YATSUK, K.P.

Investigating delay systems of the type spiral-anisotropic dielectric and spiral-finned structure. Part 2. Zhur. tekh. fiz. 30 no.7:835-839 Jl '60. (MIRA 13:8)

1. Khar'kovskiy gosudarstvennyy universitet im. A.M. Gor'kogo.
(Radio circuits)

26219
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J4,7700 (1144, 1163, 1143)

AUTHORS: Shestopalov, V. P., and Yatsuk, K. P.

TITLE: Methods of measuring the dielectric constants of materials at superhigh frequencies

PERIODICAL: Uspekhi fizicheskikh nauk, v. 74, no. 4, 1961, 721-755

TEXT: The present article summarizes the most frequently employed methods of s-h-f measurement of ε and $\tan\delta$. First, problems on the classification of these methods are dealt with. The following classification has been adopted in most publications: 1) methods using waves in the free space; 2) methods using directed waves; and 3) resonance methods. The method of directed waves, most frequently employed, is in its turn divided into subgroups: the twin-wire, waveguide, and coaxial-line methods: in the twin-wire line method, the following variants are distinguished: the first and the second method of Drude, the plate method of D. A. Rozhanskiy, and the method of V. V. Tatarinov. The other groups are subdivided similarly. From the general physical point of view of the interaction between field and matter, all the methods may be subdivided into the four

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Methods of measuring the dielectric ...

main groups stated hereinafter: 1) methods basing on investigation of the field of stationary waves in the dielectric investigated; 2) methods basing on consideration of such waves as are reflected from the medium investigated; 3) methods basing on investigation of waves penetrating the medium; and 4) resonance methods. At last, attention is drawn to papers of N. A. Divil'kovskiy and M. I. Filippov, who determined ε from the change in temperature occurring in a small dielectric sphere in the h-f field. In the following, the most important methods are described, first the methods using fast waves. 1) Investigation of the stationary wave field in the dielectric: ε is determined from the well-known formula $\varepsilon=(\lambda_o/\lambda_{diel})^2$, and the loss angle from $\tan\delta=\frac{2}{\pi}\frac{E_{min}}{E_{max}}$. Moreover, the twin-wire line method of V. I. Kalinin and the coaxial-line method are briefly outlined. 2) Investigation of waves reflected from the dielectric. Subject of discussion is chiefly the short-circuit line method, followed by a description of its variants. Limiting cases, such as a dielectric without losses and another exhibiting high losses, are discussed in detail. Simple experimental arrangements used for measuring ε and $\tan\delta$ by means of

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