CA EFIMOVA, K.

114

**Determination of moisture of pancreatin.** Kh. Gertsova and A. Efimova (Leningrad Meat Combinate of S. M. Kirova). *Myasnaya Ind. S.S.S.R.* **23**, No. 3, 70-8(1952). —The rate of drying of pancreatin (contg. lactose) was detd. at temps. of 40–100° and under vacuum at 30 and 40°. Drying for moisture detn. in a 100° oven required 12–14 hrs.; in vacuum (300–350 mm.) at 40° 1.5–2 hrs. was required. M. M. Piskur

YEFIMOVA, A.

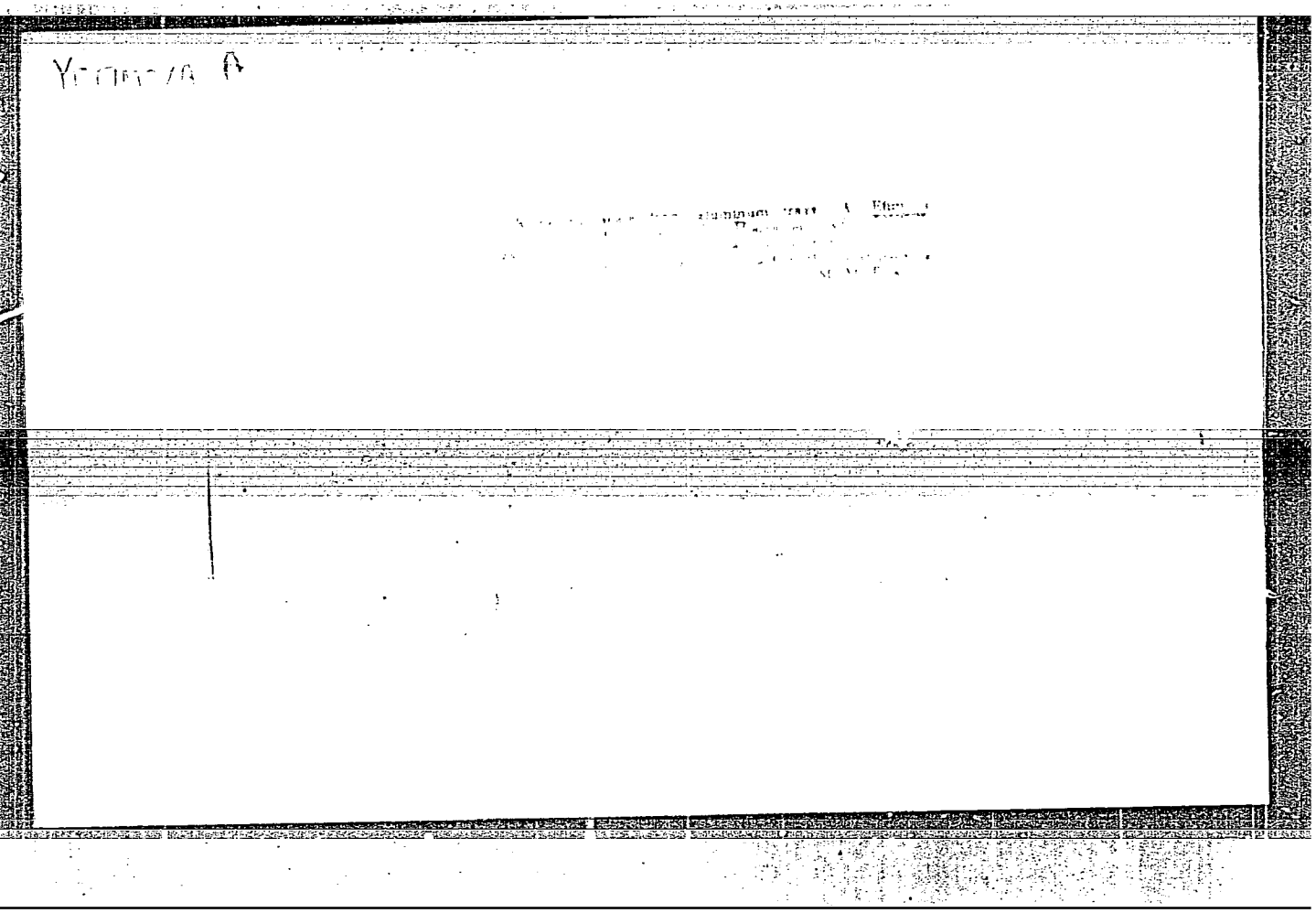
Rapid method for determination of moisture in products. Myasnaya Ind. S.S.S.R. 24, No.3, 88-90 '53. (MLRA 6:7)
(CA 47 no.22:12122 '53)

1. S.M.Kirov Meat Combine, Leningrad.

YEFIMOVA, A.

Chemical Abst.
Vol. 48 No. 8
Apr. 25, 1954
Fats, Fatty Oils, Waxes, and Detergents

Determination of moisture of fat. A. Efimova (S. M. Kirov Meat Combine, Leningrad). *Myasnaya Ind. S.S.S.R.* 24, No. 5, 64-6(1953).—The method comprises drying the fat at 70–5° in a desiccator which is being continuously evacuated and flushed with $CO_2$. M. M. Piskur—



YEFIMOVA, A.; KORINSKAYA, V.

Conference dedicated to local geography and the principle of founding the teaching of geography on local data. Geog. v shkole 25 no.4:84 Jl-Ag '62. (MIRA 15:8)
(Geography--Study and teaching)

YEFIMOVA, A.
KHIMIYA

USSR/Chemical Technology - Chemical Products and Their Application. Treatment of Natural Gases and Petroleum. Motor Fuels. Lubricants, I-13

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 62578

Author: Marakeyev, A., Yefimova, A.

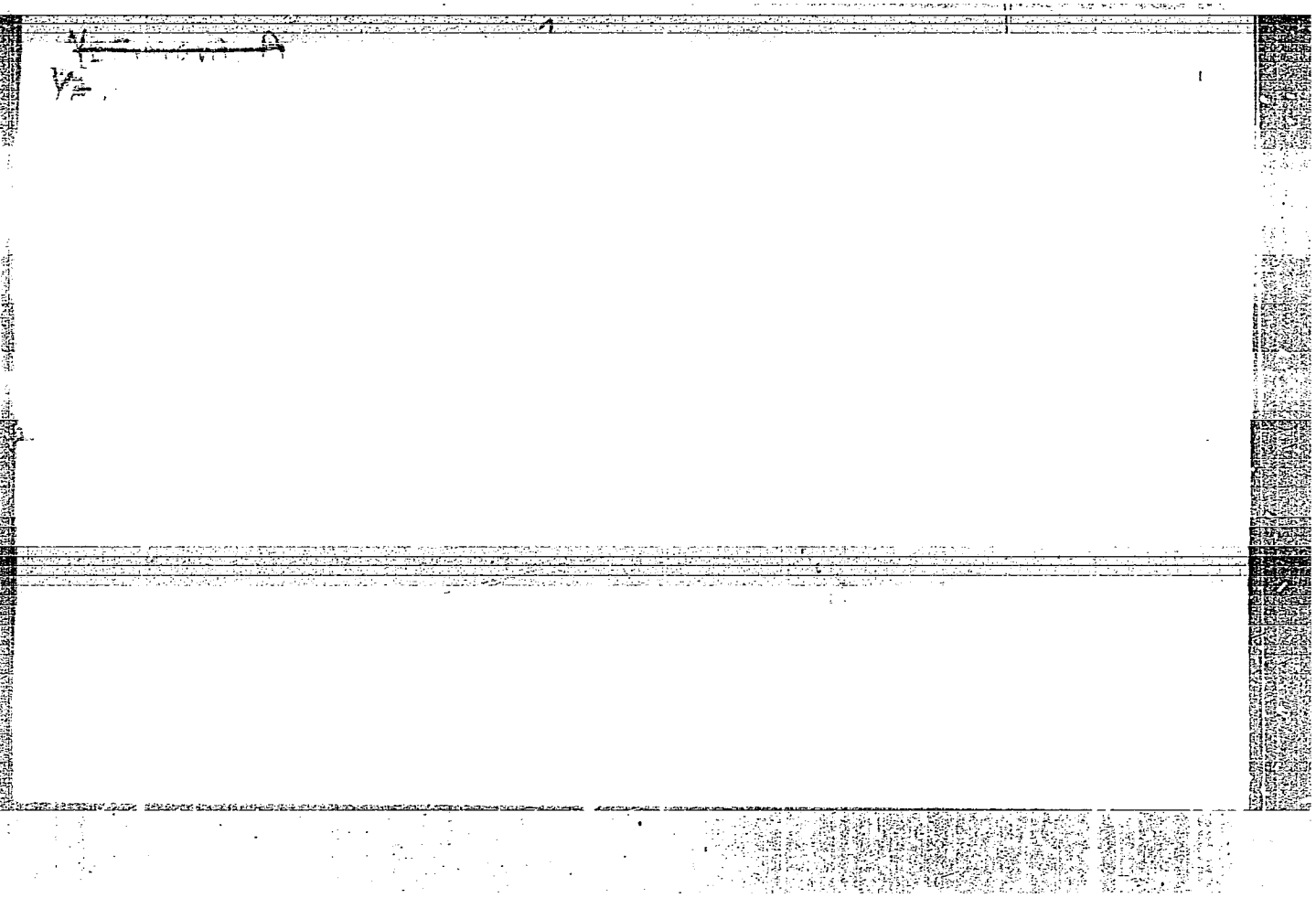
Institution: None

Title: Investigation of Caustic Components of Tuymazinsk Devonian Petroleum

Original Periodical: Novosti neft. tekhniki, Neftepererabotka, 1955, No 3, 21-27

Abstract: A study was made of the behavior of S-compounds contained in Devonian petroleum and petroleum products derived therefrom, on cracking of the latter, and an investigation was also made of changes in composition of the salts in this petroleum on salt removal. Thermal treatment in a laboratory cracking unit of continuous operation at 300-500° and 30 atmospheres pressure, was applied to the 205-294° and 276-365° fractions of Tuymazinsk Devonian petroleum and this petroleum as such containing 1.787% sulfur. Experiments

Card 1/2



YEFIMOVA, A. A.

EFIMOVA, A.A.

USSR / Microbiology - Microbes Pathogenic to Humans and Animals F-4

Abs Jour: Referat. Zh. Biol., No. 1, 1958, 730

Author : Efimova, A.A.

Title : On Diminishing Toxicity of Complex Antigens of Intestinal Group Bacteria

Orig Pub: Nauchn. tr. Mosk. n.-i. in-t vaktsin i syvorotok, 1956, 8, 566-570

Abstract: The possibility of diminishing toxicity of dysentery bacteria antigens was verified by Trefers' methods (solution of antigen in pyridine with addition to the culture of specific quantities of acetic anhydride and stopping antigen acetylation at different periods by dilution with water). It was shown that antigens with different periods of acetylation are insoluble in water, not toxic,

Card 1/2



USSR / Microbiology - Microbes Pathogenic to Humans and Animals F-4

Abs Jour: Referat. Zh. Biol., No. 1, 1958, 730

and lose the property of being precipitated. Immunization by antigens acetylated 12 and 14 hours at a dosage of 0.01 mg and deposited gives protection only in 13-14% of cases, and the original antigen at the same dosage in 100% of the cases. Immunization of mice by an antigen acetylated for 6 or 48 hours, converted into soluble form, protected mice at a dose of 0.05 mg in 53.3 and 13.3% of cases, respectively. Thus it is shown that diminishing toxicity of antigen by the Trefers method is combined with a loss or considerable diminution of immunizing properties.

Card 2/2

YEFIMOVA, A.A.

Carbohydrate composition of specific polysaccharides of certain types of pahtogenic bacteria of the enteric group. Zhur.mikrobiol.,epid.i immun. 30 no.11:100-107 N '59. (MIRA 13:3)

1. Iz Moskovskogo instituta vaktsin i syvorotok imeni Mechnikova.
(SHIGELLA chem.)
(POLYSACCHARIDES chem.)
(SALMONELLA chem.)

YEFIMOVA, A. A., Cand Biol Sci -- (diss) "Carbohydrate composition of specific polysaccharides of some kinds of pathogenic bacteria of the intestinal group." Moscow, 1960. 14 pp; (First Moscow Order of Lenin Medical Institute im I. M. Sechenov); 200 copies; price not given; (KL, 19-60, 131)

YEFIMOVA, A.A.; KORINSKAYA, V.A.

Testing students' knowledge in the course on the geography of the parts of the world and most important states. Geog. v shkole 26 no.2:77-81 Mr-Ap '63. (MIRA 16:4)

(Geography—Examinations, questions, etc.)

YEFIMOVA, A.A.

Carbohydrate composition of specific polysaccharides in various serological types of Escherichia coli. Zhur. mikrobiol., epid. i immun. 40 no.9:101-106 S'63.

1. Iz Moskovskogo instituta vaktsin i syvorotok imeni Mechnikova.

EINGORN, A.L.; YEFIMOVA, A.A.; BARYKINA, Z.V.; BOCHKOVA, V.A.; MIKHEYEVA, G.A.

Active immunization of children in an early period of primary tuberculous infection with the polyvalent pertussis-diphtheria-tetanus vaccine. Zhur.mikrobiol., epid. i immun. 42 no.9:24-31 S '65. (MIRA 18:12)

1. Moskovskiy institut epidemiologii i mikrobiologii i Institut pediatrii AMN SSSR.

YEFIMOVA, A.A.

Clinical aspect and diagnosis of tuberculous meningitis in children. Sovet.med. no.4:7-9 Apr 51. (CLML 20:8)

1. Of the Tuberculosis Division (Head--Prof. I.V. Tsimbler) of the Institute of Pediatrics of the Academy of Medical Sciences USSR (Director--Prof. G.N. Speranskiy, Active Member of the Academy of Medical Sciences USSR).

YEFIMOVA, A. A.

Clinical evaluation of cerebrospinal fluid examination in tuberculous meningitis treated with streptomycin. Pediatriia, Moskva no. 4: 34-41 July-Aug. 1952. (CLML 22:5)

1. Of the Institute of Pediatrics of the Academy of Medical Sciences USSR (Director -- Prof. G. N. Speranskiy, Active Member AMS USSR, Corresponding Member AS USSR; Scientific Supervisor -- Prof. Tsimbler).

YEFIMOVA, A.A.

Special features of the clinical course and diagnosis of tuberculous meningitis in children. Fel'dsher & akush. no.8:16-19 Aug 1953. (CIML 25:1)

1. Moscow.

YEFIMOVA, A. A.

"Clinical Evaluation of the Data of an Investigation of Spinal Fluid in Tuberculous Meningitis in Children, Treated With Streptomycin." Cand Med Sci, Acad Med Sci USSR, 24 Feb 54. Dissertation (Vechernyaya Moskva Moscow, 15 Feb 54)

SO: SUM 166, 19 Aug 1954

YEFIMOVA, A.A.

MOSKACHEVA, K.A., kandidat meditsinskikh nauk; KALYUZHNAYA, R.A., kandidat meditsinskikh nauk; YEFIMOVA, A.A.

Roentgenotherapy of cerebral edema complicating tuberculous meningitis. Vest.rent.i rad. no.1:49-53 Ja-F '55. (MLRA 8:5)

1. Iz Instituta pediatrii (dir. prof. M.N.Kazantseva) Akademii meditsinskikh nauk SSSR i rentgenoterapevticheskogo otdela (zav. prof. L.D.Podlyashuk) Gosudarstvennogo nauchno-issledovatel'skogo instituta rentgenologii i radiologii imeni V.M.Molotova (dir. I. G. Lagunova).

(TUBERCULOSIS, MENINGEAL, complications,
brain edema, ther., x-ray)
(RADIOTHERAPY, in various diseases,
brain edema in tuberc. meningitis)
(BRAIN, diseases,
edema in tuberc. meningitis, x-ray ther.)
(EDEMA,
brain, in tuberc. meningitis, x-ray ther.)

YEFIMOVA, A.A., kandidat meditsinskikh nauk.

How to prevent tuberculosis in children. Zdorov'e 1 no.12:14-16 D '55. (TUBERCULOSIS--PREVENTION) (MLRA 9:2)

YEFIMOVA, A.A. kandidat meditsinskikh nauk (Moskva)

Preventive vaccination of children against tuberculosis. Fel'd. 9 akush. no.6:36-38 Je '55. (MLRA 8:8)
(BCG VACCINATION, in infant and child in Russia)

YEFIMOVA, A.A., kandidat meditsinskikh nauk

Treating sequelae of poliomyelitis at home. Zdorov'e 2 no.7:31 Jl '56. (MLRA 9:8)

(POLIOMYELITIS)

YEFIMOVA, A.A., kandidat meditsinskikh nauk

Cough in children. Zdorov'e 2 no.9:19-20 S '56. (MLRA 9:10)
(COUGH)

Yefimova, A.A.

YEFIMOVA, A.A., kand.med.nauk; MAKAROV, N.N.; VASIL'YEV, A.V., vrach; YARINA, L.N., vrach; POLIKARPOVA, M.G., vrach-kosmetolog; POPOV, I.P., kand. biol.nauk; SUBBOTINA, G.I., vrach

Advice from "Zdorov'e". Zdorov'e 3 no.12:28-29 D '57. (MIRA 11:1)
(HYGIENE)

TSIMBLER, I.V., prof., YEFIMOVA, A.A., kand.med.nauk (Moscow)

Chievements and further problems in tuberculosis control in children. Sov. zdrav. 17 no.6:35-38 Je'58 (MIRA 11:6)
(TUBERCULOSIS, in inf. & child control in Russia, progr. (Rus))

ЕФИМОВА А.А.

YEFIMOVA, A.A., kand.med.nauk

Effect of repeated increased doses of BCG vaccine on the infant body [with summary in English]. Pediatriia 36 no.1:14-23 Ja '58. (MIRA 11:2)

1. Iz tuberkuleznogo otdeleniya (zav. - prof. I.V.TSimbler) Instituta pediatrii AMN SSSR (dir. - chlen-korrespondent AMN SSSR prof. O.D. Sokolova-Ponomareva)

(BCT VACCINATION)
(TUBERCULOSIS, CONGENITAL, HEREDITARY, AND INFANTILE)

YEFIMOVA, A.A., kand.med.nauk

What is a "geographic tongue"? Zdorov'e 4 no.10:31 O '58
(MIRA 11:11)

(DIATHESIS)

YEFIMOVA, A.A., kand.med.nauk

If the child has asthma. Zdorov'e 6 no.5:30 My '60. (MIRA 13:6)

(ASTHMA)

YEFIMOVA, A.A., kand.med.nauk

United front. Zdorov'e 7 no. 2:18-20 F '61. (MIRA 14:2)
(TUBERCULOSIS)

YEFIMOVA, A.A.

Early tuberculous intoxication in infants during the first year of life. Pediatriia 23 no. 5:29-37 My '60. (MIRA 14:1)
(TUBERCULOSIS, CONGENITAL, HEREDITARY, AND INFANTILE)

YEFIMOVA, A.A. [IAfimava, A.A.], kand.med.nauk

When your child is ill with asthma. Rabi. i sial 37 no.1:22 Ja '61. (MIRA 14:2)

(ASTHMA) (CHILDREN—DISEASES)

YEFIMOVA, A.A., kand.med.nauk; DOBROVOL'SKAYA, R.A.

Intracutaneous vaccination of neonates and infants with BCG.
Probl.tub. no.1:26-32 '62. (MIRA 15:8)

1. Iz tuberkuleznogo otdeleniya (zav. - prof. I.V. TSimbler) Instituta pediatrii AMN SSSR (dir. - dotsent M.Ya. Studenikin).
(BCG VACCINATION)

MIKHEYEVA, G.A., kand.med.nauk; EFIMOVA, A.A., kand.med.nauk.

Properdin indices in tuberculosis in infants. Probl.tub. no.7: 92-96 '62. (MIRA 15:12)

1. Iz mikrobiologicheskoy laboratorii (zav. - doktor meditsinskikh nauk A.V.Mashkov) i tuberkuleznoy kliniki (zav. - prof. I.V. TSimbler) Instituta pediatrii (dir. - dotsent M.Ya.Studenikin) AMN SSSR, Moskva.

(TUBERCULOSIS) (PROPERDIN)

YEFIMOVA, A. A.

"Acquainting Students With P. P. Semenov-Tian-Shanskiy's Works in Lessons on the Subject 'Central Asia'," Geog. v shkole, No.2, 1952

1. YEFIMOVA, A. A.

2. USSR (600)

4. Siberia, Eastern - Geography

7. Acquainting students with the activity of Russian travelers in lessons on the subject "Eastern Siberia." Geog. v shkole no. 6, 1952.

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

YEFIMOVA, A.A.

TUTOCHKINA, V.A.; PANFILOVA, T.S.; YEFIMOVA, A.A.

Teaching geography during the 1953/1954 school year. Geog.v shkole no.5: 1-6 S '53. (MLRA 6:8)

(Geography--Study and teaching)

YEFIMOVA, Aleksandra Afanas'yevna; SMIRNOVA, N.P., redaktor; MIRONTSEVA M.I., tekhnicheskiy redaktor

[Russian travelers in the geography course for classes 5-7] Otechestvennye puteshestvenniki v kurse geografii V-VII klassov. Moskva, Gos. uchebno-pedagog. izd-vo Ministerstva prosveshcheniia RSFSR, 1954. 74 p. (MLRA 8:7)
(Explorers)

14-57-6-11653

Translation from: Referativnyy zhurnal, Geografiya, 1957, Nr 6, p 7 (USSR)

AUTHOR: Yefimova, A. A.

TITLE: Visual Aids in Teaching Physical Geography (Naglyadnost' v prepodavanii fizicheskoy geografii)

PERIODICAL: V sb: Naglyadnost' v prepodavanii geografii. Moscow, Akad. ped. nauk RSFSR, 1955, pp 36-116

ABSTRACT: The author discusses how she uses visual aids in teaching subjects in various physical geography courses in the fifth, sixth, and seventh classes.

Card 1/1

KORINSKAYA, Valentina Aleksandrovna; [illegible]; SAYDAKOVA, Ye.I., redaktor; KOZLOVSKAYA, M.D., tekhnicheskiy redaktor

[General science instruction in the practice of geography teachers] Politekhnicheskoe obuchenie v opyte uchitelei geografii. Moskva, Izd-vo Akademii pedagog. nauk RSFSR, 1956. 134 p. (MLRA 10:1)
(Technical education) (Geography--Study and teaching)

YEFIMOVA, A.A.; KORINSKAYA, V.A.

Studying the physical geography of the world according to the new program in the 6th class. Geog.v shkole 19 no.1:32-37 Ja-F '56. (MLRA 9:5)

(Physical geography--Study and teaching)

YEFIMOVA, Aleksandra Afanas'yevna; KORINSKAYA, Valentina Aleksandrovna; GAIKIN, P.D., red.; YUZEFOVICH, Ye.F., red.; LAUT, V.G., tekhn. red.

[Methods of teaching physical geography of the continents; grade 6] Metodika prepodavaniia fizicheskoi geografii chastei sveta; VI klass. Moskva, Izd-vo Akad. pedagog. nauk RSFSR, 1957. 242 p. (MIRA 11:5) (Physical geography--Study and teaching)

YEFIMOVA, A.A.; KORINSKAYA, V.A.

Applied map work in studying the regional physical geography of the world. Geog. v shkole 20 no.2:36-41 Mr-Ap '57. (MLRA 10:4)
(Geography--Study and teaching)

YEFIMOVA, A. F.

ANIKEYEV, N.P., glavnyy red.; BISKE, S.F., red.; BOBYLEVSKIY, V.I., red.; VAS'KOVSKIY, A.P., red.; VERESHCHAGIN, V.N., red.; DRABKIN, I.Ye., red.; YEVANGULOV, B.B., red.; YEFIMOVA, A.F., red.; ZIMKIN, A.V., red.; LARIN, N.I., red.; LIKHAREV, B.K., red.; MEMMER, V.V., red.; MIKHAYLOV, A.F., red.; NIKOLAYEV, A.A., red.; POPOV, G.G., red.; POPOV, Yu.N., red.; SAKS, V.N., red.; SEMEYKIN, A.I., red.; SIMAKOV, A.S., red.; TITOV, V.A., red.; SHILO, N.A., red.; EL'YANOV, M.D., red.; YAKUSHEV, I.R., red.; V redaktirovanii prinimali uchastiye: ANDREYEVA, O.N., red.; BAYKOVSKAYA, T.N., red.; BOLKHOVITINA, N.A., red.; BORSUK, M.O., red.; VASIL'YEV, I.V., red.; VASILEVSKAYA, N.D., red.; VOYEVODOVA, Ye.M., red.; YEVSEYEV, K.P., red.; KIPARISOVA, L.D., red.; KRASNYY, L.I., red.; KRISHTOFOVICH, L.V., red.; KULIKOV, M.V., red.; LIBROVICH, L.S., red.; MARKOV, F.G., red.; MODZALEVSKAYA, Ye.A., red.; NIKIFOROVA, O.I., red.; OBUT, A.M., red.; PCHELINTSEVA, G.T., red.; RZHONSNITSKAYA, M.A., red.; SEDOVA, M.A., red.; STEPANOV, D.L., red.; TIMOFEYEV, B.V., red.; KHUDOLEY, K.M., red.; CHEMEKOV, Yu.F., red.; CHERNYSHEVA, N.Ye., red.. DERZHAVINA, N.G., red.izd-va; GUROVA, O.A., tekhn.red.

(Continued on next card)

. ANIKEYEV, N.P.---(continued) Card 2.

[Decisions of the Interdepartmental Conference on the Unified Stratigraphic Columns of the Northeastern Part of the U.S.S.R.] Reshoniia Mezhvedomstvennogo soveshchaniia po razrabotke unifitsirovannykh stratigraficheskikh skhem dlia Severo-Vostoka SSSR, Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po geol. i okhrane nedr, 1959. 65 p. (MIRA 13:2)

1. Mezhvedomstvennoye soveshchaniye po razrabotke unifitsirovannykh stratigraficheskikh skhem dlya Severo-Vostoka SSSR, Magadan, 1957. (Soviet Far East--Geology, Stratigraphic)

YEFIMOVA, A.F.

A palm leaf from Tertiary sediments of Penzhina Bay. Paleont.zhur. no.4:170-171 '61. (MIRA 15:3)

1. Severo-Vostochnoye geologicheskoye upravleniye.
(Penzhina Bay--Palms, Fossil)

YEREMENKO, V.V., kand.tekhn.nauk; YEFIMOVA, A.F., inzh.

Expanded clay filler from shale of Novosibirsk Province.
Trudy Zap.-Sib.fil.ASiA no.3:147-149 '60. (MIRA 15:2)
(Novosibirsk Province--Shale)
(Lightweight concrete)

YEFIMOVA, A. I.

YEFIMOVA, A. I. "The pike of the Ob'-Irtysh basin", Izvestiya Vsesoyuz. nauch.-issled. in-ta ozer. i rech. ryb. khoz-va, Vol. XXVIII, 1949, p. 114-74, - Bibliog: p. 172-74.

SO: U-4393, 19 August 53, (Letopis 'Zhurnal 'nykh Statey', No. 22, 1949).

BELYY, V.F.; YEFIMOVA, A.F.; PARAKETSOV, K.V.

Lower Cretaceous of the northeastern part of the Okhotsk-Chukchi volcanic belt. Sov.geol. 8 no.10:97-109 O '65. (MIRA 18:12)

1. Severo-vostochnoye geologicheskoye upravleniye.

YEFIMOV., A. I. --

"Four-year Experimentation with Streptomycin Treatment of Patients With Pulmonary and Laryngeal Tuberculosis." Cand Med Sci, Acad Med Sci USSR, Moscow, 1953. (RZhBiol, No 2, Sep 54)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (10)

SO: S[illegible], No. 481, 5 May 55

YEFIMOVA, A.I., kand.med.nauk

Significance and method of intratracheobronchial instillations of streptomycin and saluzid in treating pulmonary tuberculosis. Med. sestra 18 no.10:27-32 O '59. (MIRA 13:1)

1. Iz Instituta tuberkuleza AMN SSSR.
(TUBERCULOSIS) (STREPTOMYCIN) (ISONICOTINIC ACID)

YEFIMOVA, A.I. (Moskva)

Diagnosis and treatment of bronchial tuberculosis. Vrach. delo no.12:136 D '60. (MIRA 14:1)

1. Institut tuberkuleza AMN SSSR.
(BRONCHI--TUBERCULOSIS)

YEFIMOVA, A.I., kand.meditsinskikh nauk

Aspiration method in acute postoperative atelectasis in patients with tuberculosis of the lungs. Probl. tub. 38 no.2:67-68 '60. (MIRA 13:11)

1. Iz Instituta tuberkuleza AMN SSSR (dir. - chlen-korrespondent AMN SSSR prof. N.A.Shmelev, nauchnyy rukovoditel' - prof. A.A.Lapina).
(LUNGS--COLLAPSE)

YEFIMOVA, A.I., kand.med.nauk

Bacterioscopic methods for the examination of laryngeal mucus and bronchial and gastric lavage in patients with abacillary pulmonary tuberculosis. Sov. med. 25 no.5:117-121 My '61. (MIRA 14:6)

1. Iz Instituta tuberkuleza AMN SSSR (dir. - chlen-korrespondent AMN SSSR prof. N.A.Shmelov).
(TUBERCULOSIS)

YEFIMOVA, A.I., kand.med.nauk; SHIFMAN, N.D., kand.med.nauk

Treatment of obturating atelectasis developing in the post-operative period in tuberculosis. Sov.Med. 27 no.7:114-119 Jl'63. (MIRA 16:9)

1. Iz 2-go terapevticheskogo otdeleniya (zav. - doktor med. nauk F.L.Elinson) i 1-go kirurgicheskogo otdeleniya (zav. - chlen-korrespondent AMN SSSR prof. L.K.Bogush) TSentral'nogo instituta tuberkuleza (dir. deystvitel'nyy chlen AMN SSSR, prof. N.A.Shmelov) Ministerstva zdravookhraneniya SSSR.

(LUNGS--COLLAPSE) (TUBERCULOSIS)

YEFIMOVA, A.I., kand. med. nauk

Effect of streptomycin and dihydrostreptomycin on the hearing in pulmonary tuberculosis patients according to audiometric data. Probl. tub. 42 no.10:46-49 '64. (MIRA 18:11)

1. TSentral'nyy institut tuberkuleza Ministerstva zdravookhraneniya SSSR (direktor - deystvitel'nyy chlen AMN SSSR prof. N.A. Shmelev), Moskva.

EYGENSON, A.S.; MASAGUTOV, R.M.; ZAITOVA, A. Ya.; VOLKOVA, L.I.; BERG, G.A.; YEFIMOVA, A.K.

Effect of some physicochemical properties of raw stock on catalytic cracking indices. Trudy. Bash NII NP no.3:19-32 '60. (MIRA 14:4)

(Cracking process)

27229

S/081/61/000/003/005/019
A166/A129

18.8310

AUTHORS: Yefimova, A. K., Shatunova, A. M., Vol'f, M. B.

TITLE: Selecting hydrogen chloride and hydrogen sulfide corrosion inhibitors

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 3, 1961, 300, abstract 3I176. (Tr. Bashkirsk. n.-i. in-ta po pererabotke nefti, 1960, no. 3, 181 - 203)

TEXT: A study of the effects of various organic corrosion inhibitors on the corrosion of grade Ст 3 (St 3) steel samples at a temperature of 80°C in hydrogen chloride and hydrogen sulfide media showed that nitrogenous bases from heavy petroleum products of coal-tar pitch distillates, high-molecular amines ($C_{15}$-$C_{18}$) and hydroxyethyl heptadicenylglyoxalidine are effective corrosion inhibitors in weak HCl and $H_2S$ solutions at 80°C.

Summary by M. Platkov

[Abstracter's note: Complete translation]

Card 1/1

S/081/62/000/001/037/067
B102/B101

11.9700

AUTHORS: Yefimova, A. K., Vol'f, M. B., Shatunova, N. M.

TITLE: Nitric bases of petroleum and their use as corrosion inhibitors

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 1, 1962, 313, abstract 1I243 (Sb. "Khimiya seraorgan. soyedineniy, soderzhashchikhsya v neftyakh i nefteproduktakh. v. 4". M., Gostoptekhizdat, 1961, 265-268)

TEXT: Use of nitric bases extracted from vacuum gas oil as anticorrosive agents has shown that, when they are added in amounts of 0.1%, the corrosion rate of mild steel in the gasoline-condensation water of the ABT(AVT) is reduced by 80-90%. [Abstracter's note: AVT stands for atmospheric-vacuum pipe still.] If both nitric bases and ammonia are added, a 90% corrosion protection can be reached when each of the additives amounts to 0.005%. [Abstracter's note: Complete translation.]

Card 1/1

S/081/62/000/022/035/088
B158/B101

AUTHORS: Yefimova, A. K., Shatunova, A. M., Sapozhnikova, Ye. A.

TITLE: Experience in industrial tests for corrosion inhibitors

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 22, 1962, 307, abstract 22I200 (Novosti neft. i gaz. tekhn. Neftepererabotka i neftekhimiya, no. 2, 1962, 46 - 47)

TEXT: A number of corrosion inhibitors (CI) have been selected for protecting equipment in the petroleum industry from corrosion. These CI reduce the rate of corrosion of ferrous metals by 70 - 95 % and of tin brass by 50-60%. At present sulfosodium salts of shale tar and nitrogenous petroleum compounds are the most available CI. Introducing ammonia up to pH 7 - 9 reduces the CI consumption to 1/10 - 1/20. Data are given on the rate of corrosion of various metals in the condensation system of an atmospheric-vacuum pipe still during the processing of Tuymazino oil and on the efficiency achieved as a result of CI introduction. A particularly sharp fall in corrosion was found for Al, for which 99 % protection was obtained. [Abstracter's note: Complete translation.]

Card 1/1

YEFIMOVA, A.K.; SHATUNOVA, A.M.; SAPOZHNIKOVA, Ye.A.

Corrosion inhibitors for protecting the condensation-cooling apparatus of atmospheric and vacuum distillation units. Trudy Bash NIINP no.5: 165-175 '62. (MIRA 17:10)

YEFIMOVA, Anna L'vovna; SHESTOVA, L.M., redaktor; NAUMOV, K.M., tekhnicheskiy redaktor.

[Workers' movement in France from 1918-1939] Rabochee dvizhenie vo Frantsii v 1918-1939 godakh. Moskva, Vysshaia partiinaia shkola pri TSK KPSS, 1957. 59 p. (MLRA 10:6)
(France--Labor and laboring classes)

YEFIMOVA, A. M., Cand of Agric Sc -- (diss) "Summer up keep of stalls for dairy cattle in kolkhozes of the sub Moscow area." Moscow, 1957, 16 pp (Moscow Veterinary Academy), 140 copies, (KL, 29-57, 92 )

YEFIMOVA, A. M.

USSR/Farm Animals - Large Horned Cattle. 0-2

Abs Jour : Ref Zhur - Biol., No 18, 1958, 83373

Author : Yefimova, A.M.

Inst : Moscow Academy of Veterinary Medicine.

Title : Modifying Milk Productivity as Well as Some Physiological Indicators in Cows by Changing Them to Summer Stall Keeping.

Orig Pub : Tr. Mosk. vet. akad., 1957, 19, No 1, 132-141

Abstract : In 1953, in order to investigate summer stall keeping, experiments were carried out with 12 cows of the kolkhoz imeni Voroshilov and with 27 cows of the kolkhoz imeni Stalin. Cows of the experimental group were given up to 65-80 percent of required green forage in feeding racks, whereas control cows were given only 20-40 percent of it. In cows of the experimental group milk productivity was higher (by 1½-2 times). A number of physiological

Card 1/2

USSR/Farm Animals - Large Horned Cattle. 6-2

Abs Jour : Ref Zhur - Biol., No 18, 1958, 83373

indicators (such as respiration rate, pulse rate, etc.) was also higher. -- F.F. Duchinskiy

Card 2/2

YEFIMOVA, A. M.

YEFIMOVA, A. M.- "Functional State of Nerve Centers under Certain Types of Dominants." Leningrad Order of Lenin State U imeni A. A. Zhdanov, Leningrad, 1955 (Dissertations For the Degree of Candidate of Biological Sciences)

SO: Knizhnaya Letopis' No. 26, June 1955, Moscow

YEFIMOVA A.M.

USSR/Human and Animal Physiology. Nervous System. Spinal Cord. T-10

Abs Jour: Ref. Zhur-Biol., No 12, 1958, 55995.

Author : Yefimova, A. M.
Inst : Leningrad State University.—KAFEDRA Physiologii cheloveka i zhivotnykh
Title : Development Stages of Dominants.

Orig Pub: Uch. zap. LGU, 1957, No 222, 98-106.

Abstract: In observing the development of the spinal dominant (D), which determines the flexing of the frog's posterior extremities, four process stages were established: 1. The stage of mutual corroboration of basic and supplementary stimuli (as a result of increased excitability); 2. the stage of undirected D in which the conjugated inhibition forms; 3. the stage of directed D, where conjugated inhibitions are fully developed; 4. the stage of inhibition of D. When con-

Card : 1/2

Abs Jour: Ref Zhur-Biol., No 12, 1958, 55995.

ditions of normal life activity prevail, the undirected dominant foci are apparently of great significance.

L 29299-66 EWT(m)/EWP(t)/ETI IJP(c) JD/JG

ACC NR: AP6012453 SOURCE CODE: UR/0181/66/008/004/1004/1007

AUTHORS: Yefimova, A. M.; Kalacheva, Ye. I. 43 B

ORG: Moscow Forestry Engineering Institute (Moskovskiy lesotekhnicheskiy institut)

TITLE: Dynamic magnetic properties of certain ferrite-garnets at low temperatures

SOURCE: Fizika tverdogo tela, v. 8, no. 4, 1966, 1004-1007

TOPIC TAGS: ferrite, hysteresis loop, yttrium compound, lutetium compound, magnetic viscosity, electric property, magnetic coercive force, temperature dependence

ABSTRACT: The authors investigated the dynamic hysteresis loop for low-resistance yttrium and lutetium iron garnets, and high resistance yttrium and ytterbium iron garnets, in the temperature range from 78 to 273K. The static magnetic properties, the magnetic viscosity, and the electric properties of these garnets were previously investigated by one of the authors (Yefimov Abstract of Candidate's Dissertation MGU, 1962). The dynamic hysteresis loop was displayed on an oscilloscope screen at a frequency of 50 cps, using a type Y-542 ferrometer. Plots are presented of the temperature dependence of the coercive force and oscillograms of

Card 1/2

L 29299-66

ACC NR: AP6012453

the hysteresis loops are given for the limit cycle of YIG at different temperatures. For the low resistance iron garnets, a maximum of coercive force was observed at 127K both for the limiting cycles and for the partial hysteresis cycles. Below 127K instabilities of the reversal of magnetization appear on the hysteresis loop. With further decrease in temperature, the degree of squareness of the hysteresis loop increases. The perminvar effect appears at temperatures below approximately 140K. In the case of high resistance garnets, the coercive force increases slightly with decreasing temperature from 273 to 78K. Neither unstable reversal of magnetization nor the perminvar effect are observed. Orig. art. has: 6 figures.

SUB CODE: 20/ SUBM DATE: 12Jun65/ ORIG REF: 005/ OTH REF: 002

Card 2/2 BK

SOV/137-58-12-23889

Translation from: Referativnyy zhurnal. Metallurgiya, 1958, Nr 12, p 1 (USSR)

AUTHOR: Yefimova, A. M.

TITLE: Ferrous Metallurgy in Ancient Bolgar (Chernaya metallurgiya goroda Bolgara)

PERIODICAL: Materialy i issled. po arkheol. SSSR, 1958, Nr 61, pp 292-315

ABSTRACT: A description is provided of the results of archeological excavations of the site of the ancient township of Bolgar on the Volga, testifying to the existence of advanced metallurgy in the X to XIV centuries. 5 half-destroyed smelting forges and similar artifacts are found in the Pre-Mongol stratum.

M. P.

Card 1/1

YEFIMOVA, A.M.

Effect of chlortetracycline on the activity of the smooth musculature of the intestines. Eksp. i klin. issl. po antibiot. 1:268-274 '58. (MIRA 15:5)

(AUREOMYCIN) (INTESTINES) (MUSCLE)

YEFIMOVA, A.M.; VOL'FSON, N.I.; GUSEVA, T.F.

Method for studying the action of actinomycetes in culture liquids on Ehrlich's tumor. Eksp. i klin. issl. po antibiot. 1:311-317 '58. (MIRA 15:5)

(ACTINOMYCES) (CANCER)

VOL'FSON, N.I.; MOROZ, P.E.; YEFIMOVA, A.M.; GUSEVA, T.F.

Evaluation by various methods of intravital microscopy of the depth of the lesion from Ehrlich tumor cells in vitro. Eksp. i klin. issl. po antibiot. 1:318-324 '58. (MIRA 15:5)
(CANCER) (MICROSCOPY)

34225
S/181/62/004/002/008/051
B102/B138

24,2200 (1137,1147,1164)

AUTHORS: Telesnin, R. V., Yefimova, A. M., and Yus'kayev, R. A.

TITLE: Temperature dependence of static magnetic and electrical properties of some garnet-type ferrites

PERIODICAL: Fizika tverdogo tela, v. 4, no. 2, 1962, 361-365

TEXT: The temperature dependences of coercive force, $H_c$, residual induction, $B_r$, magnetic permeability, $\mu$, and differential magnetic permeability, $\mu_d$, of garnet type Dy, Ho, Er, Tu, Y, and Lu ferrites was measured, and the electrical conductivity of Er, Tu and Y garnets. The specimens, whose size and production technology have been given earlier (R. V. Telesnin, A. M. Ovchinnikova. VMU, ser. III, 1, 1961) were of almost X-ray density and had very high electrical resistivity. From the results, which are shown graphically, it can be seen that in Dy, Ho and Er ferrite-garnets $H_c$, $B_r$, $\mu_{max}$ and $\mu_{d\,max}$ behave typically near the compensation point. All these parameters have a zero minimum at this

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IX

Temperature dependence of static...

point, $H_c$ has peaks on both sides of this minimum. At this compensation point (which is e.g. for $5Fe_2O_3 \cdot 3Dy_2O_3$ at 210°K) the hysteresis loop is a straight line, crossing the origin. This degeneracy was observed not only with the ballistic apparatus but also with an oscilloscope (500 cps). Electrical volume resistivity was measured on a MOM-4 (MOM-4) device for $R \geqslant 10^6$ ohm·cm, and with a d-c MTB (MTV) bridge for $R < 10^6$ ohm·cm. The specimens were in a cryostat (constancy of ± 2°). The curves $\log \rho = f(1/T)$ were linear with a break at the Curie point for Er and Tu ferrite-garnets. Ye. A. Turov and Yu. P. Irkhin (FMM, 4, 9, 1959) have obtained the same results. This break is attributed to the exchange interaction of inner and outer electrons; the variation in inclination is proportional to the exchange interaction energy. Such breaks were observed not only at Curie point, but also at 348°K for Er and Tu, and 323°K for Y, garnets. At low temperatures the activation energy calculated from the inclination was 0.27 ev for Er and Y garnets; at high temperatures it was 1.6 ev (Y), 1.61 ev (Er) and 1.3 ev (Tu). I. I. Mirer took X-ray diffraction pictures of the ferrite-garnets investigated, and determined the lattice constants.

Card 2/3

Temperature dependence of static...

There are 6 figures, 1 table, and 9 references: 6 Soviet and 3 non-Soviet. The two references to English-language publications read as follows: W. P. Wolf and G. P. Rodrigue. J. Appl. Phys., 29, 1, 105, 1958; Van Uitert and F. W. Swanekamp. J. Appl. Phys. 28, 12, 1513, 1957.

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

SUBMITTED: July 28, 1961

X

Card 3/3

14126

S/181/62/004/010/005/063
B108/B186

AUTHOR: Yefimova, A. M.

TITLE: The rapidly varying part of the magnetic viscosity of rare-earth ferrite garnets and its dependence on magnetic field strength and temperature

PERIODICAL: Fizika tverdogo tela, v. 4, no. 10, 1962, 2675-2680

TEXT: The magnetic viscosity of several rare-earth ferrite garnets was studied. The dependence of the maximum rate of the change in induction, $(dB/dt)_{max} = U_{max} \cdot 10^8/nS$, on the magnetic field strength was recorded ($U_{max}$ - maximum amplitude of the signal of viscous remagnetization, n - number of turns on the measuring coil, S - gross sectional area of toroidal sample). A definite relationship between this dependence and the static hysteresis loop was found. The break in these otherwise straight lines corresponds with the point of saturation on the hysteresis loop. This indicates the point at which the mechanism of remagnetization changes from the shift of the domain walls to the rotation of the vectors of

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spontaneous magnetization. The latter process takes place more rapidly than the former. It was found that high-resistivity ferrite garnets possess only a rapidly varying magnetic viscosity ($\tau \sim 10^{-6}$ sec) over the entire ranges of temperature and field strength (77 - 550°K; 0 - 50 oe). Low resistivity ferrite garnets exhibit also slower viscosity processes ($\sim 10^{-3}$ - $10^{-1}$ sec) at low temperatures. The mechanism of electron diffusion obviously causes stronger delay to the viscous remagnetization in the range of the wall shift than in the range of rotation of the spontaneous magnetization. There are 5 figures.

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

SUBMITTED: April 19, 1962

YEFIMOVA, A. P.

**The histamine and histaminase content of blood in hypertensive diseases.** E. P. Stepanyan, N. A. Smazhnova, and A. P. Efimova (Therap. Inst., Acad. Med. Sci. U.S.S.R., Moscow). *Klin. Med.* 33, No. 9, 28–30(1955).—The serum histaminase of normal persons is from 3 to 5 (expressed as γ histamine disappearing)/100 cc., average 4.28. In hypertension the amount depends upon the stage of the disease, 5–8(I stage), 2–5 (II) and 6–16 (III). The histamine level is lower in I and III and higher in II. The low histaminase is due to the repressive action of the high histamine concentration. The high histamine concentration is not affected by injection of Dimedrol, an antihistamine. This suggests the ability of the organism to react with increase of depressor factors, of which histamine is one, to the harmful effect of the pressor factors. The suggestion is strengthened by the complete absence of histamine in malignant hypertension when the defensive mechanism is rendered ineffective. Technic for determination of histaminase: 2 cc. of serum, 0.6 cc. of phosphate buffer (pH 7.2), 0.1 cc. histamine HCl (50 γ), 0.3 cc. indigodisulfonate (20 mg./30 cc.) and 1 drop of octyl alcohol are put into a stoppered flask with two outlet tubes. After oxygen has been passed for 8 minutes the flask is shaken in a constant temperature 38°-water bath for 4 hours and left for another 20 hours. Deproteinization follows by adding equal volume of 10% $CCl_3COOH$ along with 0.35 cc. of acetone to decrease absorption of dye on the proteins. The flask is shaken for 10 minutes and the con-

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(3)

Histamine and . . . 2/2

tents filtered. A blank is prepared containing all the reagents used in the test with the exception of histamine, and 0.7 cc. instead of 0.6 cc. of the phosphate buffer. The color is read in a photocolorimeter and compared with standard solutions of histamine. The larger the amount of histaminase the fainter the color intensity. Histamine was determined chromatographically and colorimetrically. A chromatogram was obtained after 15 hours. Butyl alcohol saturated with 10% $NH_3$ was used as solvent. After drying the paper strip was saturated with a solution prepared in the following way. To 100 cc. of 0.125% para-bromaniline in 0.1*N* HCl are added 10 cc. of 0.1% $NaNO_2$, then 10 cc. of 20% $Na_2CO_3$.

A. S. Mirkin

YEFIMOVA, A. S.

Country : USSR
Category : CULTIVATED PLANTS. POTATOES. Vegetables. Cucurbits.

Abs. Jour. : REF ZHUR-BIOL.,21,1958, No.95990

Author : Tsoy,A.N.; Yefimova,A.S.
Institut. : All-Union Sci.Res. Inst. of Fertilizers and Agri-*
Title : The Results of Trials in Local Application of Mineral Fertilizers under Potatoes When Planting

Orig. Pub. : Byul. nauchno-tekhn. inform. Vses. n.-i. in-t udobr. i agropochvoved., 1957, No.3, 8-13

Abstract : The application of $P_2O_5$ at 20 kg, N at 15 kg, $K_2O$ at 10 kg per hill of potatoes did not fully provide the plants with adequate nutrients. N, P and K (45 kg/ha.) in the hill increased, in the opinion of the authors, the salt concentration in the area of the sprouting tubers. Band placement of N45 P45 K45 produced in 1953 an increase to broadcast application of 10%, in 1954 it was 30% higher than the other methods when the tuber yield

*cultural Soil Science.

Card: 1/2

Country :
Category :CULTIVATED PLANTS. POTATOES.

Abs. Jour. :REF ZHUR-BIOL.,21,1958, No 95990

Author :
Institut. :
Title :

Orig. Pub. :

Abstract :was within 300 cwt/ha. In farm plantings of 1954, broadcasting 1.5 cwt/ha. $N_{aa}$, 2.5 cwt/ha. $P_c$ and 1.0 cwt/ha. $K_x$ under the plow yielded an increase in the harvest. Band placement in the furrow produced a smaller yield boost. This study was undertaken at the Central Experimental Station of the All-Union Fertilizer and Soil Science Institute.--V.V. Prokoshev

Card: 2/2

41809

S/241/62/000/011/002/005
B144/B186

27.1220

AUTHOR: Yefimova, A. S.

TITLE: Early chronaxie changes of cutaneous and visual analyzers in man, effected by single local x-ray irradiation

PERIODICAL: Meditsinskaya radiologiya, no. 11, 1962, 45 - 50

TEXT: The changes taking place in the receptors of cutaneous and visual analyzers were studied in 24 women who had undergone x-ray treatment (300 r each on both parametrium fields) for cervical carcinoma. The rheobase and the chronaxie were measured 30 min after irradiation. The receptors investigated were either irradiated or nonirradiated, the latter being in functional connection with the organs irradiated, or not. While the results for the threshold of susceptibility were inconclusive, the chronaxie was always reduced after irradiation. This reduction was approximately symmetric and amounted to 59.5% max. in the irradiated zones. The lowest values were observed for the optical chronaxie (13.7 and 20%). Since the chronaxie reflects the functional state not only of the nerve itself but also of the centers of the nervous system, its reduction in nonirradiated

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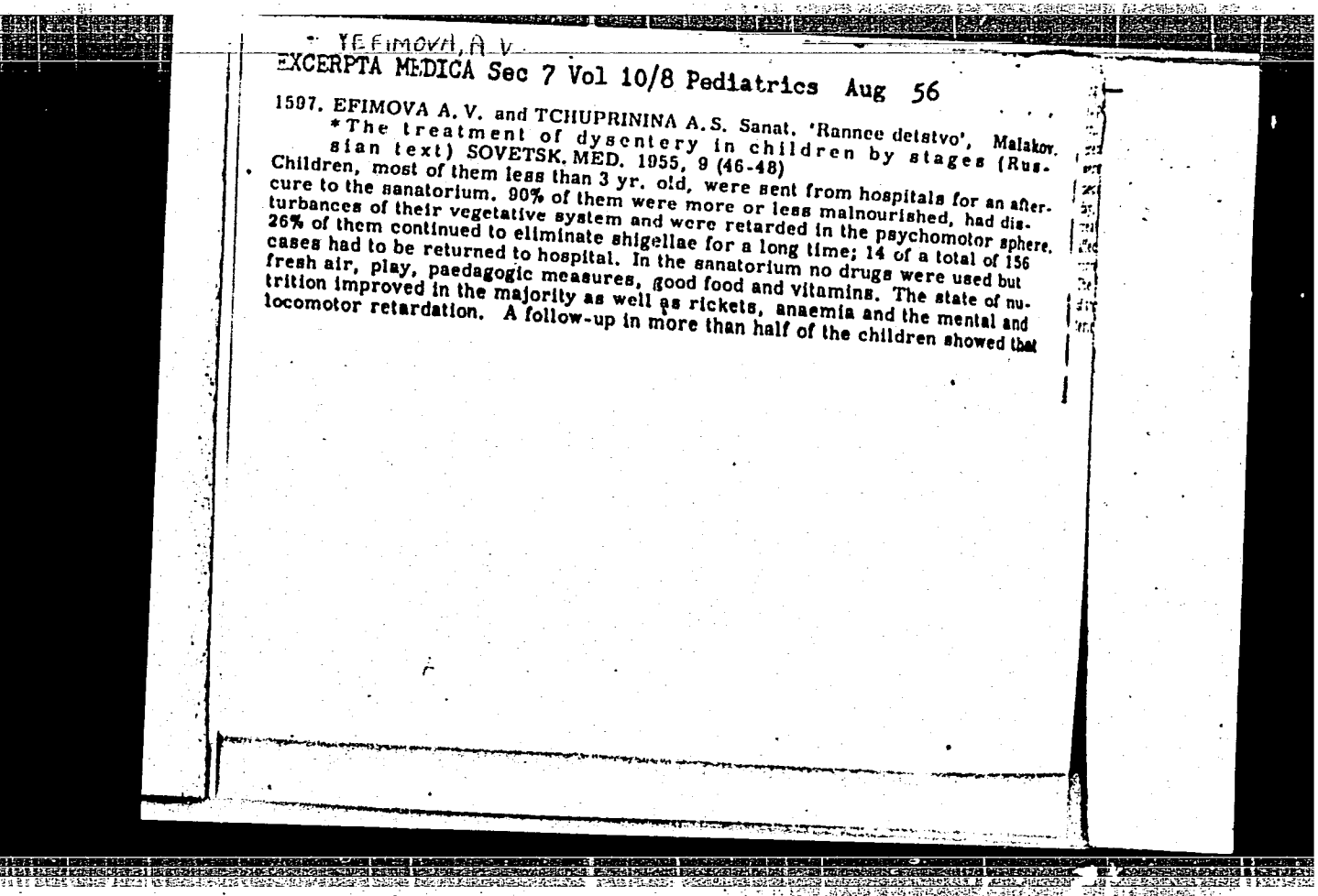
zones without reflex connection to the organs irradiated proves that the centers are affected either by stimuli received from the irradiated parts or by substances forming in the irradiated organs and passing into the blood. The direct irradiation effect is evident from the stronger reduction of chronaxie in the irradiated zones and in the reflex zones of the organs irradiated. There are 2 tables.

ASSOCIATION: Laboratoriya patologicheskoy fiziologii Khar'kovskogo instituta meditsinskoy radiologii (Laboratory of Pathological Physiology of the Khar'kov Institute of Medical Radiology) (V. S. Genes, Candidate of Medical Sciences, Chief of Laboratory)

SUBMITTED: March 20, 1962



YEFIMOVA, A V

EXCERPTA MEDICA Sec 7 Vol 10/8 Pediatrics Aug 56

1507. EFIMOVA A. V. and TCHUPRININA A. S. Sanat. 'Rannee detstvo', Malakov. *The treatment of dysentery in children by stages (Russian text) SOVETSK. MED. 1955, 9 (46-48)

Children, most of them less than 3 yr. old, were sent from hospitals for an after-cure to the sanatorium. 90% of them were more or less malnourished, had disturbances of their vegetative system and were retarded in the psychomotor sphere. 26% of them continued to eliminate shigellae for a long time; 14 of a total of 156 cases had to be returned to hospital. In the sanatorium no drugs were used but fresh air, play, paedagogic measures, good food and vitamins. The state of nutrition improved in the majority as well as rickets, anaemia and the mental and locomotor retardation. A follow-up in more than half of the children showed that

YEFIMOVA, A.V.

YEFIMOVA, A.V.

Late results of treating children recovering from poliomyelitis. (MLRA 10:9)
Vop.okh.mat. i det. 2 no.4:40-43 Jl-Ag '57.

1. Iz Malakhovskogo sanatoriya "Ranneye detstvo" (glavnyy vrach A.V.Yefimova), Moskovskaya oblast'.
(POLIOMYELITIS)

YEFIMOVA, A.V., Cand Med Sci -- (diss) "Treatment of children in the ~~rehabilitation~~ convalescent period of poliomyelitis in a children's sanatorium." Mos, 1958, 16 pp (Min of Health USSR. Central Inst for the Advanced Training of Physicians) 200 copies

(KL, 50-58, 129)

YEFIMOVA, Anna Vasil'yevna

[Sanatorium treatment of the aftereffects of poliomyelitis in children] Sanatornoe lechenie detei s posledstviiami poliomielita. Moskva, Medgiz, 1958. 181 p. (MIRA 12:5)
(POLIOMYELITIS)

YEFIMOVA, A.V.

Treating children with aftereffects of poliomyelitis at a local sanatorium. Vop.okh.mat.i det. 3 no.2:67-69 Mr-Ap '58. (MIRA 11:3)

1. Iz sanatoriya "Ranee detstvo" Moskovskoy oblasti (glavnyy vrach A.V.Yefimova)
(POLIOMYELITIS)

YEFIMOVA, A.V., kand.med.nauk

Work of the group nurse in a sanatorium for children with the after-effects of poliomyelitis. Med. sestra 20 no.3:34-36 Mr '61. (MIRA 14:5)

1. Iz sanatoriya "Ranneye detstvo" Moskovskoy oblasti.
(POLIOMYELITIS) (NURSES AND NURSING)

YEFIMOVA, A.V., kand. med. nauk; KON'KOVA, L.I.; MALAKHOVA, L.V.; DMITRIYEVA, N.M., red.; BEL'CHIKOVA, Yu.S., tekhn. red.

[Care of children with the sequelae of poliomyelitis] Ukhod za det'mi s posledstviiami poliomielita. Moskva, Medgiz, 1961. 138 p. (MIRA 15:3)

1. Glavnyy vrach sanatoriya "Ranneye detstvo" Moskovskoy oblasti (for Yefimova).

(POLIOMYELITIS)

1. ANDREYEV, A. I., Prof.; VIZE, V. Yu.; YEFIMOVA, Z. V.

2. USSR (600)

4. Geology and Geography

7. Year book of the North, Prof. A. I. Andreyev, V. Yu. Vize and Z. V. Yefimova (editors). S. A. Vyshnepol'skiy and G. A. Agranat (Reviewers). (Moscow-Leningrad, State Cultural Education Press, 1949) Sov. Kniga, No. 11, 1949.

9. [redacted] Report U-3801, 16 Jan. 1953. Unclassified.

KAPTELIN, Aleksey Fedorovich; YEFIMOVA, Anna Vasil'yevna; SOKOLOVA, L.K., red.

[Treatment of the sequelae of poliomyelitis at home; advice to parents] Lechenie posledstvii poliomielita v domashnikh usloviiakh; sovety roditeliam. Moskva, Meditsina, 1965. 70 p. (MIRA 18:4)

Yefimova, B.A.

57-9-33/40

AUTHOR: Ayrapetyants, S.V., Yefimova, B.A., Stavitskaya, T.S., Stil'bans, L.S., Sysoyeva, L.M.

TITLE: On the Mobility of Electrons and Holes in Solid Solutions Obtained on the Basis of PbTe and $Bi_2Te_3$

(O podvizhnosti elektronov i dyrok v tverdykh rastvorakh, poluchennykh na osnove telluridov svintsa i vismuta)

PERIODICAL: Zhurnal Tekhn. Fiz., 1957, Vol. 27, Nr 9, pp. 2167 - 2169 (USSR)

ABSTRACT: On the strength of the facts mentioned here it may be said that in all investigated cases the electrons move along the sublattice of the cathions and the holes move along the anion sublattice. Expressed in terms of quantum mechanics this means that the modulated amplitude of the wave function of electrons moving in the conduction zone attains its maximum values near nodes occupied by positive ions, while its lowest are attained near the negatively charged nodes. For holes in a nearly completely filled zone the opposite is the case. Therefore electron mobility is considerably reduced by the distortions of the "positive sublattice", and hole mobility is considerably reduced by those of the "negative sublattice". Furthermore, the conclusion is drawn that, if it is intended to reduce the heat conductivity

Card 1/2

AUTHORS: Ayrapetyants, S. V., Yefimova, B. A. SOV/57-58-8-26/37

TITLE: Thermoelectrical Properties and the Nature of Bonds of the System $Bi_2Te_3$ + $Sb_2Te_3$ (Termoelektricheskiye svoystva i kharakter svyazey sistemy $Bi_2Te_3$ + $Sb_2Te_3$)

PERIODICAL: Zhurnal tekhnicheskoy fiziki, 1958, Nr 8, pp 1768-1774 (USSR)

ABSTRACT: On account of an analysis of the structure of $Bi_2Te_3$, $Bi_2Se_3$, and $Sb_2Te_3$ the conclusion was drawn that three types of binding exist in $Bi_2Te_3$ and in the alloy $Bi_2Te_3$ + $Sb_2Te_3$: An ion-, a covalent and a weak residual binding. As proceeds from evidence presented in reference 5 the electron conductivity proceeds along the Bi layers, in $Bi_2Te_3$ as well as in the solid solution $Bi_2Te_3$ + $Sb_2Te_3$.

This means that the zone of conductivity is formed by superimposed excited levels of the Bi-atoms, whereas the holes propagate along the Te layers. In such a conductivity scheme the mobility of electrons must be reduced and that of the

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holes must vary slightly if the Bi-atoms are partly substituted by Sb-atoms. The experiments confirmed this hypothesis. (Ref 5 is still in the press). This is a study of the thermoelectrical properties of polycrystalline samples. The development of an ordered (uporyadocheniye) state was found in the solid solution with a composition of the samples of $1/3\ Bi_2Te_3 + 2/3\ Sb_2Te_3$ and $2/3\ Bi_2Te_3 + 1/3\ Sb_2Te_3$. As an attachment a method is presented for determining the width of the forbidden zone according to the measured thermo e.m.f. Since this method yields the total value of the thermal activation energy at the measured temperature and permits to determine the width of the forbidden zone $\Delta E$ in substances with a narrow forbidden zone this method is very convenient. Still this method exhibits great shortcomings: 1) It requires to provide a series of samples with different carrier concentrations of either sign with a near-stoichiometric composition. 2) The production of samples with an $\alpha_n$ or $\alpha_{max}$ at $\Delta E > 0,3$ eV proves to be difficult, (as a homogeneous sample

with a low carrier concentration is required). The constant supervision of the work and the suggestions made by L.S. Stil'bans are acknowledged by the authors.
There are 6 figures, 2 tables, and 11 references, 6 of which are Soviet.

ASSOCIATION: Institut poluprovodnikov AN SSSR, Leningrad (Institute of Semiconductors, AS USSR, Leningrad)

SUBMITTED: November 4, 1957

67383

SOV/181-1-9-1/31

24.7700
~~24(3), 24(6)~~

AUTHORS: Yefimova, B. A., Stavitskaya, T. S., Stil'bans, L. S., Sysoyeva, L. M.

TITLE: On the Scattering Mechanism of Carriers in Some Solid Solutions on the Basis of Lead- and Bismuth Tellurides

PERIODICAL: Fizika tverdogo tela, 1959, Vol 1, Nr 9, pp 1325 - 1332 (USSR)

ABSTRACT: The present paper supplies a store of experimental material concerning the relation between mobility of electrons and holes on the one hand, and the composition of various lead-tellurium and bismuth-tellurium alloys on the other. The first part of the paper deals with the dependence of the free-path time of electrons and holes on the position of the impurity atoms in the lattice. Following suggestions by A. V. Ioffe and A. F. Ioffe, the scattering of neutral impurities was investigated with the aim of increasing the efficiency of thermocouples. The results obtained by several previous investigations on this subject are briefly discussed and next, the mobility-to-composition curves of the systems $Bi_2Te_3$-$Sb_2Te_3$,

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$Bi_2Te_3$-$Bi_2S_3$, and PbTe-PbSe (Figs 1-3) are dealt with. The abscissa is given by the concentration (in atom%) of the second component, while the ordinate is given by the mobility of holes (Curve 1) and electrons (Curve 2). In the first case, the hole mobility rises with concentration, whereas the electron mobility drops; in the second case, the hole mobility drops, while the electron mobility remains about constant. In the third case, finally, the two mobility curves have a flat minimum at about 50% PbSe. This is indicative of the fact that electrons move toward the cation sublattice, and the holes toward the anion sublattice. The relation between mobility and composition in the systems $Bi_2Te_3$-$Bi_2Se_3$ (Fig 4) and PbTe-SnTe (Fig 5) is more complicated. In the first case both curves have a minimum, in the second case the hole mobility has a minimum with low SnTe-concentration and thereupon rises steeply, while the electron mobility drops monotonously. The electron mobility in bismuth telluride is about four times less than in bismuth selenide, and the hole mobil-

ity in $Bi_2Te_3$ is by the 1.5 fold less than in $Bi_2Se_3$. Conditions in PbTe-SnTe (Fig 5) are even more complicated. The hole mobility rises after a minimum, while the electron mobility drops after a maximum. In a similar manner, the second part of the paper investigates the dependence of the free-path time on the carrier energy. A number of diagrams are shown and discussed. Thus, figure 7 shows the temperature dependence of mobility for pure PbTe and for PbTe + 5% PbSe with equal carrier concentration ($n = 4.10^{19}$); figure 8 shows the temperature dependence of $\nu_{n.i.}$ (the collision frequency $\nu = \nu_{th} + \nu_i + \nu_{n.i.}$; $\nu_n$ denoting the frequencies of collisions with thermal vibrations, ions and neutral impurities). Figure 9 shows the temperature dependence of mobility u in pure PbTe and PbTe + 5% PbSe, figure 10 $\nu_{n.i.}/T = f(\lg \varepsilon)$, figure 11 u(n), figure 12 $\tau$ as a function of $\varepsilon$ ($\tau \sim \varepsilon^{-0.8}$). Figures 13-19 show the results of similar investigations for the systems PbTe-SnTe and $Bi_2Te_3$-$Bi_2Se_3$. In all these cases, the free-path