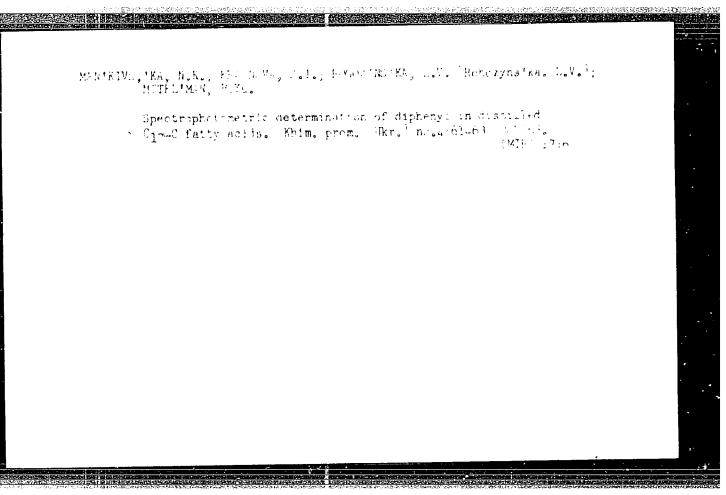MANKINA, N.S.; KHOROVER, N.N.

Intestinal obstruction in incomplete reverse development of the
vitelline duct. Vest. khir. 93 no.8:84-87 Ag '64.   (MIRA 18:7)

1. Iz kafedry khirurgii detskogo vozrasta (zav. - prof. G.A.Bairov)
Leningradskogo pediatricheskogo meditsinskogo instituta (rektor -
dotsent Ye.P.Semenova).

MAR'KIVE, 'KA, N.K., PR. h.W., D.I.; BYADUCHKI KA, L.V. Rohozyns'ka, L.V.;
    MITEL'MAN, R.YU.

    Spectrophotometric determination of diphenyl in distilled
    C₁-C fatty acids. Khim. prom. (Ukr.) n.:4:61-63

KAYRYUKSHTIS, I.A. [Kairiukstis, I.]; RUSIYESHVILI, N.I.; MANIKO, G.D.;
OL'SHANETSKIY, G.M.; ORISHCHENKO, A.; ZAKHAROV, A.V.; KORUNCHIKOV, P.G.;
LAPSHIN, I.I.

In the Soviet Union. Veterinariia 38 no.6:91-96   Je. '61.
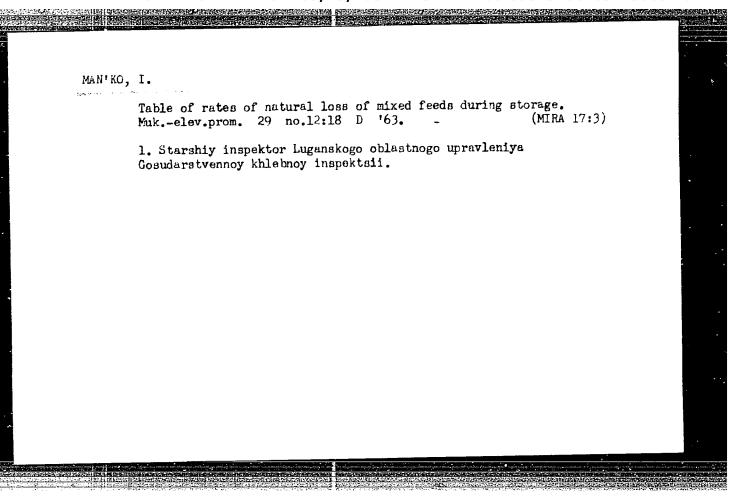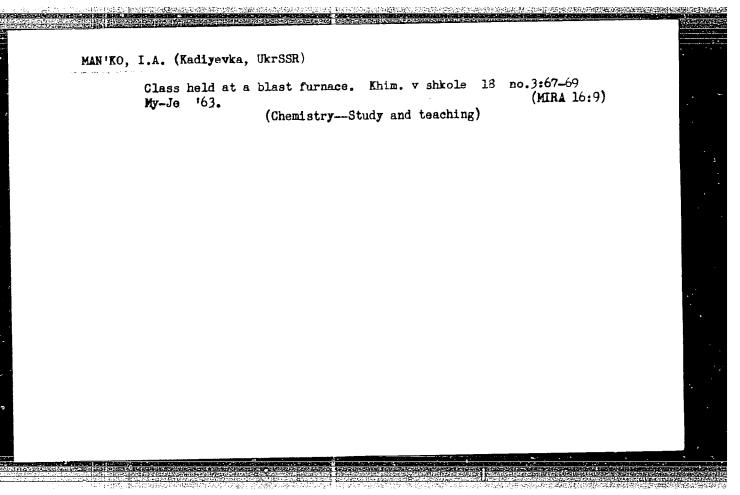(MIRA 16:6)

(Veterinary medicine)

MAN'KO, G.S.; MUKHIN, M.A., spets. red.; SEMENOVA, N.L., red.; KISINA, Ye.I.,
        tekhn. red.

[Financial work in dairy industry enterprises] Finansovaia rabota na
predpriiatiiakh molochnoi promyshlennosti. Moskva, Pishchepromizdat,
1957. 195 p.   (MIRA 14:12)
              (Dairy industry—Finance)

MAN'KO, I.

Table of rates of natural loss of mixed feeds during storage.
Muk.-elev.prom. 29 no.12:18 D '63.   _   (MIRA 17:3)

1. Starshiy inspektor Luganskogo oblastnogo upravleniya
Gosudarstvennoy khlebnoy inspektsii.

MAN'KO, I.A. (Kadiyevka, UkrSSR)

Class held at a blast furnace. Khim. v shkole 18 no.3:67-69
My-Je '63.   (MIRA 16:9)
(Chemistry—Study and teaching)

MAN'KO, I. V.

"Chemical Investigation of Matricaria chamomilla and Cyhoglossum officinale of the Borage Family." Cand Pharm Sci, Tartu State U, Khar'kov-Tartu, 1954. (RZhBiolKhim, No 2, Jan 55)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (12)
SO: Sum. No. 556, 24 Jun 55

73-3-14/24

AUTHOR: Man'ko, I. V. and Borisyuk, Yu. G.

TITLE: Chemical Investigation of Cynoglossum L. of the Borage
          Family. (Khimicheskoye Issledovaniye Chernokornya
          Semeystva Burachnikovykh)

ABSTRACT: A new alkaloid, cynoglossophine, was separated from
          cynoglossum officinale L. Its empirical formula was
          established to be $C_{20}H_{35}NO_8$. It is an unsaturated com-
          pound giving a crystalline picrate (with a melting point
          of 105°C). The cynoglossophine is an ester which is
          obtained during the saponification of cis-2-methyl-2-
          butenoic acid and acetone. Dry surface parts of the
          plant are used for obtaining this alkaloid. They are
          treated with ammonia and extracted with dichloroethane.
          This extract was shaken up with 10% H_2SO_4. The latter
          extract is purified by shaking it up with ether. The
          acidic liquid was made alkaline with ammonia and the
          alkaloids extracted first with ether and then with
          chloroform. These extracts were dried with anhydrous
Card 1/3 Na-sulphate. The alkaloid residues were dried in a

Chemical Investigation of Cynoglossum L. of the Borage Family.

vacuum-dessicator over calcium chloride. Results of
investigations showed that the largest quantity of
alkaloids (1.6 - 1.7%) is contained in the surface parts
of the plant, during the second year of cultivation.
Alkaloid fractions were prepared at various pH values.
The first acid fraction (pH 3) gave no alkaloids which
could give rise to crystalline picrates. The second
fraction (pH 5) gave only traces of these alkaloids.
The third (pH 4.2) gave the highest yield of picrates.
The 4th (pH 6) and 5th fraction (pH 8.2) contained apart
from the crystalline residue also black, resinous sub-
stances. The molecular weight of the picrate (M) was
found by titrating the picrate with a 0.1N solution of
barium hydrate with phenolphthalein. M = 646. The
molecular weight of the alkaloid $C_{20}H_{35}NO_8$ was therefore
417. The dried alkaloid cynoglossophine is a hard,
colourless, glassy mass. It is completely soluble in
dilute acids, alcohol, chloroform and acetone and spar-
ingly soluble in benzene, ethyl ether, petroleum ether
and water. Tests showed that the alkaloid does not con-
tain free phenol groups. The alkaloid was saponified
with a 2N-NaOH solution to determine the ester structure

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73-3-14/24

Chemical Investigation of Cynoglossum L. of the Borage Family.

of cynoglossophine. The solution was heated in a refluc
condenser for 2 hours. The presence of acetone in the
distilled liquid was verified by preparing the oxime
(m.p. 60°C) and of the semicarbazone (m.p. 191°C).
According to Professor Men'shikov's (Ref. 7) nomenclature
for the decomposition products of alkaloids the prepared
aminoalcohol was named cynoglossophidine. The
cynoglossophidine chlorohydrate forms small colourless
crystals which are very hygroscopic. It forms a crys-
talline picrate (m.p. 99 - 99.5°C.). There are 8 refer-
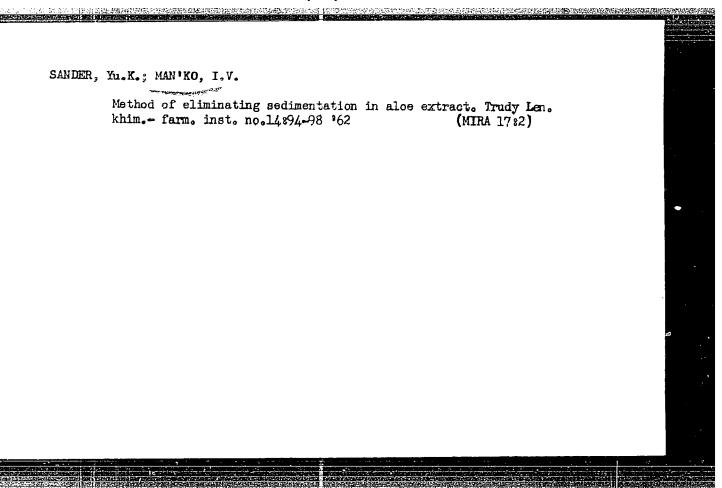ences, 6 of which are Slavic.

SUBMITTED: December, 25, 1956.

AVAILABLE: Library of Congress.

Card 3/3

PUKHAL'SKAYA, A.Ch.; PETROVA, M.F.; MAN'KO, I.V.

Studies on the effect of 6 alkaloids related to 1-methylpyrroli-
zidine on the growth of hepatoma and of certain other transplanted
tumors in animals. Biul.eksp.biol.i med. 47 no.8:91-93 Ag '59.
(MIRA 12:11)

1. Iz laboratorii eksperimental'noy khimioterapii (zav. - chlen-
korrespondent AMN SSSR L.F. Larionov) i laboratorii khimii prirodnykh
veshchestv (zav. - prof. G.P. Men'shikov) Instituta eksperimental'noy
patologii i terapii raka (dir. - chlen-korrespondent AMN SSSR N.N.
Blokhin) AMN SSSR I iz kafedry tekhnologii lekarstv i galenovykh
preparatov (zav. - Yu.K. Sander) Leningradskogo khimiko-farmatsev-
ticheskogo instituta. Predstavlena deystvitel'nym chlenom AMN SSSR
V.V. Zakusovym.
        (HEPATOMA exper.)
        (NEOPLASMS exper.)
        (ALKALOIDS pharmacol.)
        (PYRROLES pharmacol.)

SANDER, Yu.K.; MAN'KO, I.V.

Method of eliminating sedimentation in aloe extract. Trudy Len.
khim.- farm. inst. no.14:94-98 '62   (MIRA 17:2)

MAN'KO, Leonid Stepanovich; GORDIYENKO, N.S., kand. sel'skokhozyaystvennykh nauk, red.; DOLGOPYATOV, Yu.A., red.; KOZLOV, S.V., tekhn. red.

[What corn gave us] Chto dala nam kukuruza. Pod red. N.S. Gordienko. Alma-Ata, Kazakhskoe gos. izd-vo, 1956. 14 p.   (MIRA 11:7)

1. Predsedatel' kolkhoza imeni Michurina Alma-Atinskogo rayona Alma-Atinskoy oblasti (for Man'ko).
                    (Kazakhstan--Corn (Maize))

PA 34T25

MAN'KO, M. A.

USSR/Geography
      Geology

Sep/Oct 1947

"Boundary of the Tundra Zone in the Lower Regions of
the Mezen River," M. A. Man'ko, 9 pp

"Izv VseSoyuz Geog Obshch" Vol LXXIX, No 5

Author makes brief reference to the material already
available on the regions around the city of Mezen.
He divides this region into four major sectors and
describes each one separately: 1) the Mezen region
from the latitude of the city of Mezen to the lower
reaches of the Mezen River, 2) the Pyi region, 3) the
Semzhi, and 4) the Mgla-Nes' region.

34T25

LC

MAN'KO, M. A.

USSR/Biology - Botany

Card 1/1   Pub. 45 - 5/17

Authors   Man'ko, M. A.

Title   About the effect of lake ground-waters on the nature of wooded steppes beyond the Urals

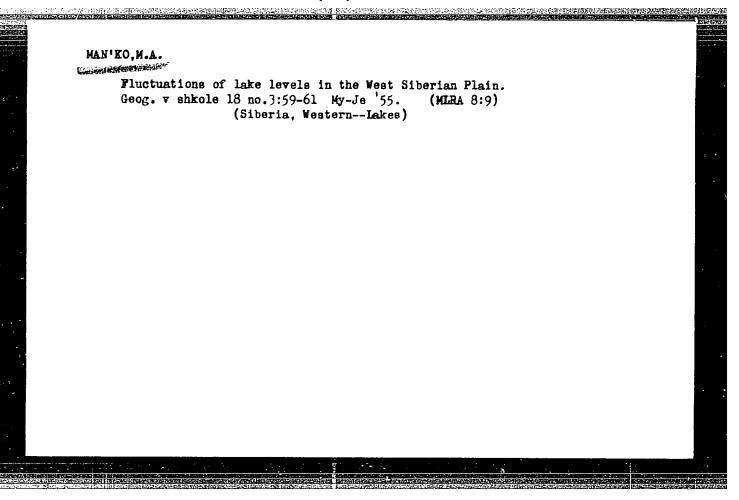Periodical : Izv. AN SSSR. Ser. geog. 3, 50-57, May - Jun 1954

Abstract   : A description is given of the rising and falling of the water level in lakes in the trans-Ural region, in periods averaging 35 years, which is accompanied by the level of the ground waters. During the high-water periods many trees are killed with a tendency towards reforestation during the time of receding waters. It is found that trees standing alone are more likely to be killed by the water and that resistence also depends on their species. Theories are presented to explain the oscillation in water level. Twelve USSR references (1900-1951).

Institution: State Pedagogical Institute of Rostov on the Don

Submitted: .....

MAN'KO,M.A.

Fluctuations of lake levels in the West Siberian Plain.
Geog. v shkole 18 no.3:59-61 My-Je '55.   (MLRA 8:9)
                    (Siberia, Western--Lakes)

MAN'KO, M. A. and A. V. AGUPOV

Reported on the subsurface supply of lakes.

report presented at the 3rd All-Union Hydrological Congress 7-17 Oct 1957,
Leningrad

Izv Ak Nauk SSSR, ser geograf. 3, pp 3-7. 58.

AUTHOR: M.A. Man'ko   10-58-3-8/29

TITLE: Does the Permafrost of Soil in the Mezenskiy Rayon Recede?
    (Degradiruyet li vechnaya merzlota pochv v rayone g.Mezeni?)

PERIODICAL: Izvestiya Akademii Nauk SSSR-Seriya Geograficheskaya, 1958,
    Nr 3, pp 60-64 (USSR)

ABSTRACT: The Mezenskiy Rayon is assumed to be a classic example of
permafrost movement northwards, with a speed of 0.5 km per
year due to a temperature increase in Northern Europe. This
opinion was expressed by Shrenk (1855), N.G. Datskiy (1937),
B.N. Gorodkov (1932) and Sumgin (1932). The author, who in 1940
studied the permafrost problem in the Mezenskiy Rayon, has
come to the conclusion that the hypothesis of temperature in-
crease in Northern Europe is wrong. He illustrates his as-
sertion by presenting a graph showing the average annual tem-
perature fluctuations from 1814 to 1939. The main reason for
the reduction of permafrost is the exploitation of peat-bogs,
which are the main preserves of permafrost, according to
V.G. Goryachkin (1928), S.N. Tyremnov (1928), V.B. Shostako-
vich, B.N. Gorodkov (1932) and others. There is 1 graph,
and 17 Soviet references.

Card 1/2

10-58-3-8/29

Does the Permafrost of Soil in the Mezenskiy Rayon Recede?

ASSOCIATION: Rostovskiy-na-Donu gos. universitet (State University in Rostov-on-Don)

AVAILABLE: Library of Congress

Card 2/2

1. Permafrost - USSR

MAN'KO, M.A.

Eroded forests and ground waters in the trans-Ural forest-and-steppe region. Uch. zap. RGU 44:185-194 '59.   (MIRA 14:1)
(Ural Mountain region—Forests and forestry)
(Erosion)

HAN'KO, I.A.

Origin of sinkholes in the Chelyabinsk-Chumlyak region of the trans-Ural forested steppe. Izv. Vses. geogr. ob-va 93 no.1: 65-69 Ja-F '61.   (MIRA 14:2)
          (Chelabinsk Province--Sinkholes)

ACC NR: AP7001323

AUTHOR: Yeliseyev, P. G.; Ismailov, I.; Krasil'nikov, A. I.; Man'ko, M. A.; Strakhov, V. P.

ORG: Physics Institute im. P. N. Lebedev, AN SSSR, Moscow (Fizicheskiy institut AN SSSR)

TITLE: Temperature dependence of the threshold current of injection-type lasers and their continuous emission under liquid nitrogen cooling

TOPIC TAGS: laser, injection laser, laser threshold current, laser emission point, laser emission threshold, laser diode

ABSTRACT: The temperature dependence of the threshold current in the 77—200K range was investigated on diodes prepared by vapor-phase and liquid-state epitaxy methods. The vapor-phase specimens were prepared in the conventional way; the epitaxial diodes were prepared by the liquid-phase epitaxy method (as described by Nelson in RCA Review, 24, 1963, 603) from a solution of gallium arsenide in gallium at 920C. The substrates were gallium arsenide p-type plates doped with zinc at a concentration of about 7×10^{19} cm^{-3}. Graphs of threshold current vs. temperature for two epitaxial diodes show a linear dependence (gradients of 1.6 and 1.3% per degree). For vapor-phase specimens, the gradient is 3.9% at 77K; at higher temperatures the gradient declines slowly. The threshold current densities at 77K for vapor phase diodes lie

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ACC NR: AP7001323

within the 800—2000 amp/cm^2 range, and for epitaxial specimens, between 1600—8000 amp/cm^2. A formula is given for the conditions of generation as a function of threshold current, voltage on the junction, thermal resistance of the diode, and diode cross section. The formula shows that, at the nitrogen temperature, the threshold current density should not exceed 5700—5800 amp/cm^2 for epitaxial diodes and 1900 amp/cm^2 for vapor-phase diodes. Continuous emission was obtained at 1200—1600 amp/cm^2 in a number of diodes, but in some the threshold was not reached because of overheating. This result suggests that the actual thermal resistance is 3 to 4 times higher than the calculated value. The difference is attributed to insufficient contact between the diode and the cooling agent. Orig. art. has: 1 figure and 2 formulas.

[FP]

SUB CODE: 20/ SUBM DATE: 18Jul66/ ORIG REF: 002/ OTH REF: 012/ ATD PRESS: 3110

Card 2/2

ACC NR: AP7001324   SOURCE CODE: UR/0057/66/036/012/2215/2216

AUTHOR: Yeliseyev, P. G.; Man'ko, M. A.

ORG: Physics Institute im. P. N. Lebedev, AN SSSR, Moscow (Fizicheskiy institut AN SSSR)

TITLE: Using a semiconductor mirror for the Q-switching of a laser

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 36, no. 12, 1966, 2215-2216

TOPIC TAGS: laser, ruby laser, laser Q switching, laser Q modulation, laser mirror, laser semiconductor mirror

ABSTRACT: The article reports on experiments with germanium and indium antimonide mirrors in a ruby laser to enhance its Q-switching efficiency. The laser was 120 mm long and 9 mm in diameter; its resonator was formed by one end of the rod and a mirror made from a semiconductor material. A telescope was used between the rod end and the mirror to widen the beam incident on the mirror and thereby reduce beam density and its destructive effect on the mirror material. The effect of the arrangement was to change the output from the usual spiking regime to that of giant pulses. Lasers Q-switched by a semiconductor mirror displayed a considerably higher output per unit pumping energy and a much steeper output pulse in comparison with lasers using interference, metal, or polished-end mirrors under free emission near the self-excitation threshold or under conditions of Q-switching by a saturation filter

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ACC NR: AP7001324

and an interference mirror. The multistep character of Q-switched curves, explained
by the occurrence of one, two, or more giant pulses in close succession, is less pro-
nounced in the case of semiconductor mirrors because the giant pulses are accompanied
by the usual spiking as under conditions of free emission. Orig. art. has: 1 figure.
[FP]

SUB CODE: 20/ SUBM DATE: 18Jul66/ OTH REF: 004/ ATD PRESS: 5109

Card 2/2

MAN'KO, N., inzhener-podpolkovnik

     Radioactivity and the characteristics of radioactive radiation.
     Voen.vest. 43 no.7:112-115 Jl '63.   (MIRA 16:11)

MAN'KO, N. F.

How to control orchard and vegetable garden pests.
Minsk, Akademiia nauk Belorusskoi SSR, 1951.   106 p.

DA

MAN'KO, N. I.

New synthesis of o-derivatives of benzotrifluoride.
L. M. Yagupol'skii and N. I. Man'ko. Zhur. Obshchei
Khim. 23, 985-91(1953). — SiCCH₃CN (2r g.) heated to
160° with illumination by a quartz lamp and treated with
17 g. Cl (added wt.; a temp. rise to 185° was observed)
gave 86% o-Cl₃CC₆H₄CN, m. 94-5° (from EtOH), b. 151-
2°. This (20 g.) and 20 g. SbF₃ heated until a homogeneous
soln. formed, distd., the distillate treated with Et₂O and
6N HCl, and the washed ext. distd. yielded 11.9 g. o-
F₃CC₆H₄CN, b. 204-8°, m. 18° (cf. Rouche, C.A. 22,
2140). This (13 g.) reacted vigorously with 50 ml. 95%
EtOH, 33 ml. 30% H₂O₂, and 5 ml. 6N NaOH (cooling
to 40-50° was used); after standing overnight the mixt. was
warmed 3 hrs. to 50°, cooled to 0°, and filtered, giving 11 g.
o-F₃CC₆H₄CONH₂, m. 160-1°, with an addnl. 1.5 g. ob-
tained on diln. of the filtrate (cf. Brouwer, C.A. 24, 5294).
This (8 g.) treated with a cold soln. of 10 g. NaOH in 80
ml. H₂O and 2.5 ml. Br₂ stirred and heated on a steam bath
45 min., cooled, and extd. with Et₂O, gave 4.9 g. o-F₃CC₆H₄-
NH₂, b₁₅ 65-7°; Ac deriv., m. 94-5°. The above benzamide
(14.4 g.) in 72 ml. H₂O reacted vigorously with 36 ml. concd.
H₂SO₄ and the soln. treated slowly with stirring with 12 g.
NaNO₂ in H₂O at 98-100°, cooled, extd. with Et₂O, the
ether soln. extd. with NaOH, and the aq. soln. acidified
gave 91% o-F₃CC₆H₄CO₂H, m. 107-8°. The acyl chloride
refluxed with EtOH gave the Et ester, b₁₅ 90-1°, which, re-
fluxed 3 hrs. with N₂H₄.H₂O gave the hydrazide, m. 134°
(from dil. EtOH).
G. M. Kosolapoff

10-15-54

Inst. Organic Chem, AS UKr SSR

Man'ko, N. I.

Distr: 4E4j

β-(4-Hydroxy-3,5-diiodophenyl)-α-phenylpropionic acid. L. M. Yagupol'skiĭ, B. E. Cruz, N. I. Man'ko, and A. I. Kiprianov. U.S.S.R. 102,386, Mar. 25, 1956. The title compd. known as "Billitrust" is obtained by first treating anisole with formalin and HCl to obtain a chloromethyl deriv. of anisole. The deriv. is then condensed with benzyl cyanide in the presence of NaNH₂. The MeO group is removed with AlCl₃ and the CN group hydrolyzed with alkali, and the resulting hydroxyphenylpropionic acid iodated in NH₄OH by known procedures. M. Hoseh

YAGUPOL'SKIY, L.M.; GRUZ, B.Ye.; MAN'KO, N.I.; KIPRIANOV, A.I.

Synthesis of bilitrast—β-(4-hydroxy-3,5-diiodophenyl)-α-phenyl-propionic acid. Ukr. khim. zhur.226 no.2:233-236 '60.

(MIRA 13:9)

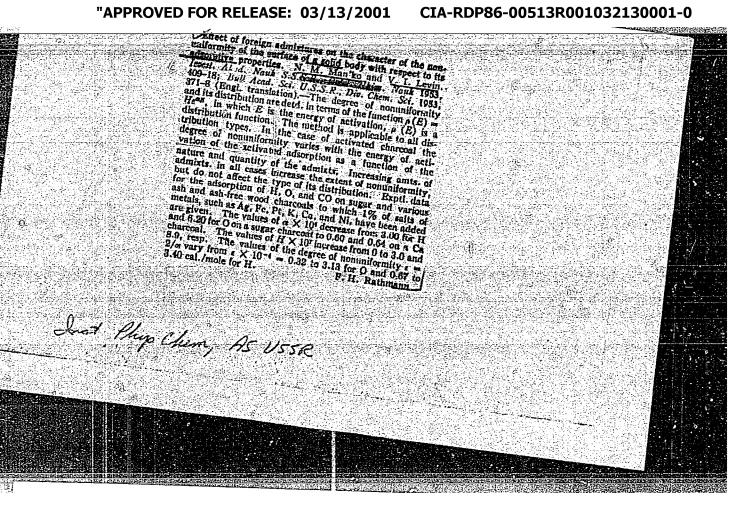1. Institut organicheskoy khimii AN USSR.
(Phloretic acid)

MAN'KO, N. M.

"Effect of Mineral Impurities on the Character of the Heterogeniety
of the Surface of Active Carbon According to Adsorption Properties."
Sub 18 Oct 51, Inst of Physical Chemistry, Acad Sci USSR.

Dissertations presented for science and engineering degrees in
Moscow during 1951.

SO: Sum. No. 480, 9 May 55

MAN'KO, N. M.

USSR/Chemistry - Activated Carbon   11 Apr 52

"Investigation of the Kinetics of Activated Adsorption of Oxygen and Hydrogen on Carbons Containing Different Inorganic Admixtures," N. P. Keyer, N. M. Man'ko, Inst of Phys Chem, Acad Sci USSR

"Dok Ak Nauk SSSR" Vol LXXXIII, No 5, pp 713-716

Activated birch charcoal was treated with NaF in HNO_3, thus lowering the ash content from 3% to 0.4%. One % of K, Ca, Fe, Ni, Ag, or Pt was then introduced into the carbon and the adsorption of O_2 and H_2 measured. The data obtained show that

218T9

USSR/Chemistry - Activated Carbon   11 Apr 52
                    (Contd)

the resulting carbons strongly differ with respect to adsorption, that some additives reduce while others strongly increase adsorption; that the adsorption of O_2 and H_2 is not affected by additives in the same manner. The results were correlated on the basis of S. Z. Roginskiy's theory of processes taking place on inhomogenous surfaces, and the conclusion reached that presence of additives on the surface of carbon increases the deg of its inhomogeneity. The relationships pertaining to the formation of an active surface which have been disclosed must have a bearing on the action of catalyst promoters, modifiers, and poisons.

218T9

Effect of foreign admixtures on the character of the non-uniformity of the surface of a solid body with respect to its adsorptive properties. N. M. Man'ko and V. L. Levin. Ivest. Al. d. Nauk S.S.S.R., Otd. Khim. Nauk 1953, 409–18; Bull. Acad. Sci. U.S.S.R., Div. Chem. Sci. 1953, 371–8 (Engl. translation).—The degree of nonuniformity and its distribution are detd. in terms of the function $\rho(E) = H^{ea}$, in which E is the energy of activation, $\rho(E)$ is a distribution function. The method is applicable to all distribution types. In the case of activated charcoal the degree of nonuniformity varies with the energy of activation of the activated adsorption as a function of the nature and quantity of the admixtr. Increasing amts. of admixts. in all cases increase the extent of nonuniformity, but do not affect the type of its distribution. Exptl. data for the adsorption of H, O, and CO on sugar and various ash and ash-free wood charcoals to which 1% of salts of metals, such as Ag, Fe, Pt, K, Ca, and Ni, have been added are given. The values of $\alpha \times 10^4$ decrease from 3.00 for H and 6.20 for O on a sugar charcoal to 0.60 and 0.64 on a Ca charcoal. The values of $H \times 10^2$ increase from 0 to 3.0 and 8.9, resp. The values of the degree of nonuniformity $\epsilon = 2/\alpha$ vary from $\epsilon \times 10^{-4} = 0.32$ to 3.13 for O and 0.67 to 3.40 cal./mole for H.

F. H. Rathmann

Inst. Phys. Chem., AS USSR

PHASE I BOOK EXPLOITATION   SOV/5084

International Conference on the Peaceful Uses of Atomic Energy. 2d, Geneva, 1958.

Doklady sovetskikh uchenykh. (t.4) Khimiya radioelementov i radiatsionnykh prevrashcheniy (Reports of Soviet Scientists. v. 4.: Chemistry of Radio-elements and Radiation Transformations) Moscow, Atomizdat, 1959. 325 p.
8,000 copies printed. (Series: Its: Trudy)

Ed. (title page): A. P. Vinogradov, Academician; Ed.: V. I. Laboznov; Tech. Ed.: Dr. I. Mazel'.

PURPOSE: This collection of articles is intended for scientists and engineers interested in the applications of radioactive materials in science and industry.

COVERAGE: The book contains 26 separate studies concerning various aspects of the chemistry of certain radioactive elements and the process of radiation effect on matter. These reports discuss present-day methods of reprocessing irradiated nuclear fuel, research in the chemistry of mercury, thorium, uranium, plutonium, and americium, problems related to the sorption and bury-ing of radioactive wastes, the radiolysis of aqueous solutio s and of organic compounds, the mechanism of polymer chain grafting, and of the effect of radiation on natural and synthetic rubbers. V. R. Prokofev edited the present volume. Most of the reports are accompanied by reference. Con-tributors to individual investigations are mentioned in annotations to the Table of Contents.

L 14423-63   EWT(m)/BDS   AFFTC/ASD
ACCESSION NR: AP3003972   54
                                    S/0089/63/015/001/0023/0030

AUTHOR: Brezhneva, N. Ye.; Levin, V. I.; Korpusov, G. V.; Bogacheva, Ye. K.;
Man'ko, N. M.

TITLE: Separation of Zr^{95}, Nb^{95}, and Ru^{106} from a mixture of fission products
by extraction with tributyl phosphate

SOURCE: Atomnaya energiya, v. 15, no. 1, 1963, 23-30

TOPIC TAGS: Zr^{95}, Nb^{95}, Ru^{106}, fission product, fission-product extraction,
extracting agent, tributyl phosphate extracting agent, reextraction, solvent
extraction, complexing agent, hydrogen peroxide, oxalic acid, sodium nitrite,
nitric acid concentration, zirconium complex, niobium complex, ruthenium complex,
distribution coefficient, Ru^{106} sulfide coprecipitation

ABSTRACT: Methods were studied for obtaining radiochemically pure Zr^{95}, Nb^{95},
and Ru^{106} by a general procedure for separation of fission products, described
previously (N. Ye. Brezhneva, V. I. Levin, G. V. Korpusov i dr. V kn. "Trudy*
Vtoroy mezhdunarodnoy konferentsii po mirnomu ispol'zovaniyu atomnoy energii."
Dokl. sov. ucheny*kh. T. 4. M., Atomizdat, 1959, str. 57.). The physicochemical
mechanism of solvent extraction with tributyl phosphate (TBP) was investigated

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L 14423-63
ACCESSION NR: AP3003972

under static and dynamic conditions. Pure Zr^{95}, Nb^{95}, Ru^{106}, Y^{91}, Eu^{152}, and Eu^{154} radioactive isotopes were used to prepare synthetic solutions. In the static method, extraction was effected by shaking in separatory funnels a synthetic nitric acid solution of each of the three pure isotopes, with pure TBP or with a 40% solution of TBP in kerosene. It was shown that the distribution coefficient (K_D) between the organic (TBP) phase and aqueous nitric acid 1) increases continuously during extraction of Nb or Zr when the equilibrium concentration of HNO_3 is increased, but passes through a sharp maximum in the case of Ru; 2) is much lower on extraction of Nb or Zr with dilute TBP than with pure TBP; 3) increases as the square of TBP concentration in the organic phase during extraction of Nb with dilute TBP; 4) is much higher in reextraction than in extraction of Nb or Zr from TBP; and 5) increases on consecutive re-extractions of Nb, Zr, or Ru. These and earlier data indicate the formation of extractable Zr or Nb complexes of the $Zr(NO_3)_4 \cdot nHNO_3 \cdot 2TBP$ type and of an extractable Ru complex, $Ru\,NO(NO_3)_3$. Formation of the latter requires the presence of certain nitrogen oxides or nitrous acid, together with HNO_3 or NO_3^- ions. The increase in K_D on repeated reextractions of Ru is attributed to the conversion of $RuNO(NO_3)_3$ in the organic phase to more stable complexes with TBP. Similarly, several stable Zr or Nb complexes are present in both phases. The fact that the establishment of equilibrium between complexes is slow explains

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L 14423-63
ACCESSION NR: AP3003912

O

the difficulty of Zr or Nb reextraction. However, this difficulty can be overcome by the addition of hydrogen peroxide or oxalic acid to aqueous HNO_3 as complexing agents for Nb and Zr, respectively. The data show that in the presence of the complexing agent K_D for Zr and Nb on reextraction is greatly diminished. Thus, it was possible to achieve 74—90% reextraction of Nb or Zr, provided $[HNO_3]$ was no higher than 13 N for Nb or 5 N for Zr. Separation of Nb and Zr by extraction under dynamic conditions was carried out in a glass semi-countercurrent 20-stage extractor. Experimental extraction of a mixed Zr^{95} and Nb^{95} synthetic solution in 10 N HNO_3 containing 2% H_2O_2 produced nearly complete separation, as shown by the radioactivity absorption (transmission) curves of pure Zr^{95} and Nb^{95}. In another experiment, a nitric acid solution of iron hydroxide precipitate from the actual processing of fission products was extracted with 9.8 N HNO_3. Reextraction of Nb with HNO_3 and H_2O_2 was carried out first; then Zr was reextracted with HNO_3 and oxalic acid. The absorption (transmission) curves for the Zr^{95} and Nb^{95} products coincided with those for pure Zr^{95} and Nb^{95}. Separation of Ru^{106} from a mixture of long-lived radioactive isotopes by coprecipitation with nickel, copper, lead, or cadmium sulfides is described as a preliminary step to Ru^{106} extraction from 0.2 N HNO_3 solution of the sulfides. The 0.2 N $NaNO_2$ was added prior to extraction with TBP. It was shown that about 98% Ru^{106} was extracted from the sulfides. Orig. art. has: 8 figures and 7 tables.

Card   3/43

L 17580-63   EWP(q)/EWT(m)/BDS   AFFTC/ASD   JD/JG

ACCESSION NR: AP5005222   S/0089/63/015/002/0138/0146

AUTHORS: Levin, V. I.; Korpusov, G. V.; Man'ko, N. M.; Patrusheva, Ye. N.;
Prokhorova, N. P.; Platnov, G. F.

TITLE: Extraction of tetravalent cerium with organic solvents.

SOURCE: Atomnaya energiya, v. 15, no. 2, 1963, 138-146.

TOPIC TAGS: cerium, tetravalent cerium, organic solvent, ozone, diethyl ether,
nitromethane, tributyl phosphate

ABSTRACT: Authors studied the oxidation of small quantities of cerium and the
mechanism of the extraction precipitation of microamounts of radioactive cerium.
Authors showed that the use of ozone is most expedient for the oxidation of cerium,
as it does not contaminate the solution by extraneous ions. The extraction of
Ce(IV) by diethyl ether, nitromethane, and tributyl phosphate was studied, and it
has been shown that in the first case, cerium is extracted as saturated cerium
acid. In the latter two cases, at low HNO_3 concentrations, cerium is extracted
as nitrate whereas at high concentrations it is extracted as $H_2[Ce(NO_3)_6]$. The
constants of the complex formation of Ce(IV) with the nitrate ions were estimated.
Orig. art. has: 16 figures, 3 tables and 7 formulas.

Card 1/2

BREZHNEVA, N.Ye.; LEVIN, V.I.; KORPUSOV, G.V.; MAN'KO, N.M.; PLOTNOV,
     G.F.

     Isolation of radioactive carrier-free cerium from a mixture
     of fission products. Raidokhimiia 6 no. 1:66-72 '64.
                                             (MIRA 17:6)

BREZHNEVA, N.Ye.; LEVIN, V.I.; KORPUSOV, G.V.; PATRUSHEVA, Ye.N.;
MAN'KO, N.M.; KHORESHKO, L.T.

Separation of promethium-147 and europium-155 from a mixture
of fission products by tributyl phosphate extraction. Radiokhimiia
6 no.3:265-275 '64.   (MIRA 18:3)

LOPATA, A.Ya., kandidat tekhnicheskikh nauk; MAN'KO, N.S., inzhener; MOSENKIS, M.G., inzhener; KOSTENKO, G.F., redaktor; TRYASUNOVA, P.G., redaktor; SERDYUK, V.K., inzhener, redaktor.

[The 1336M and 1336R turret lathes; directions for maintaining and adjusting] Tokarno-revol'vernye stanki 1336M i 1336R; rukovodstvo po obsluzhivaniiu i naladke. Izd.2-oe. Pod red. G.F. Kostenko i P.G.Triasunova. Kiev, Gos.nauchno-tekhn.izd-vo mashinostroit. lit-ry, 1956. 64 p.   (MIRA 9:6)

1.Kiyevskiy zavod stankov-avtomatov.
                    (Lathes)

DUBINSKIY,L.M.; ZAMANSKIY, S.M.; LOPATA, A.Ya.; MAN'KO, N.S.; REZNIK,
   N.D.; SKARZHEVSKIY, R.A.; TERESHCHENKO, A.I.; KOSTENKO, G.F.,
   red.; TARASINKEVICH, P.P., red.; KAPLINSKIY, L.A., red.;
   SOROKA, M.S., red.

   [The multiple-spindle 1261M and 1262M automatic lathes and 1261P,
   and 1262P semiautomatic lathes; handbook on adjustment and serv-
   icing]Mnogoshpindel'nye tokarnye avtomaty 1261M, 1262M i poluav-
   tomaty 12662P; rukovodstvo po naladke i obsluzhivaniiu. Izd.2.
   Pod red. G.F.Kostenko, P.P.Tarasinkevicha i L.A.Kaplinskogo.
   Moskva, Mashgiz, 1960. 170 p.   (MIRA 15:11)
             (Lathes—Maintenance and repair)

TESALOVA, O.T., assistent; MAN'KO, O.L.

Use of diaminodiphenylsulphone in treating Duhring's disease
in a 15-month-old child. Vest.derm. i ven. 33 no.3:78 My-Je
'59.   (MIRA 12:9)

1. Iz kozhnoy kliniki Samarkandskogo meditsinskogo instituta
i Samarkandskogo oblastnogo kozhnovenerologicheskogo dispansera.
                   (SKIN--DISEASES)   (SULFONE)

BEKHER, R.M.; VASILYUK, N.I.; MAN'KO, O.Ya.

Determination of halides in highly volatile organic substances.
Zav. lab. 29 no.6:675-676 '63.   (MIRA 16:6)

1. Nauchno-issledovatel'skiy institut organicheskikh polu-
produktov i krasiteley, filial v g. Rubezhnoye.
            (Halides)   (Organic compounds)

VOLODARSKIY, Semen Mikhaylovich; MAN'KO, P.A., otvetstvennyy redaktor;
    SHAURAK, Ye.N., redaktor; KAMOLOVA, V.M., tekhnicheskiy redaktor

    [Repair of marine boilers] Remont sudovykh parovykh kotlov.
    Leningrad, Gos. soiuznoe izd-vo sudostroit. promyshl., 1956.
    105 p.   (MLRA 9:11)
            (Boilers, Marine)

MAN'KO, P.A., kandidat tekhnicheskikh nauk; LUKOVKIN, A.I.; SVINARENKO, V.A., inzhener.

Waste heat boiler-mufflers. Sudostroenie 23 no.6:15-18 Je '57.
(MIRA 10:7)

(Boilers, Marine)

MANUKO, ~~B.~~ kandidat tekhnicheskikh nauk; ANDREYEV, I.L., inzhener; LUKOVKIN, A.I., inzhener.

Protection from corrosion of marine boiler economizers. Sudo-
stroenie 23 no.7:43-45 Jl '57.   (MLRA 10:8)
    (Boilers, Marine)   (Corrosion and anticorrosives)

MAN'KO, P.A., kand. tekhn. nauk; ANDREYEV, I.L., inzh.; LUKOVKIN, A.I., inzh.

Building auxiliary water-tuber boilers for sea-going vessels. Sudo-
stroenie 23 no.11:47-49 N '57.   (MIRA 11:1)
(Boilers, Water-tube)

ANDREYEV, Igor' Leonidovich; LUKOVKIN, Aleksandr Ivanovich; MAL'KO, Petr
     Alekseyevich; TIKHOMIROV, Aleksandr Anatol'yevich; KUZ'MIN, I.N.,
     otv.(nauchnyy) red.; VLASOVA, Z.V., red.; BRASTOVA, N.V., tekhn.red.

     [Protecting marine watertube boilers from corrosion] Zashchita
     sudovykh vodotrubnykh kotlov ot korrozii. Leningrad, Gos. soiuznoe
     izd-vo sudostroit. promyshl., 1958. 100 p.   (MIRA 12:1)
          (Corrosion and anticorrosives) (Boilers, Watertube)

MAN'KO, P.A., kand. tekhn. nauk; ANDREYEV, I.L., inzh.; LUKOVKIN, A.I., inzh.;
D'YAKOV, V.V.

    Machining marine boiler collecting drums on multispindle machine tools.
    Sudostroenie 24 no.2:51-54 F '58.   (MIRA 11:3)
                    (Boilers, Marine)   (Machine tools)

MAN'KO, P.A., kand.tekhn.nauk

      Assembled unit supply and mounting of marine boilers. Trudy
NTO sud.prom. 32:27-37 '60.   (MIRA 13:6)
            (Boilers, Marine)

L 65104-65   EWT(m)/EWP(t)/EWP(k)/EWP(b)/EWA(c)   JD/HW

ACCESSION NR: AP5021975   UR/0286/65/000/014/0035/0035
                                           662.151:621.984.58

AUTHOR: Navagin, Yu. S.; Lukovkin, A. I.; Han'ko, P. A.; Ponomarev, G. D.; Pin,
M. V.

TITLE: A method for pressing pipes in tube sheets. Class 13, No. 172844

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 14, 1965, 35

TOPIC TAGS: pipe, metal tube, explosive forming

ABSTRACT: This Author's Certificate introduces a method for pressing pipes in tube
sheets in heat exchangers by using the pressure of a medium inside the pipes. Re-
liability is improved and the process is simplified by creating the pressure
through the explosion of charges placed in each pipe at a depth which corresponds
to the thickness of the tube sheet.

ASSOCIATION: none

SUBMITTED: 03Jun61   ENCL: 00   SUB CODE: MM, IE

NO REF SOV: 000   OTHER: 000

Card 1/1

MAN'KO, P.I.; MASLOV, N.I.
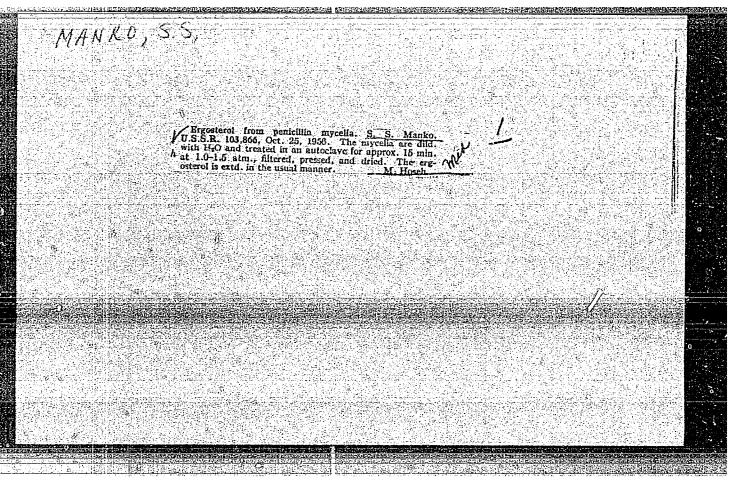
    Letters to the editor. Transp.stroi. 10 no.7:60-61 Jl '60.
                                        (MIRA 13:7)

    1. Zamestitel' nachal'nika po kadram tresta Dneprotransstroy
    (for Man'ko). 2. Nachal'nik tekhnicheskogo otdela tresta
    Dneprotrasstroy (for Maslov).
                   (Construction industry)

WAKSMUNDZKI, Andrzej; SUPRYNOWICZ, Zdzislaw; MANKO, Regina

Zircon concentrates as a supporting material in gas-liquid partition chromatography. Chem anal 7 no.6:1051-1058 '62.

1. Department of Physical Chemistry, M. Curie-Sklodowsk University, Lublin.

MANKO, SS,

Ergosterol from penicillin mycelia. S. S. Manko. U.S.S.R. 103,866, Oct. 25, 1956. The mycelia are dild. with H_2O and treated in an autoclave for approx. 15 min. at 1.0-1.5 atm., filtered, pressed, and dried. The ergosterol is extd. in the usual manner.   — M. Hoseh.

MANKO, S.S.

Mycelium of Penicillium as a source of ergosterol. Trudy VNIVI
6:92-97 '59.   (MIRA 13:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy vitaminnyy institut.
Tekhnologicheskaya laboratoriya.
                    (ERGOSTEROL)

MHN KO, V

SUBJECT   USSR / PHYSICS   CARD 1 / 2   PA - 1971
AUTHOR   MAN'KO,V., GAVRILOVSKIJ,B.V., GOLOVNJA,V.JA., KADARZEV,K.V.,
                KLJUCAREV,A.P.
TITLE   The Polarization of Low Energy Protons on the Occasion of
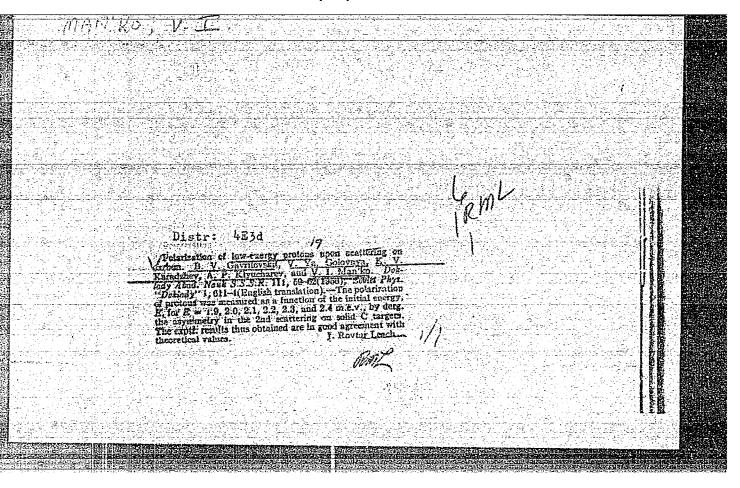   Scattering by Carbon.
PERIODICAL   Dokl.Akad.Nauk 111,fasc.1, 59-62 (1956)
                Issued: 1 / 1957

This work was carried out by means of an electric generator. The scheme of the
experiment is illustrated in form of a drawing. The measuring device consists
of two vacuum chambers. An electron bundle coming from an electrostatic genera-
tor impinges upon the first carbon target M_I in chamber I and the protons
scattered on this target are scattered once more on target M_{II} of chamber II.
After having thus been scattered twice the protons are now registered by photo-
plates with an emulsion thickness of 100   . The angle θ_1 on the occasion of
the first scattering amounted to 60^0 in the center of mass system, and for the
angle θ_2 of the second scattering the values $\pm 60^0$, $\pm 120^0$ and $\pm 150^0$ in the
center of mass system were selected. In connection with each irradiation
6 photoplates with an accordingly selected value of θ_2 were exposed. The solid
carbon targets were produced with much care as follows: A nitrocellulose film
of from 0,2 to 0,3   thickness was pasted on to a brass ring, and upon this a
colloidal graphite solution (aquadag) was poured. After drying the organic base
was carefully burned off.

Dokl.Akad.Nauk <u>111</u>,fasc.1, 59-62 (1956)   CARD 2 / 2   PA - 1971

The authors carried out a number of exposures at the values E_o = 1,9; 2,0; 2,1;
2,2; 2,3 and 2,4 MeV of the protons impinging on to the target M_I. The exposi-
tions lasted from 5 to 20 hours at an amperage of 1-2 milliampères. For indivi-
dual expositions the authors determined the energy spectrum of the protons
scattered on the target M_{II}. A diagram illustrates the case Θ_2 = 60° at an
initial energy of the protons of 2,1 MeV. The thickness of the target M_I amoun-
ted to 0,80 mg/cm^2 and that of the target M_{II} amounted to 0,65 mg/cm^2. From 300
to 1000 protons were recorded on the photoplates per exposition. The ratio of
the number of acts of scattering to the right and to the left means for each
absolute value of Θ_2 the measure of the azimuthal asymmetry of the scattering of
the protons by the target M_{II} and therefore also a measure of polarization in
connection with the scattering $C^{12}(p,p)$. The authors subjected the energy de-
pendence of the right-and-left asymmetry for Θ_2 = 60° with the closest atten-
tion. The data found on this occasion, which were averaged over the individu-
al expositions, are given in form of a table. At an initial energy of the pro-
tons of from 1,9 to 2,4 MeV and at Θ_2 = 60° it is possible, in the case of the
targets used in this case, to investigate the polarization of the protons on the
occasion of $C^{12}(p,p)$-scattering in the interval 1,6-2,4 MeV by measuring asym-
metry. Also the experimental results for Θ_2 = 120° and Θ_2 = 150° are illustrated
in form of a table. The results agree well with the corresponding theory.
INSTITUTION: Physical-Technical Institute of the Academy of Science of the
             Ukrainian SSR

MAN'KO, V. I.

Distr: 4E3d

Polarization of low-energy protons upon scattering on carbon. B. V. Gavrilovskii, V. Ya. Golovnya, E. V. Khandzhey, A. P. Klyucharev, and V. I. Man'ko. Doklady Akad. Nauk S.S.S.R. 111, 59-62(1956); Soviet Phys. "Doklady" 1, 611-4(English translation).—The polarization of protons was measured as a function of the initial energy, E, for $E = 1.9, 2.0, 2.1, 2.2, 2.3$, and 2.4 m.e.v., by determining the asymmetry in the 2nd scattering on solid C targets. The exptl. results thus obtained are in good agreement with theoretical values.   F. Rovtar Leach.

//;/// \ċ, ʋ. Ľ.

AUTHORS	Sorokin,P.V.,Valter,A.K., Gavrilovskiy,B.V.,	56-3-9/59
	Karadzhev, K.V., Man'ko,V.I.,Taranov,A.Ya.	
TITLE	Polarization of Protons Scattered by O16.Spin and Parity of the	
	3,11 MeV Level in the F17 Nucleus	
	(Polyarizatsiya protonov pri rasseyanii na O16.Spin i chetnost'	
	urovnya 3,11 MeV yadra F17- Russian)	
PERIODICAL	Zhurnal Eksperim.i Teoret.Fiziki,1957,Vol 33,Nr 3,pp 606-609(USSR)	

ABSTRACT   The protons scattered elastically by O^{16}(initial energy from 2,6 to
2,8 MeV) were investigated with respect to their polarization.As a
characteristic quantity P_{eff} to 0,80 $\pm$ 0,07 was found within the
total energy domain. P_{eff} denotes the effective polarization value.
Spin and parity were determined at 1/2 for the point of resonance
of E_R = 2,66 MeV,which corresponds to an excited level of 3,11 MeV
in an F^{17} -nucleus.
There are 3 figures, 1 table and 1 Slavic reference.

ASSOCIATION	Physical-Technical Institute AN of the Ukrainian SSR
	(Fiziko-tekhnicheskiy institut Akademii nauk Ukrainskoy SSR).
SUBMITTED	February 26, 1957
AVAILABLE	Library of Congress.
Card 1/1	

21(7)

AUTHORS: Baldin, S. A., Man'ko, V. I.   SOV/56-36-6-5?/66

TITLE: Polarization of Protons in Scattering on C^{12} (Polyarizatsiya
                protonov pri rasseyanii na C^{12})

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1959,
                Vol 36, Nr 6, p 1937 (USSR)

ABSTRACT: An analysis of the elastic scattering of protons makes it
                possible to determine the position and characteristics of the
                nuclear levels. Reich et al (Ref 1) carried out such investi-
                gations; they investigated the elastic scattering of protons
                on C^{12}-nuclei in the interval of 1.5-5.5 Mev and carried out
                the complete phase analysis. They identified the following
                levels of the N^{13}-nucleus: 1.698($1/2^-$), 1.748($5/2^+$), 4.808($5/2^+$), and
                5.37($3/2^+$). The authors of the present "Letter to the Editor"
                made use of the data of the phase analysis of reference 1 for
                the purpose of calculating the dependence of the polarization
                of protons and the cross sections upon the energy in the

Card 1/2 $(p-C^{12})$ scattering (energy interval 2.5-4.5 Mev) at scattering
                angles of 0-180° in the cms. The most important results are

Polarization of Protons in Scattering on C^{12} SOV/56-36-6-50/66

shown by a diagram. The curves show the energy dependence of polarization for some angles between 30 and 150°. The individual curves differ considerably both with respect to position and shape; polarization is found to be highly sensitive to D-phase values. Thus, a variation of the $D_{2/3}$-phase at 4.5 Mev by 5° varies the amount of polarization by the 2-3-fold. This shows that investigations of polarization may render very exact phase analyses possible. There are 1 figure and 1 reference.

SUBMITTED: February 27, 1959

Card 2/2

ZARAIZHEV, K.V.; MAN'KO, V.I.

Polarization of protons scattered on O^{16}. Zhur. eksp. i teor.
fiz. 39 no.2:416-417 Ag '60.   (MIRA 13:9)
        (Protons--Scattering)   (Oxygen--Isotopes)

MAN'KO, V. I.

2

TEPLOV, I. B., MAN'KO, V. I., and SALATSKIY V. I.

"Studies on the mechanism of nuclear reactions"

Report presented at the Conference on Nuclear Reactions produced by light nuclei,
Dubna, December 1962.

L 17601-63   EWT(m)/BDS   AFFTC/ASD   S/056/63/044/003/017/053

53

AUTHOR: Karadzhev, K. V., Man'ko, V. I., and Chukreyev, F. Ye.

TITLE: Angular distribution of particles from the $O^{18}(p, \alpha_o)N^{15}$ reaction /9

PERIODICAL: Zhurnal eksperimental'noy i tekhnicheskoy fiziki, v. 44, no. 3,
               1963, 870-877

TEXT: The $O^{18}(p, \alpha_o)N^{15}$ reaction goes through intermediate F^{19} levels, and the
study of the properties of outgoing particles of this and the (p, n) and (p, γ)
reactions contributed to the understanding of the properties of some 35 or so
energy levels of F^{19}. The present paper describes the angular distributions of
particles emitted in the $O^{18}(p, \alpha_o)N^{15}$ reaction, studied for angles between 30
and 150° (laboratory system) and for proton energies between 750 and 1050 kev in
12 steps. (Protons originated from an electrostatic generator; α counters had an
1% resolving power with the 6,100 kev Cm^{242} α particles.) The experimental data
are analyzed on the basis of the resonance theory of nuclear reactions. The spin
and parity and partial reduced widths for the 8.89 Mev level in the F^{19} nucleus are
found to be $\frac{1}{2}^+$, $0_p^2 = 2.4 \cdot 10^{-4}$, $0_\alpha^2 = 5.5 \cdot 10^{-3}$ respectively. It is concluded that

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L 17601-63   8/056/63/044/003/017/053

                                                                   0

Angular distribution of particles...

with a high probability α associations of nucleons are formed in the F^{19} nucleus
in this state. There are 4 figures.

SUBMITTED: October 24, 1962

Card 2/2

KARADYEV, V. V.; MANKO, V. I.; CHUKREYEV, F. YE.

"Properties of the F^{19} nucleus levels excited in the reaction O^{18} (p, α)N^{19}."

report submitted for Intl Conf on Low & Medium Energies Nuclear Physics, Paris, 2-8 Jul 64.

Kurchatov Inst, Moscow.

ACCESSION NR: AP4031157   S/0056/64/046/004/1352/1359

AUTHOR: Dzyaloshinskiy, I. Ye.; Man'ko, V. I.

TITLE: Nonlinear effects in antiferromagnets. "Latent" antiferromagnetism.

SOURCE: Zh. eksper. i teor. fiz., v. 46, no. 4, 1964, 1352-1359

TOPIC TAGS: antiferromagnetism, magnetic moment, uranium peroxide, iron carbonate, ferric oxide

ABSTRACT: In the general expansion of the magnetic moment

the quadratic terms (coefficient b), which vanish in the case of paramagnetic sub-
stances but not in the case of antiferromagnetic substances, are shown to be either
of exchange or of relativistic origin. In the case of exchange origin their order
is $b \sim \varkappa/H_e$ ($\varkappa$ — ordinary susceptibility, H_e — exchange field, $\sim$ $\xi \times 10^5$ — 10^6
Oe) and can necessitate appreciable corrections (on the order of 10%). In the case
of relativistic origin $b \sim \alpha\varkappa/H_e$ (α is the ratio of the relativistic energy to the
exchange energy), and the correction is on the order of 1% and cannot be detected.
It is shown specifically that in the antiferromagnet, the coefficient $\underline{b}$ is due ಠ-

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ACCESSION NR: AP4031157

to exchange forces, whereas in FeCO and in the low-temperature modification of
$o-Fe_2O_3$ the coefficient b is of relativistic origin. It is also shown that ferro-
magnets can exist which have a unique "latent" antiferromagnetism, in which the av-
erage magnetic moment of the ions differ both in magnitude and in direction, al-
though, unlike in ferrites all the magnetic ions are identical and are located in
crystallographically equivalent positions. This "latent" antiferromagnetism
changes the temperature dependence of the spontaneous moment near the ferromagnet
transition point. The "latent" antiferromagnetism of a cubic face-centered crystal
having the symmetry corresponding to close packing (space group O_h^5) is considered
as an example. The formulas obtained for the nonlinear effects in antiferromagnets
are useful at low temperatures and not only near the temperature of the antiferro-
magnetic transition. Orig. art. has: 2 figures and 13 formulas.

ASSOCIATION: Institut fizicheskikh problem Akademii nauk SSSR (Institute of
Physics Problems Academy of Sciences SSSR)

SUBMITTED: 02Oct63   DATE ACQ: 07May64   ENCL: 00

SUB CODE: SS   NR REF SOV: 002   OTHER: 002

Card 2/2

L 13948-65. EWT(m) UIAAP/AFWL/SSD
ACCESSION NR: AP4047883   S/0056/64/047/004/1185/1198

AUTHORS: Karadzhev, K. V.; Man'ko, V. I.; Chukreyev, F. Ye.

TITLE: Characteristics of the levels of the nucleus F-19 in the B
excitation energy interval 8.5--10.5 MeV

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 47,
no. 4, 1964, 1185-1198

TOPIC TAGS: proton alpha reaction, angular distribution, energy
dependence, alpha particle yield, reduced width

ABSTRACT: This is a continuation of an earlier investigation by
the authors (ZhETF v. 44, 870, 1963), where the technique employed
is described. The energy range of the protons in this study of the
$O^{18}(p, \alpha)N^{15}$ reaction was higher, and amounted to 1100--2600 keV.
Approximately 120 angular distributions were obtained and expanded
in Legendre polynomials. Another departure from the earlier study

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L 13948-65
ACCESSION NR: AP4047883   𝒪

was that the energy dependence of the cross section was measured with a solid target instead of a gas. A magnetic separator was used to prepare the target by driving O^{18} ions into a thin film of aluminum oxide. The target thickness was ~20 $\mu g/cm^2$, corresponding to a mean energy loss of about 3 keV in the target. In addition to measuring the angular distributions, the energy dependence of the sum of the α-particle yield at 54.5 and 125.5° in the c.m.s. was measured. The analysis of the results shows that states having spins and parities $1/2^+$ and $3/2^+$ make the main contribution to the reaction cross section. The properties of 14 resonances corresponding to F^{19} states in the excitation region of 9--10.5 MeV were also derived. The reduced α-particle widths exhibited a very narrow distribution centered about $5 \times 10^{-3} \times 3\hbar^2/2\mu r^2$ (μ and r -- reduced mass and radius of the channel. This suggests that the probability of finding an α particle on the nuclear surface can be regarded as a characteristic of the given nucleus, and depends only slightly on the structure of the given level. Although for many levels the

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ratio of the reduced α-particle to reduced nucleon width is greatly
larger than unity, in most cases this ratio is equal to unity. "In
conclusion we thank L. V. Groshev for continued interest and valu-
able suggestions, A. I. Baz', D. P. Grechukhin, and P. E. Nemirov-
skiy for discussions, M. I. Gusev for preparing the targets, and A.
M. Pasechnikov and the entire electrostatic-generator crew for ef-
ficient operation." Orig. art. has: 9 figures, 2 formulas, and 1
table.

ASSOCIATION: None

SUBMITTED: 04Apr64   ENCL: 00

SUB CODE: NP   NR REF SOV: 002   OTHER: 014

Card 3/3

KOMAR, A.A.; MAN'KO, V.I.

Some aspects of the physical applications of unitary groups. IAd.
fiz. 1 no.4:693-700 Ap '65.   (MIRA 18:5)

1. Fizicheskiy institut im. P.N.Lebedeva AN SSSR.

L 13553-66   EWT(d)/EWT(m)/T/EWA(m)-2/EWP(1)   IJP(c)

ACC NR: AP6001158   SOURCE CODE: UR/0367/65/002/003/0512/0516

AUTHOR: Man'ko, V. I.

ORG: Physics Institute im. P. N. Lebedev, Academy of Sciences, SSSR (Fizicheskiy institut Akademii nauk SSSR)
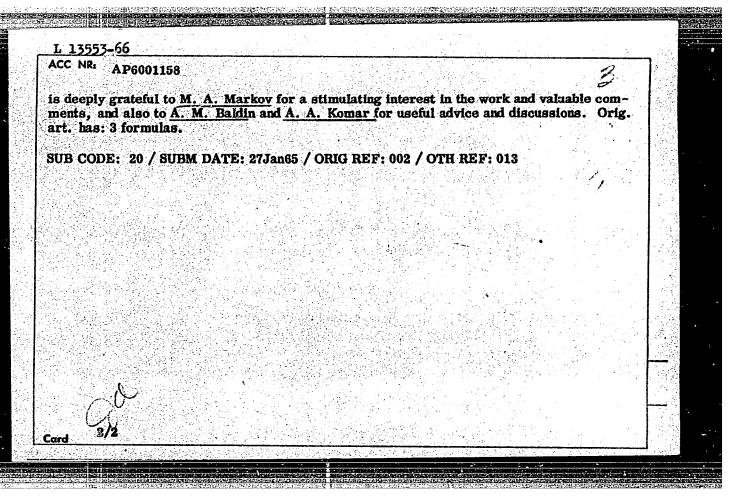
TITLE: The oscillator model of elementary particles

SOURCE: Yadernaya fizika, v. 2, no. 3, 1965, 512-516

TOPIC TAGS: elementary particle, atomic theory, theoretic physics

ABSTRACT: The group approach is being widely used in the physics of elementary particles. There are, however, no sufficiently convincing dynamic foundations available for the selection of one group over another. The author, therefore, finds it interesting to examine the possibilities in some models; in particular, the author finds the oscillator model to be the most attractive and simple, since in many physical problems this model has proven its worth. This paper proposes a model of two three-dimensional oscillators with different frequencies. It is shown that it is possible to interpret the symmetry properties of baryons (according to the unitary symmetry hypothesis) on the basis of the oscillator model proposed. The following relationship between masses was obtained by means of this model: $Y^* - \Sigma = \Xi^* - \Xi$. The author predicts the existence of a unitary octet, a singlet, and a 27-plet with unperturbed masses in the 1.6 GeV region. The question of the mixing of multiplets is discussed. Author

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L 13553-66

ACC NR: AP6001158

is deeply grateful to M. A. Markov for a stimulating interest in the work and valuable com-
ments, and also to A. M. Baldin and A. A. Komar for useful advice and discussions. Orig.
art. has: 3 formulas.

SUB CODE: 20 / SUBM DATE: 27Jan65 / ORIG REF: 002 / OTH REF: 013

Card   2/2

MAN'KO, V.I.

Possible use of groups B_3, C_3, D_3 for the classification of elementary particles. IAd. fiz. 2 no.4:733-737 O '65.

(MIRA 18:11)

1. Fizicheskiy institut im. P.N. Lebedeva AN SSSR.

L 9226-66   EWT(d)/EWT(1)/EWT(m)/EWP(t)/EWP(b)   IJP(c)   JD

ACC NR: AP5026101   SOURCE CODE: UR/0386/65/002/005/0230/0234

AUTHOR: Malkin, I. A.; Man'ko, V. I.

ORG: Moscow Physicotechnical Institute (Moskovskiy fiziko-tekhnicheskiy institut)

TITLE: Symmetry of the hydrogen atom

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki. Pis'ma v redaktsiyu (Prilozheniye), v. 2, no. 5, 1965, 230-234

TOPIC TAGS: hydrogen atom, group theory, elementary particle, Lie group, wave equation, algebra

ABSTRACT: The purpose of the paper is to show that the "symmetry group" of the hydrogen atom is the non-compact group O_6, the Lie algebra of which is the algebra D_3, and to present a simple construction showing that the functions belonging to the discrete spectrum form a single infinite-dimensional irreducible representation of this algebra. This is done by defining an aggregate of operators forming an algebra closed against commutation and by calculating the matrix elements of these operators. Since the operators include those which tranform any level N into N + 1 and N - 1, respectively, it is possible to obtain from any state in succession the entire aggregate of states. This is equivalent to constructing an infinite-dimensional representation of the algebra of the operators. This representation is shown to be irreducible. The values of the Casimir operators for this representation are calculated. The representation remains irreducible when we narrow down from D_3 to the deSitter algebra.

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L 9226-66

ACC NR: AP5026101

The algebra D_3 contains a subalgebra with the commutation relations of the algebra A_2, and therefore the levels of the hydrogen atom can also be classified with the aid of irreducible representations of this algebra. Authors are grateful to A. M. Baldin, V. B. Berestetskiy, A. A. Komar, A. M. Perelomov, V. S. Popov, and I. S. Shapiro for a discussion of the results and to M. A. Naymark for useful advice. Orig. art. has: 7 formulas.

SUB CODE: 20/   SUBM DATE: 08Jul65/   ORIG REF: 001/   OTH REF: 005

BVK.
Card 2/2

L 28865-66   EWT(m)/T

ACC NR: AP6018855   SOURCE CODE: UR/0367/65/002/006/1103/1114

AUTHOR: Ginzburg, V. L.; Man'ko, V. I.

ORG: Physics Institute im. P. N. Lebedev, AN SSSR (Fizicheskiy institut AN SSSR)

TITLE: Relativistic oscillator models of elementary particles /This paper was given at the 14th Annual Conference on Nuclear Spectroscopy, Tbilisi, February 1964/

SOURCE: Yadernaya fizika, v. 2, no. 6, 1965, 1103-1114

TOPIC TAGS: nuclear particle, nuclear spin

ABSTRACT: Relativistic invariant equations are considered for particles described by the "center of mass" coordinates z_i and three 4-vectors u_i^α ($i = 1,2,3,4,; \alpha = 1,2,3$); u_i^α are the intrinsic variables which obey the oscillator equations. The solutions of these equations express the group SU(3) in the rest system. It is possible to write the equations which give the solution corresponding to the octet and decouplet for the case of half-integer spin and to the octet and singlet for the case of integer spin. The authors thank M. A. Markov for his discussions. Orig. art. has: 25 formulas and 3 tables. /Based on authors' Eng. abst./ /JPRS/

SUB CODE: 20 / SUBM DATE: 15May65 / ORIG REF: 008 / OTH REF: 006

Card 1/1

PETROV, R.V.; MAN'KO, V.M.; YEGOROV, I.K.
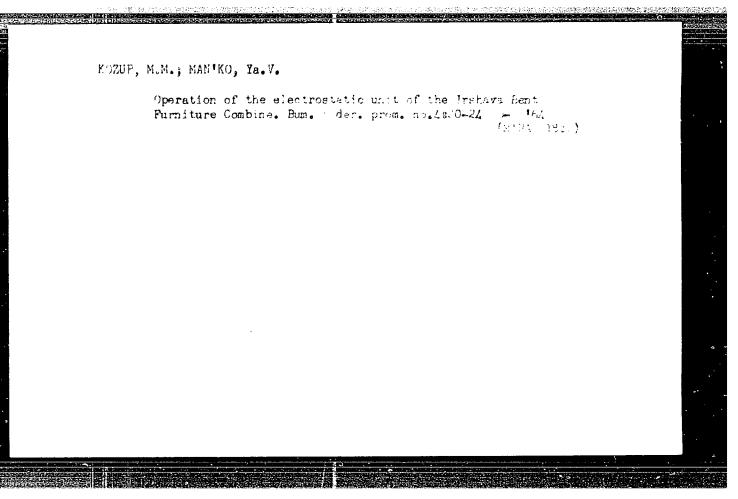
Variations in the capacity of antibody production in mice
of highly inbred lines. Dokl. AN SSSR 153 no.3:728-730
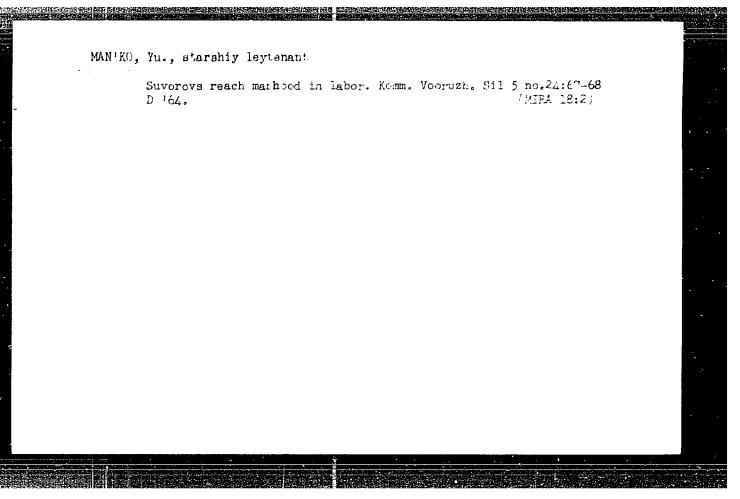N '63.   (MIRA 17:1)

1. Predstavleno akademikom I.I. Shmal'gauzenom.

BELOKON', M.Ye.; INOZEMTSEV, G.B.; KOZYRINA, A.P.; VOZNYUK, V.S.;
      OSTIYAN, Z.Yu.; KOZUB, M.M.; MAN'KO, Ya.V.

      Electric apparatus for chair varnishing. Der. prom. 12 no.9:
      11-12 S '63.   (MIRA 16:10)

      1. Ukrainskiy nauchno-issledovatel'skiy institut mekhanicheskoy
      obrabotki drevesiny (for Belokon', Inozemtsev, Kozyrina, Voznyuk).
      2. Irshavskiy mebel'nyy kombinat (for Ostiyan, Kozub, Man'ko).

KOZUP, M.M.; MAN'KO, Ya.V.

Operation of the electrostatic unit of the Irshava Bent
Furniture Combine. Bum. der. prom. no.4:20-24   - '64

MAN'KO, Yu., starshiy leytenant

Suvorovs reach manhood in labor. Komm. Vooruzh. Sil 5 no.24:67-68
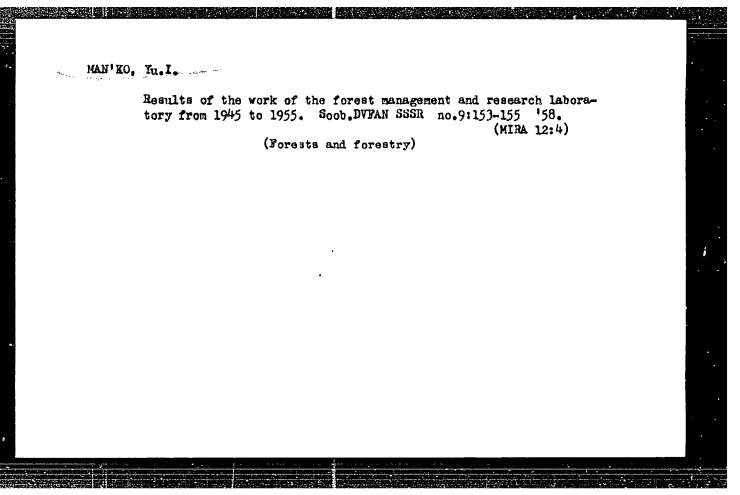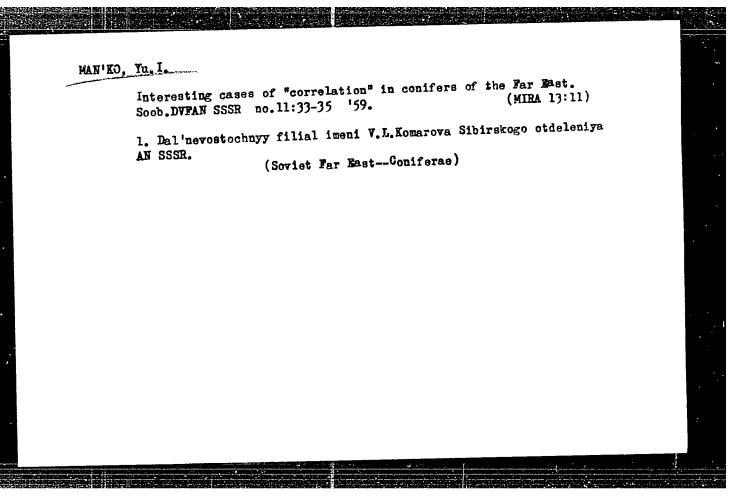D '64.   (MIRA 18:2)
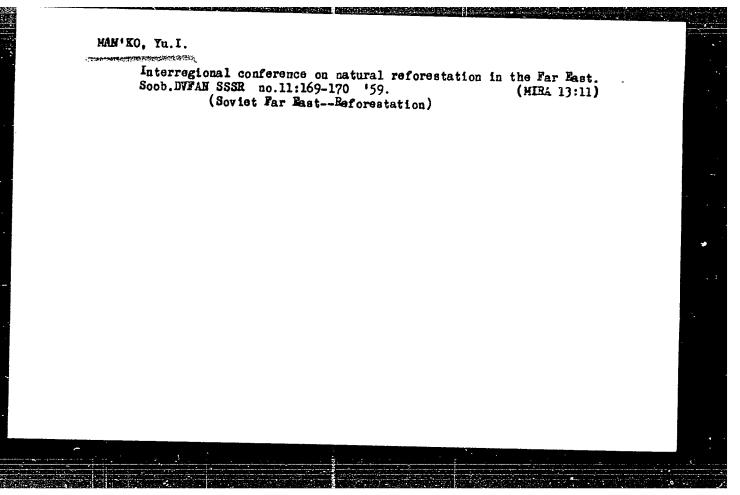
MAN'KO, Yu. I.

Dissertation defended for the degree of Candidate of Biological Sciences
were defended at the Scientific Council of the Far-East Affiliate

"Natural Restoration of the Spruce-Broad-leaved Forests of the Northern
Half of Sikhote-Alin'."

Vestnik Akad. Nauk, No 4, pp 119-145

MAN'KO, Yu.I.

Results of the work of the forest management and research labora-
tory from 1945 to 1955. Soob.DVFAN SSSR   no.9:153-155 '58.
                                                    (MIRA 12:4)
            (Forests and forestry)

MAN'KO, Yu.I.

Interesting cases of "correlation" in conifers of the Far East.
Soob.DVFAN SSSR no.11:33-35 '59.   (MIRA 13:11)

1. Dal'nevostochnyy filial imeni V.L.Komarova Sibirskogo otdeleniya
AN SSSR.   (Soviet Far East--Coniferae)

MAN'KO, Yu.I.

Interregional conference on natural reforestation in the Far East.
Soob.DVFAN SSSR   no.11:169-170 '59.   (MIRA 13:11)
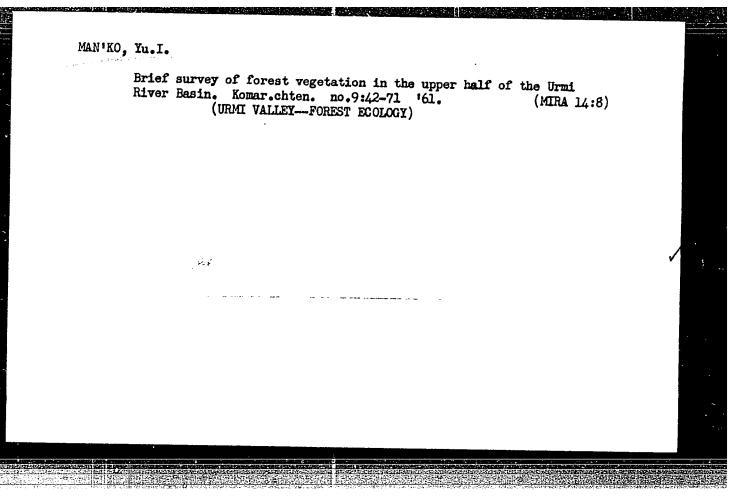   (Soviet Far East--Reforestation)

ROZENBERG, V.A.; VASIL'YEV, N.G.; MAN'KO,Yu.I.; POPOV, N.A.; KURENTSOVA, G.E.

Relation of the pine (Pinus koraiensis) and oak (Quercus mongolica)
in the southern Maritime Territory. Soob.DVFAN SSSR no.12:89-95 '60.
(MIRA 13:11)

1. Dal'nevostochnyy filial imeni V.L.Komarova Sibirskogo otdeleniya
AN SSSR.
      (Maritime Territory--Forest ecology)   (Oak)   (Pine)

MAN'KO, Yu.I.

Brief survey of forest vegetation in the upper half of the Urmi
River Basin. Komar.chten. no.9:42-71 '61.   (MIRA 14:8)
          (URMI VALLEY--FOREST ECOLOGY)

MAN'KO, Yu.K.

Regenerative hypertrophy of the skin in rats. Biul. eksp. biol. i
med. 49 no.1:99-103 Ja '60.
(MIRA 13:7)

1. Iz laboratorii rosta i razvitiya (zav. -prof. L.D.Liozner)
Instituta eksperimental'noy biologii (dir. - prof. I.N.Mayskiy) AMN
SSSR, Moskva. Predstavlena deystvitel'nym chlenom AMN SSSR V.N.
Chernigovskim.
                (SKIN-WOUNDS AND INJURIES)
                (REGENERATION (BIOLOGY))

L 32450-65

ACCESSION NR: AP4048761   S/0219/64/058/011/0107/0111

AUTHOR: Pukhal'skaya, Ye. Ch.; Man'ko, Yu. K.

TITLE: Serotonin effect on mitotic activity in certain organs of rats with monoaminoxidase blocking

SOURCE: Byulleten' eksperimental'noy biologii i meditsiny*, v. 58, no. 11, 1964, 107-111

TOPIC TAGS: rat, serotonin, mitosis, monoaminoxidase, liver, corneal epithelium, iproniazid

ABSTRACT: The first of three experimental series investigated the effect of serotonin (5-hydroxytryptamine) on cell mitosis under normal monoaminoxidase activity conditions, the second series investigated the effect of serotonin on cell mitosis with monoaminoxidase activity blocked by iproniazid, and the third series investigated the effect of iproniazid on cell mitosis without serotonin. In the first series, two-thirds of the liver crypts were removed before the rats received serotonin (30 mg/kg dose) subcutaneously or interperitoneally. The animals were decapitated 2-3 hrs later and tissues

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L 32450-65

ACCESSION NR: AP4048761

from the liver, duodenum, and corneal epithelium were prepared to determine mitotic activity. In the second series iproniazid used as a monoaminoxidase inhibitor was introduced interperitoneally (100 mg/kg dose) 20 hrs before serotonin administration (30 mg/kg dose). In the third series only iproniazid (100 mg/kg dose) was introduced. The mitotic index was based on a 4000-5000 cell count. Results show that after serotonin administration the mitotic index more than doubled in the regenerating liver, displayed a slight increase in the duodenal crypts, and gradually dropped in the corneal epithelium, particularly after subcutaneous serotonin administration. Serotonin, administered after blocking of monoaminoxidase activity, reduced mitotic activity of corneal epithelium even more (by 10 times compared to control), but did not change the mitotic activity of the duodenal crypts. The differences in the nature of the serotonin effect on cell mitosis depend mostly on monoaminoxidase activity differences of the various tissues, that is, on the ratio between 5-hydroxytryptamine and 5-hydroxyindoleacetic acid. The former inhibits mitoses and the latter stimulates them. Orig. art. has: 1 table and 1 figure.
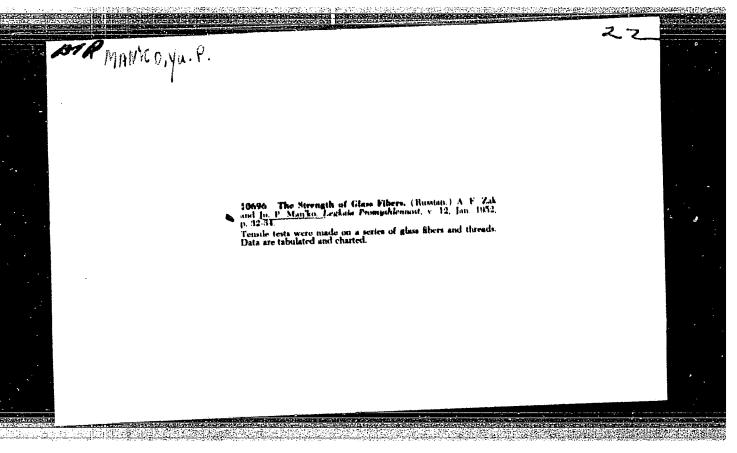
Card 2/3

L 32450-65
ACCESSION NR: AP4048761

ASSOCIATION: Laboratoriya eksperimental'noy khimoterapii Instituta eksperimental'noy i klinicheskoy onkologii AMN SSSR, Moscow (Experimental Chemotherapy Laboratory of the Experimental and Clinical Oncology Institute AMN SSSR)

SUBMITTED: 10Oct63   ENCL: 00   SUB CODE: LS

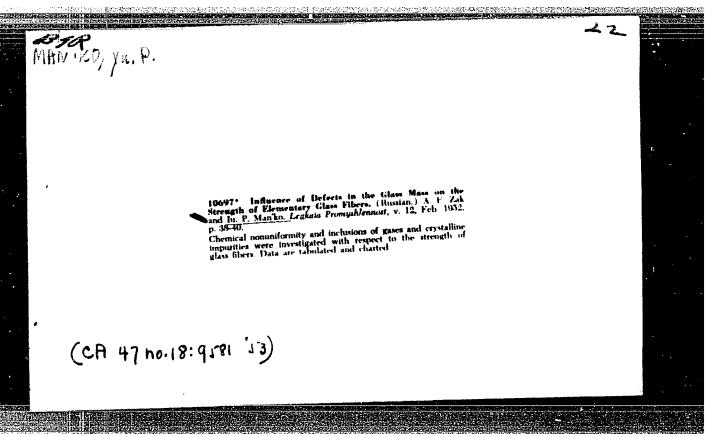NR REF SOV: 009   OTHER: 017

Card 3/3

MAN'KO, Yu.K.

Experimental and clinical observations on regenerative changes
in the skin surrounding a wound. Biul. eksp. biol. i med. 52
no.9:101-105 S '61. (MIRA 15:6)

1. Iz laboratorii rosta i razvitiya (zav. - prof. L.D. Liozner)
Instituta eksperimental'noy biologii (direktor - prof. I.N.
Mayskiy) AMN SSSR, Moskva. Predstavlena deystvitel'nym chlenom
AMN SSSR A.V. Lebedinskim.
                    (SKIN--WOUNDS AND INJURIES)
                    (REGENERATION (BIOLOGY))

MANKO, Yu. P.

2-2

10696   The Strength of Glass Fibers. (Russian.) A. F. Zak and Iu. P. Manko. *Legkaia Promyshlennost,* v. 12, Jan. 1952, p. 32-34. Tensile tests were made on a series of glass fibers and threads. Data are tabulated and charted.

MAN'KO, Yu. P.

10697° Influence of Defects in the Glass Mass on the Strength of Elementary Glass Fibers. (Russian.) A. F. Zak and Iu. P. Man'ko. *Legkaia Promyshlennost*, v. 12, Feb 1952. p. 38-40.
Chemical nonuniformity and inclusions of gases and crystalline impurities were investigated with respect to the strength of glass fibers. Data are tabulated and charted.

(CA 47 no.18: 9581 '53)

ZAK, A.F.; MAN'KO, Yu.P.

 Effect of temperature on the deformation and strength of glass
fibers. Zhur.tekh.fiz. 24 no.11:1983-1990 N '54. (MLRA 7:12)
  (Glass fibers)

MANKO, Z.

Techno-economic indexes of electric traction in 1955. p. 161.
(PRZEGLAD KOLEJOWY ELEKTROTECHNICZNY. Vol. 8, no. 6, June 1956, Warszawa, Poland)

SO: Monthly List of East European Accessions (EEAL) LC. Vol. 6, No. 12, Dec. 19⁵7.
Uncl.

MANKO, Z.

Electric traction in the year 1958. p. 161.

PRZEGLAD KOLEJOWY ELEKTROTECHNICZNY. (Wydawnictwa Komunikacyjne) Warszawa,
Poland, Vol. 11, no. 6, June 1959.

Monthly list of East European Accessions (EEAI) LC, Vol. 9, no. 1, Jan. 1960.

Uncl.

LABISZEWSKA-JARUZELSKA, Florentyna; MALKO-JASEK, Czesław

Orthodontic management before and after surgical procedures progenia. Czas. stomat. 18 no.5:471-476 My'65.

1. Z Zakladu Ortodoncji Slaskiej Akademii Medycznej w Zabrzu (Kierownik: doc. dr. med. stom. i lek. med. F. Labiszewska-Jaruzelska).