SMIRNOV, S.; KIRSANOV, A.; RUDAKOV, N.; MILYUCHIKHIN, A.

Machine mends stockings. Prom.koop. no.6:11 Je '57. (MIRA 10:7)
(Sewing machines)

RUDAKOV, N.

Urgent problems. Prof.-tekhn.obr. 19 no.11:5-6 N '62.
(MIRA 16:2)

1. Zamestitel' nachal'nika Severo-Kazakhstanskogo oblastnogo
upravleniya professional'no-tekhnicheskogo obrazovaniya.
(North Kazakhstan Province--Farm mechanization--
Study and teaching)

RUTAKOV, N. A.

Liniia Kurgan-Shadrinsk, Liniia Semipalatinsk-Fishped s vet'iu Sergiopol-Chuguchak. /Kurgan-Shadrinsk line; Semipalatinsk-Fishpek line with Sergiopol-Chuguchak branch_/. (Transpo t ikhoz-vo, 1926, no. 5, p. 57-60).
                                                                LLC: HE7.T68

SKORIK, A.D., inzh.-inspektor; KANDAKOV, V.; SLYUNCHENKO, M.D., inzh.;
SEDNEV, A.I., inzh. po tekhnike bezopasnosti (Nebit-Dag,
Turkmenskaya SSR); SHCHERBAKOV, S., inzh.; RUDAKOV, N.A.

Readers' letters. Bezop. truda v prom. 8 no.11:53-54 N '64.
(MIRA 18:2)

1. Upravleniye Sredne-Volzhskogo okruga Gosudarstvennogo komiteta
pri Sovete Ministrov RSFSR po nadzoru za bezopasnym vedeniyem
rabot v promyshlennosti i gornomu nadzoru (for Skorik).
2. Glavnyy mekhanik zavoda Yacheistykh betonov, Tatarskaya ASSR
(for Kandakov). 3. Nachal'nik proyektno-konstruktorskogo byuro
tresta Novovolynskugol' (for Slyunchenko). 4. Upravleniye
l'vovskogo okruga Gosudarstvennogo komiteta pri Sovete Ministrov
UkrSSR po nadzoru za bezopasnym vedeniyem rabot v promyshlennosti
i gornomu nadzoru (for Shcherbakov). 5. Amakinskaya ekspeditsiya
Yakutskogo geologicheskogo upravleniya (for Rudakov).

RUDAKOV, N. A.   Cand Tech Sci -- (diss) "Study of the beater-drum threshing of cobs adaptable in grain-combine harvesting of corn." Mos, 1959, 18 pp

(All-Union Order of Lenin ▓ Acad Agr Sci im V. I. Lenin. All-Union Sci Res

Inst of Mechanization of Agr VIM). (KL,50-59, 127)

-42-

AKHMETOV, M.M., kand. tekhn. nauk; ANOSHKIN, V.V., gornyy inzh.;
DROZDOVSKIY, N.N., gornyy inzh.; SHAMSUTDINOV, R.N., gornyy inzh.;
RUDAKOV, N.F., gornyy tekhnik; KNYAZEV, V.L., tekhnik

Results of testing electric detonators with a delay interval of
15 msec. Gor. zhur. no.5:38-39 My '65.   (MIRA 18:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy gornometallurgicheskiy
institut tsvetnykh metallov (for all except Knyazev). 2. Lenino-
gorskiy polimetallicheskiy kombinat (for Knyazev).

RUDAKOV, N. I. Cand Tech Sci -- (diss) "Theoretical and experimental study of the process of supercharging in quick-passage piston compressors." Mos, 1958. 9 pp (Min of Higher Education USSR. Mos Higher Tech School im N. E. Bauman MVTU), 110 copies (KL, 13-58, 97)

RUDAKOV, N.I.; ZAV'YALOV, S.N., tekhn. red.

[Theoretical and experimental investigation of the compressing process in high-speed reciprocating compressors]. Teoreticheskoe i eksperimental'noe issledovanie protsessa nagnetaniia v bystrokhodnom porshnevom kompressore. Moskva, 1957. 117 p. (Moscow. Nauchno-issledovatel'skaia laboratoriia dvigatelei. Trudy, no. 5).
(MIRA 11:7)
(Air compressors)

RUDAKOV, N.P., Cand Bio Sci -- (diss) "Application
of radioisotopes for the study of absorption
and investigation of certain mineral ions in fish and
their marking." Len 1958, 15 pp. (All-Union Sci Res
Instof Lake and River Fisheries) 150 copies

(KL, 39-58, 108)

- 23 -

AUTHOR: Rudakov, N. P.   SOV/20-120-3-62/67

TITLE: Accumulation and Losses of Calcium by Carp Fingerlings,
               Depending on the Concentration of Calcium Compounds in
               the Surrounding Medium (Nakopleniye i poteri kal'tsiya
               segoletkami karpa v zavisimosti ot kontsentratsii
               kal'tsiyevykh soyedineniy v okruzhayushchey srede)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol. 120, Nr 3,
               pp. 661-664 (USSR)

ABSTRACT: As known, fishes are able to assimilate mineral substances
               not only from nutrition but also from the surrounding
               medium immediately (references 1 - 5). The marking with
               radioactive isotopes has proved this possibility for
               calcium and phosphorus (references 6 - 9). The quantitative
               part of the problem, however, remains little researched.
               This refers to the relationship between the absorption
               of these substances and their concentration in the
               water-medium. For his investigations the author used Ca^{45},
               the fish were hybrids of the carp with the cyprinus carpio
Card 1/4   L. They were divided into two groups, one of them was bred

Accumulation and Losses of Calcium by Carp   SOV/20-120-3-62/67
Fingerlings, Depending on the Concentration of
Calcium Compounds in the Surrounding Medium

in water with a high (60 - 70 mg/liter) calcium content,
the other one, however, in calcium-poor water (5 - 7
mg/liter). According to this, the calcium content in
the ash of the first group amounted to 29.12 % (not
decalcined fish) and 18.7 % in the second group
(decalcined fish). For the investigation of the calcium
absorption the fish were put into solutions of mixtures
of radioactive and normal calcium where they were kept
for 6 hours. It was proved that the fish absorb the
higher percentage of calcium from diluted solutions than
from concentrated solutions. Decalcined fish accumulate
total calcium 1,2 - 1,5 times more intensively than the
others (figure 1). The accumulation curve of calcium is
similar to the adsorption-isotherm. In the second
experimental series the losses of calcium after the
transference of the fish into non-radioactive water were
determined. After having been in radioactive water for seven
hours they were kept in non-radioactive water for 24 hours.
Card 2/4   The calcium concentration amounted to 10, 40 and 100,0

Accumulation and Losses of Calcium by Carp
Fingerlings, Depending on the Concentration of
Calcium Compounds in the Surrounding Medium

SOV/20-120-3-62/67

mg/liter. The highest losses of radioactive calcium
occur in solutions with a minimum content of calcium.
An inverse interrelationship is proved for the losses
of total calcium. In decalcined fish the losses of
radioactive and total calcium were considerably higher
than in the others (figure 2). There are 2 figures and
16 references, 10 of which are Soviet.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut ozernogo
i rechnogo rybnogo khozyaystva (All-Union Scientific
Research Institute for Lake and River Fisheries)

PRESENTED: February 10, 1958, by Ye. N. Pavlovskiy, Member, Academy of
Sciences, USSR

SUBMITTED: February 3, 1958

Card 4/4

Accumulation and Losses of Calcium by Carp   SOV/20-120-3-62/67
Fingerlings, Depending on the Concentration of
Calcium Compounds in the Surrounding Medium

1. Carp--Physiology   2. Calcium--Absorption   3. Carp--Absorptive properties
4. Calcium isotopes (Radioactive)--Applications

Card 4/4

S/169/62/000/011/057/077
D228/D307

AUTHOR: Rudakov, N.P.

TITLE: Isotopic effect when determining primary organic mat-
               ter production in reservoirs by the radio-isotope
               method

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 11, 1962, 5,
               abstract 11V32 (In collection: Pervichn. produktsiya
               morey i vnutr. vod, Minsk, 1961, 214-218)

TEXT: The C^{14} method of determining the primary production
of reservoirs is widely known at present. A series of corrections
is introduced in the calculation procedure; among them the isotopic
effect correction appears to have the highest absolute magnitude.
Isotopic effect phenomena arise from differences in the thermodynam-
ic and kinetic properties of isotopes. The kinetic isotopic effect
has much more significance than the thermodynamic, so it must be
considered in tests with labelled atoms. At present, however, avail-
able methods for calculating the kinetic isotopic effect constants

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Card 2/.

L 54650-65

ACCESSION NR: AT5014957   UR/0000/65/000/000/0030/0042

AUTHOR: Shur'yan, I. M.; Ryabova, E. Z.; Rudakov, N. P.

TITLE: Peculiarities of the effects of neutron and x-ray radiation on the hematopoietic and cardiovascular systems

SOURCE: An UkrSSR. Institut fiziologii. Biologicheskoye deystviye neytronnogo izlucheniya (Biological effect of neutron radiation). Kiev, Naukova dumka, 1965, 30-42

TOPIC TAGS: neutron radiation, x ray radiation, biological effect, cardiovascular system, hematopoiesis, rat

ABSTRACT: The comparative effects of x-rays and neutrons in biologically equivalent doses on the hematopoietic and cardiovascular systems of 200 rats were studied. The 200 rats weighed an average of 140 g. Irradiation took place in the horizontal channel of a nuclear reactor. In the first series of tests, rats were exposed to 400-rad doses (reactor power, 4.0 Mw) of fast neutrons and 600-r doses of x-rays with a radiation duration of 23.6 min. In the second series, animals were irradiated with a fast neutron dose of 175 rad (reactor power, 8 Mw), in the third series, with 200 rad (10 Mw), and in the fourth series, with 800 r. The morphological con-

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L 54650-65
ACCESSION NR: AT5014957

tent of peripheral blood, erythrocyte resistance, and electrocardiograms were studied 3 times before and 4, 8, 12, 16, 20, 24, and 30 days after irradiation. Some results of the tests are given in Tables 1, 2, and 3 of the Enclosure. It was concluded that fast neutrons differed from x-rays in their biological effects, evoking more severe changes in the content of the blood (reticulocyte content, general leukocyte quantity, absolute number of lymphocytes and neutrophiles, and thrombocyte quantity). Recovery from the effects of neutrons took longer than recovery from x-rays. The blood indices of irradiated animals had not normalized even after a month. Erythrocyte stability was more sharply lowered, equilibrium processes were more noticeably altered, and qualitative changes in erythropoiesis were greater as a result of neutron irradiation. Finally, fast neutrons not only evoked dystrophic changes in the cardiovascular system as did x-rays, but produced injuries to cardiac muscle. Orig. art. has: 3 tables and 3 figures.   [CD]

ASSOCIATION: Institut fiziologii imeni A. A. Bogomol'tsa AN UkrSSR (Institute of Physiology, AN UkrSSR)

SUBMITTED: 22Feb65   ENCL: 03   SUB CODE: LS

NO REF SOV: 008   OTHER: 009   ATD PRESS: 4026

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L 54650-65

ACCESSION NR: AT5014957

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Table 1. Morphological content of the peripheral blood
of rats irradiated with 400-rad fast neutrons.

indices	norm	4th day	8th day	12th day	16th day	20th day	24th day	30th day
Hemoglobin	38,8 % — 14,8 g	74,4 % — 12,4 g	67,8 % — 11,3 g	66,6 % — 11,1 g	81,0 % — 13,5 g	82,0 % — 13,7 g	78,0 % — 13,0 g	76,8 % — 12,8 g
Erythrocytes	6700000	5800000	6420000	4690000	5200000	6416000	5960000	5940000
Leukocytes	14820	1262	2814	5200	7666	6160	6420	9440
Color index	0,5	0,6	0,5	0,6	0,7	0,6	0,6	0,6
Reticulocytes	46	18	19	22	30	46	49	59
Thrombocytes	285000	163000	182000	203000	298000	314000	299000	291000
Neutrophiles								
Stabnuclear	139	19	22	84	126	175	292	285
Segmentonnuclear	4333	319	874	1975	2503	2161	3152	2881
Eosinophiles	252	11	46	107	152	134	122	297
Basophiles	0	0	0	0	0	0	0	0
Lymphocytes	9722	818	1692	2847	4535	3515	2655	5551
Monocytes	196	56	102	108	198	63	93	213
Tuerck's cells	178	39	78	79	152	112	106	213

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L 54650-65

ACCESSION NR: AT5014957   ENCLOSURE: 02

Table 2. Morphological current of the peripheral blood of rats irradiated with 600-r x-rays.

indices	norm	4th day	8th day	12th day	16th day	20th day	24th day	30th day
Hemoglobin	90.0 %— 15.0 g	82.2 %— 13.7 g	72.0 %— 12.0 g	64.2 %— 10.7 g	58.8 %— 9.8 g	73.2 %— 12.2 g	81.0 %— 13.5 g	81.0 %— 13.5 g
Erythrocytes	6963000	5970000	6130000	4740000	5480000	5970000	6317000	6410000
Leukocytes	12390	2870	4933	6788	7613	11512	12412	16112
Color index	0,6	0,6	0,5	0,6	0,5	0,6	0,6	0,6
Reticulocytes	54	32	38	54	59	65	76	57
Thrombocytes	274000	233000	264000	259000	250000	285000	283000	323000
Neutrophiles								
Stabnuclear	118	25	178	43	144	219	190	257
Segmentonuclear	3815	1378	1893	2638	3294	4528	5798	6636
Eosinophiles	280	29	68	51	132	263	289	421
Basophiles	0	0	0	0	0	0	0	0
Lymphocytes	7880	1330	2590	3728	3785	6256	5819	8321
Monocytes	182	63	146	189	132	157	136	251
Tuerck's cells	115	45	58	139	126	89	180	226

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ACCESSION NR: AT5014957

Table 3. Morphological content of the peripheral blood of rats irradiated with 800-r x-rays

indices	norm	4th day	8th day	12th day	16th day	20th day	24th day	30th day
Hemoglobin	81,0%— 13,5 g	76,8%— 12,8 g	63,0%— 10,5 g	31,8%— 5,3 g	64,2%— 5,7 g	61,0%— 8,5 g	49,8%— 8,3 g	60,0%— 10,0 g
Erythrocytes	6528000	5700000	6210000	3230000	3450000	4560000	4550000	4580000
Leukocytes	14810	800	2680	1630	1733	6466	6233	11300
Color index	0,6	0,6	0,6	0,4	0,5	0,6	0,5	0,6
Reticulocytes	39	28	23	21	23	26	27	42
Thrombocytes	275	250	241	194	208	223	213	287
Neutrophiles								
Stabnuclear	29	7	48	40	63	228	246	226
Segmentonuclear	5191	535	960	735	768	2904	2972	4673
Eosinophiles	494	6	7	12	25	21	0	0
Basophiles	0	0	0	0	0	0	0	0
Lymphocytes	8588	196	1614	702	703	1943	2432	5304
Monocytes	233	30	124	74	95	252	373	605
Tuerck's cells	275	26	107	67	79	118	210	492

Card   5/5

L 62659-65   EWG(j)/EWA(h)/EWT(m)   GS

ACCESSION NR: AT5014966   UR/0000/65/000/000/0091/0097

AUTHOR: Rudakov, N. P.

TITLE: Nitrate gel dosimeters for ionizing radiation

SOURCE: AN UkrSSR. Institut fiziologii. Biologicheskoye deystviye neytronnogo izlucheniya (Biological effect of neutron radiation). Kiev, Naukova dumka, 1965, 91-97

TOPIC TAGS: gel, dosimeter, radiation dosimetry

ABSTRACT: Gel dosimeters are of considerable interest to radiobiologists because of their tissue equivalence. The author has studied the preparation and testing of nitrate gel dosimeters in a mixed gamma-neutron field from a nuclear reactor with radiation dosages from 100 to 1000 rads. The dosimeters were prepared from nitrates of sodium, potassium and ammonium in distilled water and either gelatin or agar agar plus glucose and alkali and were able to measure combined gamma-neutron radiation only (not either one separately). The same gel preparations were used to prepare phantoms for study of spatial distribution of radiation. Nitrate gel dosimetry is based on the conversion of nitrate into nitrite in a water containing mixture. Gel dosimeters have a higher rate of nitrate conversion than liquid dosimeters of the

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L 62659-65

ACCESSION NR: AT5014966

same initial nitrate concentration. In this study the amount of nitrate converted into nitrite was in direct proportion to the radiation dosage. The initial high concentration of nitrate and the addition of alkali and glucose accelerated this transformation. Tabulations are presented of nitrite ion yields from potassium, sodium and ammonium nitrate, gels at different radiation dose levels. The method of preparation of the dosimeters and phantoms is presented. The results of a number of experiments with various nitrate salts concentrations and different radiation dosages are discussed in detail. Orig. art. has: 3 tables.

ASSOCIATION: Institut fiziologii im. A. A. Bogomol'tsa AN UkrSSR (Institute of Physiology, AN UkrSSR)

SUBMITTED: 22Feb65   ENCL: 00   SUB CODE: LS, NP

NO REF SOV: 005   OTHER: 007

Card 2/2

RUDAKOV, N.Ye. (Per'm)

Protective ejection device of a new design. Vod. i san. tekh.
no. 4:38-39 Ap '61.   (MIRA 14:4)
                   (Boilers—Safety appliances)

RUDAKOV, O.

USSR/Plant Disease. Diseases of Cultivated Plants   2-3

Abs Jour   : Zhur-Biol., No 8, 1958, 34968

Author   : Rudakov O.
Inst   : Not given
Title   : Grey Rot of Hemp and its Control (Seraya gnil'
             kenafa i mery bor'by s ney).

Orig Pub   : S. kh. Kirgizii, 1956, No 12, 17-21

Abstract   : The symptoms of the disease, its physiological
             effect on the plant, the experiments in which the
             arrest of growth and the small accumulation of fi-
             ber in the sick plants are described. The greatest
             effectiveness in the control of the disease is
             achieved by the application of tetramethylthiuran
             disulfide. The spraying is conducted with a 5%
             suspension at an expenditure of 250 liters per
             hectare. Tht norm of expenditure of the preparation
             when used as a dust is 10kg/hectare.

Card 1/1

USSR/Plant Diseases - Diseases of Cultivated Plants.   0.

Abs Jour   : Ref Zhur - Biol., No 8, 1958, 34968

Author   : Rudakov, O.
Inst   : -
Title   : Gray Putrefaction of the Gambo Hemp and Means to Fight It.

Orig Pub   : S. kh. Kirgisii, 1956, No 12, 17-21.

Abstract   : Described are the symptoms of the disease, physiological
               effects on the plants, and experiments showing the de-
               crease of growth and insufficient filament accumulation
               in the diseased plants. Optimal effects in the fight
               against the disease are obtained by using tetramethylthiu-
               ranatesulfide. Sprinkling is done with a 5% suspension,
               calculating 250 liters per hectare, or 2.5% for 500 li-
               ter per hectare. Amounts of the preparation to be used
               in dusting : 10 kg per hectare. -- Glushenkova

Card 1/1

KYDYNOV, M., nauchnyy sotrudnik; BATYRCHAYEV, I.; LOPINA-SHENDRIK, M.D.;
KALBAYEV, A.; IMANAKUNOV, B.; SULAYMANKULOV, K., kand.khim.nauk;
DUYSHENALIYEVA, N.; AKBAYEV, A.; KAZIYEV, K.; GOLOVIN, F.I.;
BAKASOVA, Z.; KOVALENOK, Z.P.; SHELUKHINA, N.P.; BUGUBAYEV, A.B.,
starshiy prepodavatel'; BAYBULATOV, E.B., mladshiy nauchnyy
sotrudnik; FILIPPOV, N.A., mladshiy nauchnyy sotrudnik; MAMBETA-
KUNOV, T., aspirant; IMANKULOV, A., aspirant; TURMAMBETOV, S.,
mladshiy nauchnyy sotrudnik; MUKHAMEDZIYEV, M.M., nauchnyy sotrudnik;
KONURBAYEV, A.O.; PAK, L.V.; RUDAKOV, O.L.; TOKTOSUNOV, A.;
KULAKOVA, R.I.; ASHIRAKHMANOV, Sh., aspirant; ALYSHBAYEV, B.;
SULTANALIYEV, A.; AKHMETOV, K.; POLONOVA, A.P.; NIKITINSKIY, Yu.I.;
SHAMBETOV, S.Sh.; DZHUMBAYEV, B.O., nauchnyy sotrudnik; DRUZHININ,
I.G., red.; ANOKHINA, M.G., tekhn.red.

[Papers by junior scientists of the Academy of Sciences of the
Kirghiz S.S.R.] Trudy molodykh nauchnykh rabotnikov AN Kirgizskoi
SSR. Frunze, 1958. 411 p.   (MIRA 12:3)
                        (Continued on next card)

KYDYNOV, M.---(continued) Card 2.
1. Akademiya nauk Kirgizskoy SSR, Frunze. 2. Institut khimii AN
Kirg.SSR (for Kydynov). 3. Kirgizskiy gosudarstvennyy universitet
(for Bugubayev). 4. Institut geologii AN Kirg.SSR (for Baybulatov).
5. Institut vodnogo khozyaystva i energetiki AN Kirg.SSR (for
Filippov). 6. Otdel fiziki i matematiki AN Kirg.SSR (for Mambetakunov,
Imankulov). 7. Institut zoologii i parazitologii AN Kirg.SSR (for
Turmambetov). 8. Kirgizskiy meditsinskiy institut (for Mukhamedziyev).
9. Otdel pochvovedeniya AN Kirg.SSR (Ashirakhmanov). 10. Institut
botaniki AN Kirg.SSR (for Alyshbayev, Sultanaliyev, Akhmetov, Polonova,
Nikitinskiy). 11. Institut istorii AN Kirg.SSR (for Dzhumbayev).
(Science--Collections)

RUDAKOV, O.L.

Some mycoses of insects in Kirghizistan. Trudy Inst.zool.i paraz.
AN Kir.SSR no.7:263-275 '59.   (MIRA 13:4)
    (Kirghizistan--Fungi, Pathogenic) (Insects--Diseases and pests)

COUNTRY   :   USSR

CATEGORY   :   DISEASES. Diseases of Cultivated Plants.

ABS. JO   :   Ref Zhur - Biology, No. 2, 1959, No. 6605

AUTHOR   :   Simakov, G.

INST.   :   Academy of Sciences Kirgiz SSR

TITLE   :   Parasitism in Facultative Fungi.

ORIG. PUB. :   Izv. AN KirgSSR, 1957, vyp. IV, 229-240

ABSTRACT   :   It has been shown by investigation of the
               parasitism of Botrytis cinarea on gumbo hemp
               that the interrelations between this so-called
               facultative parasite and the host plant
               not limited to the intoxication of the cells
               and the fungus's utilization of them as nutri-
               ent. The evolution of the development of
               parasitism in the fungus have produced the
               condition that the fungus, in overcoming the
               resistance of the host plant, utilizes the

CARD: 1/2

RUDAKOV, O.L.; DOMASHOVA, A.A., otv. red.; LEVITUS, B.I., red. izd-va;
ANOKHINA, M.G., tekhn. red.

[A fungus parasite of the dodder, its cultivation and use] Grib-
noi parazit poviliki, ego vyrashchivanie i primenenie. Frunze,
izd-vo AN Kirgizskoi SSR, 1961. 65 p.   (MIRA 14:6)
(Dodder—Diseases and pests)   (Fungi, Phytopathogenic)

RUDAKEV, C.L.

USSR/General and Special Zoology. Insects. Injurious In-   P
        sects and Ticks. Pests of Fruit and Berry Crops

Abs Jour: Ref Zhur - Biol., No 11, 1958, No 49649

Author   : Rudakov O.L.
Inst   : Institute of Zoology and Parasitology, AS Kirgiz
           SSR.
Title   : Fungi Which Develop in the Thoraces of the Apple
           Tree Moth

Orig Pub : Tr. In-ta zool. i parazitol. AN KirgSSR, 1956,
           vyp. 5, 175-180

Abstract : This is a description of fungi found in the thor-
           aces, which were collected in the early spring
           of 1955-1956 in thegardens of the valley of the
           River Chu (Kirgizia): Tarichium sp. - a parasite
           of the larvae; Monilia lipolytica and Sporo-
           trichum sp. - apparently, parasites of larvae; the
           part played by Pirella malinella, Zygosaccharony-
Card   : 1/2

59

RUDAKOV, O.L.; POSPELOV, A.G., r ed.; ANOKHINA, M.G., tekhn.red.

[Biology and conditions favoring parasitism in fungi of the genus Botrytis] Biologiia i usloviia parazitizma gribov roda botritis. Frunze, Akad.nauk Kirgizskoi SSR, 1959. 188 p.
(MIRA 12:11)

(Fungi, Phytopathogenic)

RUDAKOV, O.L.

Evolutionary prerequisites of the formation of the group of imperfect fungi. Izv. AN Kir. SSR. Ser. biol. nauk 2 no.7:41-50 '60.

(MIRA 14:6)

(DEUTEROMYCETES)   (EVOLUTION)

RUDAKOV, O.L.

Alternaia infection in dodder. Izv. AN Kir. SSR. Ser. biol. nauk
2 no.7:51-55 '60.   (MIRA 14:6)
      (DODDER—DISEASES AND PESTS)
      (FUNGI, PHYTOPATHOGENIC)

RUDAKOV, O.L.

Parasitism of facultative fungi.   Izv. AN Kir.SSR   no.4:229-240
'57.   (MLRA 10:7)

                    (Fungi, Phytopathogenic)

RUDAKOV, O.L.

RUDAKOV, O.L.

Fungi developing in caterpillar cases of the apple moth. Trudy Inst.
zool.i paraz.AN Kir.SSR no.5:175-180 '56.   (MIRA 10:5)
     (Chu Valley--Fungi) (Apple--Disease and pests)
     (Insects, Injurious and beneficial--Biological control)

RUDAKOV, O.L.

Mycosis in ants; preliminary report. Sbor.ent.rab. no.1:128-130
'62. (MIRA 16:2)

(Kirghizistan—Ants—Diseases) (Mycosis)

RUDAKOV, O. L., kand. biolog. nauk

Biological method for controlling dodder. Zashch. rast. ot vred.
i bol. 6 no.6:23-24 Je '61.   (MIRA 16:4)

(Dodder—Biological control)
(Altenaria)

RUDAKOV, P., arkhitektor

Apartment-type old-age homes. Zhil. stroi. no.2:27-31 '59.
(MIRA 12:6)

(Old-age homes)

RUDAKOV, P., inzhener.

Aid to lower-echelon employees in the tasks of standardization,
Standartizatsiia no.1:61 Ja-F '54.   (MLRA 7:2)
(Standardization)

RUDAKOV, P.D.

Investigation of spiral ocular micrometers. Trudy VNIIM no.18:5-24
'52.   (MIRA 11:6)

(Micrometer)

RUDAKOV, P.G., arkhitektor

Apartment-house type old-age homes. Zhil.dom no.1:83-99 -460.
(MIRA 14:1)
(Old-age homes)

RUDAKOV, P.I.

Nutrition of corn under irrigation. Zemledelie 26 no.7:80 Jl '64.
(MIRA 18:7)

1. Donskoy zonal'nyy nauchno-issledovatel'skiy institut sel'skogo
khozyaystva.

RUDAKOV, P.P.; GERSHANOV, S.V.; BARABANOV, N.V.; red.

[Advanced practices of the Don combine operators] Peredovoi
opyt kombainerov Dona. Rostov-na-Donu, Rostovskoe obl. izd-
vo, 1951. 38 p.   (MIRA 16:8)
                (Don Valley—Harvesting)

L 47762-66   SWP(1)

ACC NR: AP6029880

SOURCE CODE: UR/0413/66/000/015/0043/0043

INVENTOR: Akhmetzyanov, K. G.; Petrovichev, V. I.; Rudakov, R. F.

ORG: none

TITLE: A waveguide device for concentrating an SHF electric field in a piezoelectric sample. Class 21, No. 184298 [announced by the Moscow Engineering Physics Institute (Moskovskiy inzhenerno-fizicheskiy institut)]

SOURCE: Izobret prom obraz tov zn, no. 15, 1966, 43

TOPIC TAGS: rectangular waveguide, high voltage line, piezoelectric crystal

ABSTRACT: This Author Certificate presents a waveguide device for concentrating an SHF electric field in a piezoelectric sample. To achieve a strong field within the
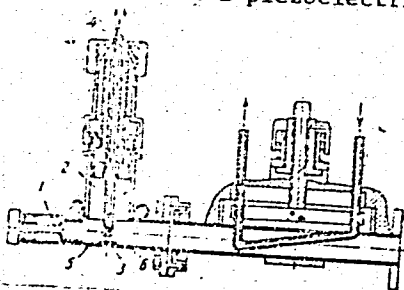
Fig. 1.   Waveguide device

1 - Shorted rectangular waveguide; 2 - coaxial stub; 3 - flat capacitor; 4 - central conductor of the coaxial stub; 5 - spark gap; 6 - ceramic rod.

Card 1/2

UDC: 621.372.855.4:   621.372.88

L 4752-66

ACC NR: AP6029880

sample, a coaxial stub (see Fig. 1), connected to the broad side of a rectangular wave-guide, has a broken center conductor that forms a spark gap within the waveguide; the broken ends of the center conductor are joined together with a ceramic rod. A piezoelectric sample is placed between a flat capacitor formed by the center conductor and the broad side of the waveguide. Orig. art. has: 1 figure.   [IV]

SUB CODE: 09/ SUBM DATE: 15Mar65 / ATD PRESS: 5069

Card   2/2   blg

KOSONOGOV, L.F. (Voronezh, ul. Pravaya Sukonovka, d.12, kv.6); RUDAKOV, S.A.

Fixation of the anesthesia apparatus to the operating table
for the centralized feeding of oxygen into the operating room.
Grud. khir. 2 no.4:125-126 Jl-Ag '60.   (MIRA 15:6)

1. Iz kafedry gospital'noy khirurgii (zav. - prof. V.F.
Radushkevich) Voronezhskogo meditsinskogo instituta.
                    (ANESTHESIOLOGY)

RUDAKOV, S. G.

Ancient volcanism in the Soviet Carpathians. Dokl. AN SSSR 155
no. 2:340-342 Mr '64.   (MIRA 17:5)

1. Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova.
   Predstavleno akademikom V. S. Sobolevym.

SOV-46-4-3-18/18

AUTHORS: Lyamshev, L. M. and Rudakov, S. N.

TITLE: An Experimental Study of Non-Specular Reflection of Sound by Finite Thin Rods in Water (Eksperimental'noye issledov- aniye nezerkal'nogo otrazheniya zvuka tonkimi ogranichennymi sterzhnyami v vode)

PERIODICAL: Akusticheskiy Zhurnal, 1958, Vol 4, Nr 3, pp 283-285 (USSR)

ABSTRACT: Results of an experimental study of non-specular reflection of sound by thin finite rods in water are repor- ted. The rods were made of aluminium steel and brass. A comparison is made between the experimental data and the theoretical predictions given in Ref.1. It is shown that non-specular reflection of sound by such rods is due to longitudinal and bending vibrations of rods, and the ex- perimentally observed intensity distributions are satis- factorily described by the theory of Ref.1. There are 4

Card 1/2

SOV-46-4-3-11/18

An Experimental Study of Non-Specular Reflection of Sound by
Finite Thin Rods in Water

        graphs and 1 Soviet reference.

ASSOCIATION: Akusticheskiy institut AN SSSR, Moskva (Acoustics.
        Institute of the Soviet Academy of Sciences, Moscow)

SUBMITTED: March 26, 1958.

        1. Sound--Reflection   2. Water--Acoustic properties   3. Rods--Acoustic
        properties

Card 2/2

Category : USSR/Acoustics - Sound vibrations and waves   J-2

Abs Jour : Ref Zhur - Fizika, No 1, 1957, No 2103

Author   : Lyamshev. L.M., Rudakov, S.N.
Inst   : Acoustics Inst., Acad of Sciences USSR
Title   : Reflection of Sound by Thick Bounded Plates in Liquid

Orig Pub : Akust. Zh., 1956, 2, No 2, 228-230

Abstract : Report on an investigation of the reflection of sound from thick bounded
            brass, steel and aluminum plates in water, in a direction opposite to that
            of the incident wave. Non-mirrorlike reflections were observed in directions
            that do not agree with those of previously-known reflections. By "non-mir-
            rorlike reflections" are meant strong anomalous sound scattering in a direc-
            tion opposite that of the incident waves (cf, for example, Ref. Zhur. Fiz.
            1956, 26537, for details).
                It was established that the non-mirrorlike reflection of sound is observed
            every time that the phase velocity of the incident sound wave in the liquid
            along the plate becomes equal to the velocity of one of the normal waves in
            the plate (in the elastic layer).

Card   : 1/1

RUDAKOV, S.N.

SUBJECT	USSR / PHYSICS
AUTHOR	LJAMSEV,L.M., RUDAKOV,S.N.
TITLE	The Reflection of Sound by a Thin Rod in Water.
PERIODICAL	Dokl.Akad.Nauk, 110, fasc. 1, 48-51 (1956)
	Issued: 11 / 1956 reviewed: 11 / 1956

CARD 1 / 2   PA - 1477

In the case of some angles of incidence a strong reflection in the opposite
direction of incidence of the wave is observed ("non-mirrorlike reflection").
The assumption that this reflection is caused by diffraction- and longitudinal
waves in the rod was confirmed by experiments.
The device used for the examination of this reflection consisted of a trough
with sound-absorbing walls which was filled with water, a generator for ultra-
sonic impulses, a quartz vibrator, a reception amplifier, and an impulse
oscilloscope. The duration of impulse amounted to 30 μ sec and the repetition
frequency of the impulses was 50 c. The rods had a thickness of less than 1 mm
and were 30 mm long, the distance between them and the vibrator was $\sim$ 150 cm.
The angle of rotation was measured with an accuracy of $0,2^{\circ}$ and the relative
error when measuring the amplitude of the reflected wave does not exceed 10%.

The polar diagrams of the reflection of some copper-, aluminium-, and steel
rods are shown in diagrams. The angles of non-mirrorlike reflection correspond-
ing to rods of different materials are given. In the case of brass rods of
0,39 mm thickness such a reflection does not occur.
Next, the problem of the scattering of a plane sound wave by a thin rod sub-

Dokl.Akad.Nauk, 110. fasc.1, 48-51 (1956)   CARD 2 / 2   PA - 1477

merged in a liquid is investigated in consideration of the shearing oscillations
and longitudinal oscillations of the rod. The corresponding differential
equation is given. Non-mirrorlike reflection occurs at the critical angle of
$\sin \alpha = c/c_x$. Non-mirrorlike reflection by infinitely long rods is due to the
effect produced by free longitudinal waves (or shearing waves) which are re-
flected by the boundaries of the rod. If the above mentioned condition is satis-
fied, spatial resonance occurs if the amplitude of the longitudinal or shearing
oscillations excited by the exterior field of sound increases considerably. In
the case of an infinitely long rod and spatial resonance the amplitude of the
scattered field can be considerably higher than the scattering amplitude in the
case of a vertical incidence of a plane sound wave.
Losses in the interior of the material of the rod exercise an important influence
on the scattering of sound in the case of sufficiently thin rods. The sharp de-
crease of the amplitude of non-mirrorlike reflection due to longitudinal waves
is, in the case of steel rods, connected with the nonstationarity of the
oscillations of the rod.

INSTITUTION: Institute for Acoustics of the Academy of Science in the USSR.

LYAMSHEV, L.M.; RUDAKOV, S.N.

Sound emission from plates and shells in water. Akust. zhur.
7 no.3:380‑383 '61.   (MIRA 14:9)

1. Akusticheskiy institut AN SSSR, Moskva.
        (Elastic plates and shells) (Underwater acoustics)

RUDAKOV, S.T.

Late "refutations" of artificial insemination. Zhivotnovodstvo 20 no.4:88 Ap '58.   (MIRA 11:3)

1. Starshiy zootekhnik Donetskoy goskonyushni.
                    (Artificial insemination)

ROCHEV, N.N., glav. red.; VAVILOV, P.P., red.; VERTEL', E.I., red.; GORELIK,
    A.I., red.; GUZMAN, I.S., red.; KUZNETSOV, G.N., red.; MEDVEDEV, G.A.,
    red.; MODYANOV, Ya.V., red.; PANTELEYEVA, A.A., red.; POLYAKOV, V.V.,
    red.; POPOV, S.A., red.; POPOVA, S.M., red.; RAYEVSKIY, S.S., red.; RU-
    DAKOV, S.V., red.; SYUTKIN, A.F., red.; USOV, A.I., red.; USTINOVA, I.K.,
    red.; SHKIL', P.T., red.; CHEBYKIN, N.P., red.; MEZENTSEV, S.A., red.;
    MOROZOV, V.S., red.; OPLESNIN, I.I., tekhn. red.

    [Forty years of the Komi A.S.S.R., 1921-1961; studies on the cultural
    and economic development of the Komi Republic]40 let Komi ASSR, 1921-
    1961; ocherki o razvitii ekonomiki i kul'tury Komi Respubliki. Syktyvkar,
    Komi knizhnoe izd-vo, 1961. 154 p.   (MIRA 14:11)
    (Komi A.S.S.R.---Economic conditions) (Komi A.S.S.R.---Culture)

RUDAKOV, V.

        Living weather chronicles. Vokrug sveta no.10:40-41 O '54.
                                       (MLRA 7:10)

      1. Nachal'nik Yaltinskoy gidrometeosluzhby.
          (Tree rings)

81401

S/020/60/132/06/23/068
B014/B007

3.1800

AUTHORS: Gringauz, K. I., Rudakov, V. A.

TITLE: Measurement of Electron Concentration in the Ionosphere
          According to the Rotation of the Polarization Plane of Radio
          Waves Emitted by Rockets

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 132, No. 6,
             pp. 1311 - 1313

TEXT: In the present paper the results of measurements are given, which
were obtained by means of a geophysical rocket of the AS USSR on
August 27, 1958 reaching an altitude of more than 450 km. The rocket was
stabilized in the three directions of rotation. Formula (1) describes the
rotation of the polarization plane of the radio wave during its propaga-
tion in the terrestrial magnetic field. Formula (2) is developed, which
permits determination of the electron concentration in the ionosphere in
the case of a vertical, free, completely stabilized flight of the rocket.
Details of the antenna construction are discussed; 24, 48, and 144 Mc/s
were transmitted. Fig. 1 shows oscillograms of the signal levels of the

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81401

Measurement of Electron Concentration in the   S/020/60/132/06/23/068
Ionosphere According to the Rotation of the   B014/B007
Polarization Plane of Radio Waves Emitted by Rockets

three wavelengths as examples. Fig. 2 shows the electron concentration
calculated along with the recording of the rotation of the polarization
plane of the 48-Mc/s wave from formula (2). The differences between the
result obtained here and that of an experiment carried out on February 21,
1958 are discussed. There are 2 figures and 2 Soviet references.

PRESENTED: March 14, 1960, by A. N. Shchukin, Academician

SUBMITTED: March 9, 1960

Card 2/2

9,9100

3,2100

25985
S/560/61/000/006/003/010
E032/E114

AUTHORS: Gringauz, K.I., Rudakov, V.A., and Kaporskiy, A.V.

TITLE: Apparatus for rocket measurements of free electron concentration in the ionosphere

PERIODICAL: Akademiya nauk SSSR. Iskusstvennyye sputniki Zemli. No. 6. Moscow, 1961. pp. 33-47

TEXT: The present paper gives a brief description of the radio apparatus which is being used to study the electron concentration as a function of height in the ionosphere.   The apparatus is designed so that it can be mounted on a vertically launched geophysical rocket of the Academy of Sciences USSR (K.I. Gringauz. Dokl. AN SSSR V.120, 1234, 1958; Sb."Iskusstvennyye sputniki Zemli" No.1, izd-vo AN SSSR, 1958, p.62, Ref.1; K.I. Gringauz, V.A. Rudakov, Dokl. AN SSSR, V.132, 1311, 1960, Ref.2).   The apparatus incorporates radio transmitters and trans- mitting antennas set up on the rocket, receiving antennas on the earth's surface, receiver-phasometric devices, and recording and auxiliary apparatus.   The method of measurement, the choice of the frequencies and the results which have been obtained are reported

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Apparatus for rocket measurements ....

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E032/E114

by the present authors in Ref.4 (page 48 of the present issue).
The experiment consists in the determination of the phase difference
between the signal transmitted from the rocket and detected at two
different points on the earth's surface. The phase difference
occurs because of the dispersion of radio waves in the ionosphere.
Between 1954 and 1958 the frequencies employed were f_1 = 144 Mc/s
and f_2 = 48 Mc/s. Since 1958 a further frequency f_3 = 24 Mc/s
has been used. The phase difference between vibrations of
differing frequency is defined as $\Delta\varphi = \varphi_1 - p\varphi_2$, where $f_1 = pf_2$
and $p < 1$, i.e. the phase difference reduced to the higher
frequency. The average electron concentration n_e can then be
calculated from:

$$n_e = k\frac{\Delta\Phi}{2\pi\,\Delta h}\ electron\cdot cm^{-3} \qquad\qquad (1)$$

where: $\Delta\Phi$ is the phase difference corresponding to an altitude
change of Δh (the phase difference is in radians and the altitude
change in meters). The coefficient k was 2.25×10^7 for the
frequencies $f_{1,2}$ and 0.515×10^7 for $f_{1,3}$. The recorded signals
can be used to measure the rotation of the plane of polarization of
the received radio waves. With a completely stabilized rocket the
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Apparatus for rocket measurements ...
S/560/61/000/006/003/010
E032/E114

radiation of the plane of polarization is due only to the Faraday
effect. The electron concentration can then be determined from:

$$n_e = M \frac{\theta}{2\pi H_B \Delta h} \text{ electron} \cdot \text{cm}^{-3} \tag{2}$$

where: θ is the rotation of the plane of polarization; H_B is the
vertical component of the geomagnetic field in oersted; Δh is the
path (in km) traversed by the rocket while the plane of polarization
is rotated through θ; M is a constant whose value for $f_{1,2,3}$
was 56×10^6, 6.2×10^6 and 1.55×10^6 respectively. In all
these measurements it is necessary to know the coordinates of the
rocket as functions of time, and hence the recording of the phase
and amplitude of the signals must be accompanied by the recording
of the time. The apparatus employed in these measurements was
developed during 1954-1958 and the present paper describes its
latest form. The transmitters mounted on the rocket produce
coherent vibrations on the three frequencies f_1, f_2 and f_3. There
is a separate output for each frequency with a symmetric load of
100 ohm. The power at the outputs is 15, 8 and 3 watt respectively.
A block diagram of the transmitting system is shown in Fig.1.
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Apparatus for rocket measurements ....

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E032/E114

The coherence of the oscillations is ensured because they are obtained as a result of successive multiplications of the frequency of the common master oscillator. The master oscillator is quartz-stabilized and is placed in a thermostat. The HT supplies are fully transistorized. The transmitting antennas are in the form of symmetric linear vibrators set up in the upper part of the rocket. The frequencies f_1 and f_2 are radiated from a common antenna while a separate vibrator is employed for f_3. The apparatus on the earth's surface is designed to perform the following functions: a) measure the phase difference between f_1 and f_2, and f_1 and f_3; b) measure the amplitude of the high-frequency waves at the inputs of the receivers (a minimum of five microvolts is required); c) record on a 35 mm film the two phase differences, the corresponding amplitudes and suitably scaled time markers. The three frequencies are received by separate antennas. Two photographs are included which show the appearance of the antennas. The receiving apparatus has the form of a three-channel superheterodyne device capable of carrying out the simultaneous detection and measurement of the phase differences. In each channel there is double frequency conversion which is carried out
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25895
S/560/61/000/006/003/010
Apparatus for r...et measurements ... E032/E114

with the aid of suitable mixers. The signals at the output of the
three channels have the same frequency (84 Mc/s). The working
bandwidth of the three channels f_1, f_2 and f_3 is 40, 25 and 15 kc/s.
The signals are recorded on a 35 mm film using two methods. The
first method makes use of loop oscillograph MПO-2 (MPO-2) which
shows the interference-frequency current and also the currents which
depend on the voltages at the input to the receiving device. The
speed of the film is 100 mm/sec. Typical records are shown in
Fig.7. The second method of recording the phase difference makes
use of Lissajous figures produced on the screen of a cathode ray
tube. Further details are given in Ref.4 (page 48 of the present
issue). Acknowledgments are expressed to A.N. Gridin for advice
and assistance.
There are 11 figures and 5 Soviet references.)

SUBMITTED: April 2, 1960

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25986
S/560/61/000/006/004/010
E032/E114

9.9100

AUTHORS: Gringauz, K.I., and Rudakov, V.A.

TITLE: Measurements of the electron concentration in the
              ionosphere up to 420-470 km, carried out during IGY
              using radio waves emitted from geophysical rockets of
              the Academy of Sciences, USSR

PERIODICAL: Akademiya nauk SSSR. Iskusstvennyye sputniki Zemli.
              No. 6. Moscow, 1961. pp. 48-62

TEXT: The systematic study of the electron concentration in
the ionosphere as a function of altitude was begun in the Soviet
Union in 1954. The experiments were carried out with the aid of
vertically launched geophysical rockets. The results were first
reported by K.I. Gringauz (Ref.1: Dokl. AN SSSR, V.120, 1234, 1958;
Sb. "Iskusstvennyye sputniki Zemli" No.1 izd-vo AN SSSR, 1958,
p.62) and K.I. Gringauz and V.A. Rudakov (Ref.2: Dokl. AN SSSR,
V.132, 1311, 1960), and were "reproduced" by H. Friedman (Ref.3:
Proc. IRE, V.47, 272, 1959). The apparatus employed is described
by the present authors and A.V. Kaporskiy in Ref.4 (page 33 of the
present issue). The present paper is concerned with some problems

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Measurements of the electron ....

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E032/E114

which are encountered in dispersion and Faraday effect measurements, as used in the determination of the electron concentration. An account is also given of the experimental results obtained in 1958 with three geophysical rockets launched to a height of 450-470 km. These measurements were carried out at different times of day and year and have thus provided information about the electron concentration in the region of the ionosphere which includes the so-called outer ionosphere (above the maximum of the F layers and quite inaccessible by the normal radiosonde methods). All the measurements were carried out above the same geographical point and the same method was used throughout. The velocity of propagation of radio waves in the ionosphere is a function of frequency and to a considerable degree depends on the concentration of free electrons n_e. Hence dispersion methods can be used to determine n_e. The dispersion can be conveniently measured by the radio interference method due to Mandel'shtam and Papaleksi (Ref.6: M - L, Gostekhizdat, 1945, "Recent investigations on the dispersion of radio waves along the earth surface"). The method was first used by Papaleksi in 1936 during the solar eclipse. It is designated by the present authors as the "dispersion interferometer method".

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S/560/61/000/006/004/010
Measurements of the electron E032/E114

In this method, coherent radio waves with frequencies f_1 and f_2 are emitted from a point A ($f_1 = pf_2$ where $p = m/n > 1$ and m and n are integers). The radio waves are detected at a point B and the phase difference between them is determined. The phase difference is reduced to the higher frequency, i.e. $\Delta\varphi = \varphi_1 - p\varphi_2$. The phase difference is given by:

$$\Delta\varphi = \frac{2\pi p f_2}{c} \left(\int_0^L n_1(\ell)\,d\ell - \int_0^L n_2(\ell)\,d\ell \right) \qquad (1)$$

where L is the distance between A and B, and the integration is carried out along the path from the transmitting to the receiving antenna; $n_1(\ell)$ and $n_2(\ell)$ are the refractive indices for f_1 and f_2 respectively. For sufficiently short radio waves it may be assumed that:

$$n(f) \approx 1 - \frac{e^2}{2\pi m f^2} n_e \qquad (2)$$

where n_e is the electron concentration and f is the frequency. Substituting Eq.(2) into Eq.(3) it is found that:

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Measurements of the electron .....

$$\Delta\varphi = \frac{e^2}{cmf_2}\left(\frac{p^2-1}{p}\right)\int_0^L n_e(\ell)d\ell = K\int_0^L n_e(\ell)\,d\ell \qquad (3)$$

If it is assumed that n_e and L are functions of time (i.e. the point A is moving relatively to B) then during a time Δt during which A is displaced through ΔL the change in the phase difference at B is given by:

$$\Delta\phi = K\left[\int_L^{L+\Delta L} n_e(\ell)d\ell + \left(\int_0^L \frac{\partial}{\partial t}n_e(\ell)d\ell\right)\Delta t\right] = \Delta\phi_{\text{лок}} + \Delta\phi_{\text{инт}} \qquad (4)$$

The recorded increase in the phase difference consists of two components, namely, one, $\Delta\phi_{\text{лок}}$, due to the increase in the path L, which depends on the electron concentration in this region, and another, $\Delta\phi_{\text{инт}}$ which depends on the total number of electrons in the column between the observer and the beginning of the section ΔL. When the point A is fixed, as for example in the case of

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Measurements of the electron .....

the 1936 measurements during the solar eclipse, the first component
is absent and the measured phase difference yields the average rate
of change in the second component. If the point A is a rocket
launched in the vertical direction, then a similar situation occurs
at the apex of the trajectory where the vertical velocity changes
sign and passes through zero. This method therefore yields the
integral electron concentration. In addition to the dispersion
effects the electron concentration can also be measured from the
rotation of the plane of polarization of the radio waves emitted
from a vertically launched rocket. The rotation angle θ can be
evaluated from:

$$\theta = \frac{e^3}{2\pi c^2 m^2} \frac{1}{f^2} \int_{L}^{L+\Delta L} H_L n_e(\ell)\, d\ell \qquad (6)$$

where: H_L is the vertical component of the magnetic field and f
is the frequency which is sufficiently high for the absorption in
the ionosphere to be small and the refractive indices of the two
components to approach unity (A.N. Shchukin. "Physical Principles
Card 5/ 10

Measurements of the electron .....

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S/560/61/000/006/004/010
E032/E114

of the Dispersion of Radiowaves in the Ionosphere". M.,
Svyaz'izdat, 1940).   Fig.1 shows a part of the record obtained for
the three frequencies $f_3 = 24$, $f_2 = 48$ and $f_1 = 144$ Mc/s.   This
figure shows a plot of U_{in} (microvolts) at the inputs of the
receiver connected to antennas with the same polarization.   The
$\theta \sim 1/f^2$ relationship is said to be clear from this figure so that
the recorded periodic changes must have been due to the Faraday
effect.   It follows from Eq.(6) that if $\theta = \pi$ then assuming H_L
to be known and replacing ΔL by Δh the average electron
concentration can be calculated from:

$$n_e = \frac{2\pi^2 c^2 m^2}{e^3} \frac{f^2}{\Delta h} \frac{1}{H_B} \qquad (7)$$

The quantity Δh is determined from the times t_1 and t_2 which
correspond on the record to two neighbouring polarization minima,
since the coordinates of the rocket are known at each instant of
time.   The interval of altitudes over which the average of n_e is
taken can be reduced by using two receiving devices with
independent antennas having mutually perpendicular polarization.

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Measurements of the electron E032/E114

Fig.3 shows the electron concentration as a function of height (km).
The curves were obtained by the dispersion interferometer method.
Curve 1 was obtained on February 21, 1958 at 11 hr 40 min;
Curve 2 on August 27, 1958 at 8 hr 06 min; Curve 3 on October 31,
1958 at 15 hr 54 min.   Fig.4 shows a similar curve obtained on
August 27, 1958 with the aid of the Faraday effect. The points
1, 2, 3 and 4 have the following meanings: 1 - identical data at
two points of reception; 2 - data at a third point; 3 - identical
data at three points; 4 - curve obtained by the dispersion method
(at the same time).   It is concluded that all the results fully
confirm the fact that the ionosphere has a single main maximum in
the electron concentrations which occurs at about 300 km, and that
the belief that there is a sharply defined E layer was due to the
inadequate data which have been available so far. Acknowledgments
are expressed to S.M. Rytov for assistance and advice.
There are 6 figures and 18 references: 12 Soviet and 6 non-Soviet.
The four most recent English language references read as follows:
Ref.3: H. Friedman, Proc. IRE, V.47, 272, 1959.
Ref.10: J.C. Seddon, J.E. Jackson. IGY World date center A.
     Experimental results of the U.S. Rocket program for the IGY

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S/560/61/000/006/004/010
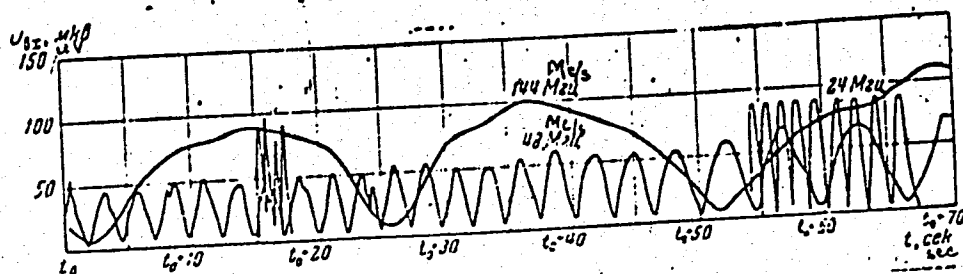Measurements of the electron E032/E114

to 1 July 1958. National Academy of Sciences, Washington,
No.1, 1958, p.140.
Ref.14: J.A. Ratcliffe. The Physics of the Ionosphere, published
by the Physical Soc., London, 1956, p.89.
Ref.15: J.V. Evans. Prod. Phys. Soc., 69B, 953, 1956.

SUBMITTED: April 29, 1960

Fig.1

Card 8/10

33318
S/560/61/000/010/016/016
D299/D302

9,9120

AUTHOR: Rudakov, V. A.

TITLE: Results of measuring electron concentration
             in the ionosphere up to 200 km altitude
             carried out by rockets in 1959 and 1960

SOURCE: Akademiya nauk SSSR. Iskusstvennyye sputniki
             Zemli. no. 10. Moscow, 1961, 102-103

TEXT: In recent years, the altitude dependence $n_e(h)$ of
free-electron concentration in the ionosphere has been studied
by rockets launched on behalf of the Academy of Sciences of the
USSR. Thereby, a dispersion radiointerferometer was used,
operating on frequencies of 144, 48 and 24 megacycles. The
electron concentration was determined from the phase difference
of the coherent oscillations emitted from the rocket and re-
corded on earth, whereby the frequency-pairs 144 and 48, and

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33318
S/560/61/000/010/016/016
D299/D302

Results of measuring...

144 and 24 megacycles were used. Below, the $n_e(h)$-distribution is considered, as determined in 1959-1960. The results obtained by rocket measurements are more reliable than those obtained by terrestrial radio-probes and can be used for developing methods of correction for the latter. A figure shows the $n_e(h)$-distribution curves obtained on July 14 and 22, 1959, and on June 15, 1960. All the launchings took place at the same site in the middle zone of the European part of the USSR. The launch-ings were accompanied by simultaneous radioprobing by iono-spheric stations. The $n_e(h)$-distribution obtained from the rocket experiments (including those conducted prior to 1959) lead to the conclusion that the electron concentration increases almost monotonically in the ionosphere (in sunlight) up to 200 km with small maxima at altitudes of 105, 115 and 125 km. An exception is the $n_e(h)$-distribution obtained with weak sun-light; in this case, the electron concentration is small (of the

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33318
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Results of measuring...

order of $1 \div 2 \cdot 10^4$ electron $\cdot$ cm^{-3}) and changes little with increasing altitude up to 180 - 190 km, where it begins to increase considerably. There are 1 figure and 3 Soviet-bloc references.

SUBMITTED: April 18, 1961

Card 3/3

L 04445-67   EWT(1)/FCC   GW

ACC NR: AP6018922   SOURCE CODE: UR/0203/66/006/003/0568/0580

AUTHOR: Gringauz, K. I.; Kravtsov, Yu. A.; Rudakov, V. A.; Rytov, S. M.   63

ORG: Radioengineering Institute, AN SSSR (Radiotekhnicheskiy institut AN SSSR)   B

TITLE: Once more about the feasibility of local electron concentration determination by the dispersion method using artificial Earth satellites and about the new ionization maxima in the ionosphere

SOURCE: Geomagnetizm i aeronomiya, v. 6, no. 3, 1966, 568-580

TOPIC TAGS: ionospheric electron density, ionospheric physics, ionospheric disturbance, ionospheric radio wave, satellite data analysis, geophysic rocket

ABSTRACT: This is the continuation of an earlier debate between the present authors and Ya. L. Al'pert et al. (see, e.g., Geomagn. i aeronomiya, 1 1965, 5, No 4, 766) concerning the feasibility of local electron concentration determination by the dispersion method using artificial Earth's satellites. The authors show once more that the electron concentration determination using such a method leads to inaccurate results because of the presence within the ionosphere of horizontal ionization gradients as well as because of the nonstationary character

Card 1/2   UDC: 550.388:629.198.3

L 04445-67

O

ACC NR: AP6018922

of the ionosphere. In addition, the unreliability of the results of Al'pert et al. is caused also by an inaccurate method used during the processing of experimental data. [Publishing Editor's note: no further articles concerning this discussion will be published.] Orig. art. has: 9 formulas and 4 tables.

SUB CODE: 08/   SUBM DATE: 27Oct65/   ORIG REF: 023/   OTH REF: 015

Card 2/2

RUDAKOV, V.A.

N(h) profiles obtained by means of the ultrashort waves of a dispersion interferometer during the launching of geophysical rockets of the Academy of Sciences of the U.S.S.R. in 1962. 1963. Koem. issl. 2 no.6:946-947 N-D '64. (MIRA 17:12)

L 18394-65   EEC-4/EWG(v)/EWA(h)/EWT(l)/EEC(t)/EEC(m)/FCC/FSS-2   Pe-5/Pi-4/Po-4
Pq-4/Pae-2/Peb   AFWL/SSD/ESD(gs)   GW/WS
ACCESSION NR: AP5000179   S/0293/64/002/006/0946/0947

AUTHOR: Rudakov, V. A.   B

TITLE: N(h)-profiles obtained with ultrashort wave dispersion inter-
ferometers installed in Academy of Sciences USSR geophysical rockets
launched in 1962 and 1963

SOURCE: Kosmicheskiye issledovaniya, v. 2, no. 6, 1964, 946-947

TOPIC TAGS: ionospheric ion density, ion density, N(h) profile, USSR
geophysical rocket

ABSTRACT: Studies of free electron density in the ionosphere carried
out in 1958, 1962, and 1963, using 144- and 48-Mc ultrashortwave
rocket-borne dispersion radiointerferometers (developed under the
direction of K. I. Gringauz), showed that the principal ionization
maximum during periods of minimum solar activity (1962, 1963) is both
much less intense and 50 to 100 km lower than the ionization maximum
during a period of maximum solar activity (1958). In addition, the
density of electrons above the ionization maximum decreases with height
more rapidly during minimum solar activity periods than during maximum

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L 18394-65
ACCESSION NR: AP5000179 2

solar activity periods.   All three sets of observations were stabilized
along three rotation axes.   The rocket trajectories were almost verti-
cal and their maximum height of ascent was approximately 500 km.   The
rockets were launched from approximately the same place and at about
the same time of year (central European USSR, autumn, daylight hours).
The N(h)-profiles obtained in 1962 and 1963 showed that the ionization
maxima and their electron densities were about the same in both years
($h_{N_{max}} \approx 220-240$ km, $N_{max} \approx 0.5 \times 10^6$ cm^{-3}), and that the decrease
in electron density was about the same with distance above, but dis-
similar with distance below the principal maximum during the two years.
A comparison of the 1958, 1962, and 1963 N(h)-profiles with data ob-
tained on ion density with ion traps carried by "Kosmos-2" in April
1962 indicates that during the 11-year cycle the density of N in the
ionosphere substantially decreases with a decrease in solar activity,
and that the drop in N above the principal maximum increases with
height.   Orig. art. has: 2 figures.

ASSOCIATION: none

Card   2/3

L 18394-65
ACCESSION NR: AP500179   O

SUBMITTED: 09Jul64   ENCL: 00   SUB CODE: ES,SV

NO REF SOV: 004   OTHER: 000   ATD PRESS: 3154

Card 3/3

L 2800-66 EWT(1)/FCC/EWA(h) RB/GS/GW/WS-4
ACCESSION NR: AT5023578

UR/0000/65/000/000/0168/0177

AUTHOR: Gorozhankin, B. N.; Rudakov, V. A.

TITLE: Ionospheric investigations using rockets and artificial satellites in 1960-1964

SOURCE: Vsesoyuznaya konferentsiya po fizike kosmicheskogo prostranstva. Moscow, 1965. Issledovaniya kosmicheskogo prostranstva (Space research); trudy konferentsii. Moscow, Izd-vo Nauka, 1965, 168-177

TOPIC TAGS: artificial earth satellite, meteorologic rocket, ionosphere, ion concentration, ionospheric electron density, satellite data analysis

ABSTRACT: In this short survey, the authors study measurements of electron and ion concentration in the ionosphere up to altitudes of approximately 2000 km. Specific data obtained from various experiments are given, and trends are described in the development of methods for making measurements of this type. The various methods for measuring n_e and n_i are divided into two main groups: 1) probe methods, where the sensing element is in direct contact with the ambient atmosphere and 2) radio methods where the information is transmitted over considerable distances. Data

Card 1/2

L 2800-66

O

ACCESSION NR: AT5023578

obtained in the Soviet Union, the United States and various other countries are com-
pared for these two categories. Orig. art. has: 7 figures, 3 tables.   [14]

ASSOCIATION: none

SUBMITTED: 02Sep65

ENCL: 00

SUB CODE: ES, SV

NO REF SOV: 010

OTHER: 023

ATD PRESS: 4/102

BVK
Card 2/2

L 00560-66   EWT(1)/FCC/EWA(h)   GW

ACCESSION NR: AP5021006

UR/0203/65/005/004/0762/0766
550.388.2:621.391.81

AUTHORS: Gringauz, K. I.; Kravtsov, Yu. A.; Rudakov, V. A.; Rytov, S. M.

TITLE: On the possibility of determining local electron concentrations using the dispersion method with the help of artificial satellites.and on a new ionization maximum in the ionosphere

SOURCE: Geomagnetizm i aeronomiya, v. 5, no. 4, 1965, 762-766

TOPIC TAGS: electron concentration, ionization, artificial satellite, ionosphere, Doppler shift, F layer

ABSTRACT: In order to determine whether dispersion methods for measuring N_0 in the ionosphere by means of artificial satellites are valid, the various gradient terms $\partial N/\partial x$, $\partial N/\partial y$, and $\partial N/\partial t$ must be investigated to determine if they are significant in comparison with N_0. These various gradient terms that appear in the expression for the difference in Doppler shift between frequencies ω_1 and ω_2 are given by

$$[N_n] = \frac{1}{z_c}\int_0^{z_c} N\,dz, \quad \left[\frac{\partial N}{\partial x}\right] = \frac{1}{z_c\cos\varphi_0\sin\varphi_0}\int_0^{z_c}\frac{\partial N}{\partial x}z\,dz, \quad \left[\frac{\partial N}{\partial y}\right] = \frac{1}{z_c\cos\varphi_0}\int_0^{z_c}\frac{\partial N}{\partial y}z\,dz.$$

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ACCESSION NR: AP5021006

A detailed analysis is made to show that the terms $[\partial N/\partial y]y_e$, $[\partial N/\partial z](t_e + z_e/\cos\varphi_e)$ $\int_{r_e}(\partial N/\partial t)ds$ are not necessarily small in comparison to $N_0 z_c/\cos\varphi_0$. A similar state-ment, with even more assurance, can be made about the unsteady term $\int_0^{r_c}(\partial N/\partial t)ds$.

To demonstrate this, an altitude versus density curve (see Fig. 1 on the Enclosure) is shown. Here the maximum in N is above the maximum region of the F-layer if one bases the data on the local dispersion method, neglecting the gradient terms (solid curve in Fig. 1). Radio-probe methods, on the other hand, support only the lower curve (dotted curve on Fig. 1). For this reason and because dispersion measurements far from the earth are unreliable, the authors do not agree with the local concen-tration data reported by previous authors (e.g., Ya. L. Al'pert. Geomagn. i aeronomiya, 1964, 4, No. 3, 479). Orig. art. has: 4 formulas and 2 figures.

ASSOCIATION: Radiotekhnicheskiy institut, AN SSSR (Radio Technology Institute, AN SSSR)

SUBMITTED: 01Feb65   ENCL: 01   SUB CODE: GP, ES

NO REF SOV: 013   OTHER: 011
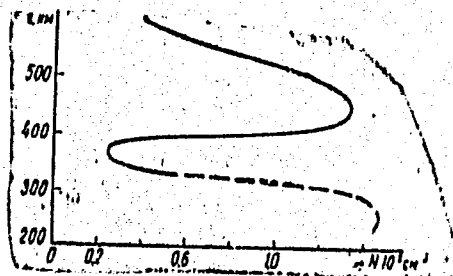
Card 2/3

Fig. 1.

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IDALEVICH, G.L.; GRINGAUZ, K.I.; RUDAKOV, V.A.; RYTOV, S.M.

Effect of the ionosphere on the determination of the position of rockets. Radiotekh. i elektron. 8 no.6:942-949 Je '63.
(MIRA 16:7)

(Rockets (Aeronautics)) (Electronics in navigation)

L 10276-63   BDS/EWT(1)/FS(v)/EEC-2/ES(v)/ES(t)-2--AFFTC/AFMDC/
APGC/ASD/ESD-3/SSD--Ps-4/Pg-4/Pi-4/Pk-4/Pl-4/Pc-4/Pg-4--GW/BC/WR/AST
ACCESSION NR: AP3000990   S/0109/63/008/006/0942/0949

                                                                    100

AUTHOR: Gdalevich, G. L.; Gringauz, K. I.; Rudakov, V. A.; Ry*tov, S. M.

TITLE: Effect of the ionosphere on the position finding of space rockets /Report
of the Thirteenth International Astronautical Congress held in Varna September
1962/

SOURCE: Radiotekhnika i elektronika, v. 8, no. 6, 1963, 942-949

TOPIC TAGS: space rocket, effect of ionosphere

ABSTRACT: Some ideas are set forth about calculating the errors caused by the
ionosphere in determining coordinates and speed of space rockets by radio means.
Assuming a geometrical-optics approximation and measurements at frequencies over
5×10^7 cps, formulas are derived for the ionosphere-caused errors in deter-
mining range, elevation, and speed of rockets. The rocket is assumed to be in
outer space, and errors due to the troposphere and interplanetary plasma are
neglected. Approximation of the real altitude distribution of electron concentra-
tions is discussed for purposes of evaluating the above errors. Western and Soviet
data on electron concentrations are compared. Orig. art. has: 9 formulas and 6
figures.

Card 1/2/

L 56532-65   EWT(d)/EWT(m)/EWA(d)/EWP(v)/EWR/EWP(t)/EWP(k)/EWP(h)/EWP(b)/
EWP(l)/EWA(c)   Pf-4/Ps-4   JD/HW
ACCESSION NR: AP5016777   UR/0286/65/000/010/0104/0104
                                                       621.984.8—233.27
                                                       621.757

AUTHOR: Temerev, N. A.; Rudakov, V. D.; Il'in, L. S.

TITLE: A device for automatically stamping precision ball-bearings. Class 47,
No. 171228

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 10, 1965, 104

TOPIC TAGS: ball bearing, precision stamping, pressing, automatic control, machine
tool industry

ABSTRACT: This Author's Certificate introduces a device for automatically stamp-
ing precision ball-bearings with a predetermined force by using weights. The stamp-
ing process is automated and the stamping force is controlled by using microswitches
which fix the position of the spindle and lever with respect to the carriage.

ASSOCIATION: none

SUBMITTED: 03Dec62   ENCL: 01   SUB CODE: IE

Card 1/3

L 56532-65

ACCESSION NR: AP5016777

NO REF SOV: 000   OTHER: 000

Card 2/3

RUDAKOV, V F.

Production of heat-resistant glass pipes from alkali-free glass. V. F. Rudakov and A. F. Kuts. *Steklo i Keram.* 12, No. 10, 27-8 (1955).—Rate of drawing was 7 m./min. Pipes were 1, 1.5, and 1.75 in. in diameter. Glass analyzed SiO₂ 61.9, R₂O₃ 18.5, CaO 15.4, MgO 4.2, and F₂ (above 100%) 4%. Pipes were 15-20% stronger than those from alkali glass.

B. Z. Kamich

Rudakov, V.E.

Production of heat-resistant glass pipe from alkali-free glass.
V. F. RUDAKOV AND A. F. KOTS. *Steklo i Keram.* 12, No. 27, 29
(1955). Rate of drawing was 1 m/min, and the pipe were 1,
5, and 175 m in diameter. Analysis of the glass showed SiO₂
61.9, R₂O₃ 18.5, CaO 15.4, MgO 4.3, and F above analyses 1%.

RUDAKOV, V.F.; KUTS, A.F.

Manufactue of heat resistant alkali-free glass tubes. Stek. i ker.
12 no.10:27-29 O '55.   (MLRA 9:1)

1.Buchanskiy stekol'nyy zavod.
            (Bucha--Glass manufacture)

LIKHORADOV, A.P.; ZHIGULIN, V.I.; ZHEMBUS, M.D.; RUDAKOV, V.F.; KOTOV, K.I.;
        ZHAK, A.M.; TSYMBALYUK, V.Yu.; FILIMONOV, V.V.

Service of the lining and cooling equipment of a blast furnace
in the smelting of ferromanganese. Metallurg 10 no.10:12-14
O '65.   (MIRA 18:10)

1. Zavod im. Petrovskogo.

L 17110-65   ASD(a)-5/AFMD(p)/AFETR/RAEM(i)/ESD(dp)/ESD(c)/ESD(t)

ACCESSION NR: AP4048653   S/0315/64/000/006/0027/0036

AUTHOR: Rudakov, V. F.; Il'yashenko, Ye. I.

TITLE: Methods for the selection of multiple-valued replies from an associative memory

SOURCE: Nauchno-tekhnicheskaya informatsiya, no. 6, 1964, 27-36

TOPIC TAGS: information retrieval, associative memory, multiple response, ordered retrieval

ABSTRACT: The authors briefly discuss methods for the retrieval of multiple valued replies from an associative memory, published previously by E. H. Frei and I. A. Goldberg (IRE PTGEC-10, 1961, No. 4, pp. 718-722), R. R. Seeber and A. B. Lindquist (IBM JRD, 1962, 6, No. 1, pp. 126-136) and M. H. Levin (RCA Review, 1962, 23, No. 2, pp 215-229), and conclude that all of these methods have two common disadvantages - a portion of the digits in each shift register must be wasted to label the particular shift register and for any given associative criterion many searches of the memory are required to obtain an answer. The authors then propose a retrieval method based on an individual detector for each stored word and discussed previously by W. L. McDermid and H. E. Peterson (IBM JRD, 1961, 5, No. 1, pp 59-62). All detectors are combined into a detector

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L 17110-65
ACCESSION NR: AP4048653

matrix. A detector is in state one if there is no correspondence between its word and the request symbol and it is in state zero if such correspondence exists. The extraction of a multiple reply is reduced to determining which detectors in the matrix are in the zero state. Two matrix schemes are proposed. In the first scheme, each detector consists of two switches and one ferrite transformer and the matrix is connected in such a way as to minimize the number of addresses in the memory. For large memories, the number of switches becomes excessive, and the second scheme is proposed which requires $\sqrt{n}$ less switches for an n-word memory and uses a sequential interrogation of the detector matrix. This, however, prolongs the processing time. The ferrite core transformers used in this memory are such that 22 of them can be connected in cascade before an appreciable pulse deterioration is observed. Experimental oscilloscope photographs are offered as proof of the matrix performance. It is concluded that this method can also be used to select words which correspond to certain bounded intervals rather than to an exact associative criterion. Orig. art. has: 5 equations, 18 figures and 4 tables.

ASSOCIATION: None

SUBMITTED: 04Apr64   ENCL: 00   SUB CODE: DP

NO REF SOV: 000   OTHER: 006

Card   2/2

RUDAKOV, V.I.; ZIL'BERSHOT, B.S.

Making reinforced concrete pressureless socked pipes in vibrating forms. Suggested by V.I.Rudakov, B.S.Zil'bershot. Rats. i izobr.predl. v stroi. no.10:11-13 '59.   (MIRA 12:11)

1. Po materialam tresta TSentrospetsstroy Ministerstva stroitel'stva RSFSR.
          (Vibrators) (Pipe, Concrete)

RUDAKOV, V.F.; IL'YASHENKO, Ye.T.

Methods of selecting a multiple answer from an associative memory.
NTI no.6:27-36 '64. (MIRA 17:9)

RUKHADZE, Aleksandr Konstantinovich; RUDAKOV, Veniamin Fedorovich;
DROKHANOVA, Ye.N., red.; MARAKASOVA, L.P., tekhn. red.;
YELAGIN, A.S., tekhn. red.

[Industires of the southern Urals] Industriia IUzhnogo Urala.
Moskva, Sovetskaia Rossiia, 1962. 141 p.   (MIRA 15:7)
                (Ural Mountain region--Industries)

RUDAKOV, V.I., inzh.

Piezometric meter for level measurement in closed tanks. Elek.sta.
29 no.8:82-83 Ag '58.   (MIRA 11:11)
                        (Tanks--Measurement)

RUDAKOV, V. I.

Neftianye kalorizatornye dvigateli. Moskva, Gos. izd-vo sel'khoz. lit-ry, 1950. 155 p. diagrs.

Semi-Diesel oil engines.

DA   DLC: TJ790.R8

SO: Manufacturing and Mechanical Engineering in the Soviet Union, Library of Congress, 1953.