BARKHASH, S.A.; ***IN, V.A.; PROSKURYAKOVA, Ye.I.; SMIRNOVA, V.I.

Causes of blindness; from data of the Ukrainian Scientific
Research Institute for Eye Diseases and Tissue Therapy for
the period. 1946-1955. Uch. zap. UEIGB 5:21-25 '62.
(MIRA 16:11)

HUKIN, V.A.

First cofneal transplantations carried out in Russia. Oft.zhur.
15 no.2:111-115 '60.   (MIRA 13:5)

1. Iz Ukrainskogo nauchno-issledovatel'skogo eksperimental'nogo
instituta glaznykh bolezney i tkanevoy terapii imeni akad. V.P.
Filativa (direktor - prof. N.A. Puchkovskaya).
                (CORNEA--TRANSPLANTATION)

PUCHKOVSKAYA, N.A., prof.; RUKIN, V.A., nauchnyy sotrudnik

Results of the work of the Filatov Institute during the period 1936-
1961. Oft. zhur. 16 no.8:483-490 '61.   (MIRA 15:4)

1. Iz Ukrainskogo nauchno-issledovatel'skogo eksperimental'nogo
instituta glaznykh bolezney i tkanevoy terapii imeni akademika
V.P.Filatova (direktor - prof. N.A.Puchkovskaya).
                    (UKRAINE—OPHTHALMOLOGY)

RUKIN, V.A.

"History of ophthalmology in the Ukraine" by R.Z. Kopit
and others. Reviewed by V.A. Rukin. Oft. zhur. 17 no.1:
62-63 '62.   (MIRA 15:3)

(UKRAINE--OPHTHALMOLOGY)
(KOPIT, R.Z.)

ACC NR: AP6011256   (N)   SOURCE CODE: UR/0413/66/000/006/0096/0096

AUTHORS: Korobkov, M. A.; Manin, V. N.; Rukin, Y. I.; Andronov, V. M.

ORG: none

TITLE: Assembly for complex estimating the strength of flanged couplings. Class
42, No. 179984 /announced by Military Academy of Chemical Defense (Voyennaya
akademiya khimicheskoy zashchity)/

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 6, 1966, 96

TOPIC TAGS: metal joining, mechanical power transmission device, pressure gage,
visual signal, signal element

ABSTRACT: This Author Certificate presents an assembly for complex estimating of
the strength of flanged couplings. The assembly contains a hydraulic press for
loading the flanged coupling and instruments for determining the compression stress
in the flanged joint (see Fig. 1). To determine more exactly the penetration of
the working liquid between the contact surfaces of the flanged coupling, one half
of the contact surface of the flanged coupling carries uniformly distributed
electrical gauges. Each of these gauges is connected to a signaling device such as

Card 1/2   UDC: 620.165.29.06:621-762.4

ACC NR: AP6011256
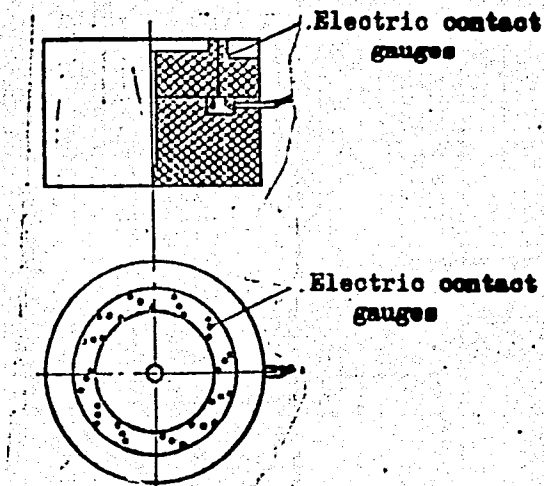
Electric contact gauges

Electric contact gauges

Fig. 1.

a neon lamp, the lighting of which shows that the penetration has taken place.
Orig. art. has: 1 figure.

SUB CODE: 13/ SUBM DATE: 02Feb65

Card 2/2

AUTHORS: Shil'krut, D.I., Docent, Rukin, V.V., Smirnov, V.A. and
Butenko, G.A., Engineers

SOV/122-58-6-25/37

TITLE: A Mechanical Vibrator with Independent Adjustment of Ampli-
tude and Frequency (Mekhanicheskiy vibrator s nezavisimoy
regulirovkoy amplitudy i chastoty)

ABSTRACT: An experimental vibrating saw designed and tested at the
vibration-cutting laboratory of the L'vovskiy lesotekhni-
cheskiy institut (L'vov Lumbering Technology Institute) is
described with the help of a cross-sectional drawing. A
single shaft rotates in bearings inside a sleeve, itself
rotating in two plummer blocks. The central shaft
carries the cutting disc saw at one end and is driven by
a V-belt pulley at the other end. The rotating sleeve is
driven by another V-belt pulley. Due to its eccentric
position, this rotation produces oscillations at a
frequency independent of the speed of the cutting spindle.
The rotating sleeve is mounted inside a set of double

Card 1/2

SOV/122-58-6-25/37

A Mechanical Vibrator with Independent Adjustment of Amplitude and Frequency

eccentrics. The maximum frequency of vibrations is
14 000 cpm. A simple device is diagrammatically
illustrated which absorbs the vibrations in one plane
and transmits those at right angles.
There are 3 figures and 2 Soviet references.

Card 2/2   1. Cutting tools--Design   2. Cutting tools--Performance
3. Vibration--Applications

RUKIN, Vladimir [Rukin, Vladymyr]

[History of Russian ophtholmology] Do istorii Vitchyznianoi
oftal'mologii. Kyiv, Derzh.med.vyd-vo, 1957. 148 p.
(MIRA 14:2)

(OPHTHALMOLOGY)

IL'IN, Boris Vladimirovich, kand. tekhn. nauk, dotsent; RUKIN, Vladimir
    L'vovich mladshiy nauchnyy sotrudnik

    Limitations imposed by objects on the realization of conditions
    of invariancy and autonomy. Izv. vys. ucheb. zav.; elektromekh.
    7 no.8:979-990 '64.   (MIRA 17:10)

    1. Kafedra avtomatizatsii khimicheskikh proizvodstv Leningradskogo
    tekhnologicheskogo instituta.

RUKIN, V.V.; SHIL'KRUT, D.I.

New system of polishing machines. Der.prom. 9 no.3:
13-14 Mr '60.   (MIRA 13:6)
                    (Grinding and polishing)

GOMES, TS.; RUKIN, V.V.

Stresses and shifts around a deep circular shaft taking into account the nonuniformity of the environment. Sbor. trud. NIIosn. no.55:79-84 '64.   (MIRA 18:3)

RUKIN, V.V.

Developing the engineering theory of rock pressure. Vop. gor.
davl. no.21:39-64 '64.   (MIRA 18:8)

1. Nauchno-issledovatel'skiy institut osnovaniy i podzemnykh
sooruzheniy.

SHIL'KRUT, D.I., dots.; RUKIN, V.V., inzh.; SMIRNOV, V.A., inzh.; BUTENKO, G.A., inzh.

Mechanical vibrators with independent amplitude and frequency regulators. Vest. mash. 38 no. 6:63-64 Je '58.   (MIRA 11:7)
                              (Vibrators)

GOMES, TS. (Moskva); RUKIN, V.V. (Moskva); RUPPENEYT, K.V. (Moskva)

Interaction of the linings of hydrotechnical pressurized tunnels
with rocks. Izv. AN SSSR. Mekh. no.2:147-151 Mr-Ap '65.
(MIRA 18:6)

RUKIN, V. V., Cand Tech Sci -- "Method of accelerated tests

of the wear-and-tear of combine-harvesters chains." Khar'kov,

1961. (Khar'kov Polytech Inst im V. I. Lenin) (KL, 8-61,

248)

- 296 -

L 2795-66   EWT(d)/EWT(1)/EPF(n)-2/EWP(v)/EWP(k)/EWP(h)/EWP(1)/EWA(h)/ETC(m)
ACCESSION NR: AP5021450   WW/AT
UR/0146/65/008/004/0123/0126
681.121

AUTHOR: Korotkov, P. A.; Belyayev, D. V.; Rukin, Ya. V.

TITLE: A noncontact thermal flowmeter with a semiconductor heater for up to 10,000 liters per hour

SOURCE: IVUZ. Priborostroyeniye, v. 8, no. 4, 1965, 123-126

TOPIC TAGS: flow meter, fluid flow, thermocouple, semiconductor device

ABSTRACT: The characteristics of a noncontact thermal flowmeter are studied. The instrument operates on the basis of finding the deformation of a temperature field generated by a heater on the outer surface of the pipe through which the liquid is flowing. This deformation is a single-valued function of the rate of flow when the parameters of the liquid and those of the ambient medium are stable. The heater is a semiconducting layer of stannous chloride applied over titanium enamel. Electric current is fed to the heater from a voltage regulator through copper contact rings fastened to the pipe with a distance of 50 mm between them. The sensing element, for measuring the temperature difference is a chromel-coppel thermocouple fastened to the outside surface of the pipe. The sensitivity of the instrument is improved by using a differential hyperthermocouple consisting of two sets of these chromel-
Card 1/3

L 2795-66
ACCESSION NR: AP5021450

coppel pairs with ten thermocouples in each group. The junctions of one group are located 145 mm from the center of the heater, while those of the other group are placed 35 mm downstream from the center of the heater. Differential connection of the hyperthermocouple eliminates the necessity for thermostatic control of the cold junctions. A diagram of the flowmeter is shown in fig. 1 of the Enclosure. Experimental tests were made on measuring the flow of water through a pipe 53 mm in diameter. Rates of flow were varied from 250 to 10,000 liters per hour. Calibration curves are given for various semiconductor heater powers. It was found that there is a nonlinear relationship between temperature drop and flow rate. The greatest sensitivity is in the region below 3000 l/hr, while the least sensitive region is above 5000 l/hr. Sensitivity increases with heater power throughout the entire measurement range. It is recommended that the lower limit of measurements for a given meter should be set at 20% of the maximum rate of flow. This gives a more uniform scale. A heater power of about 45 watts should be used for the widest measurement range. Circuit alterations are suggested for compensation of measurement errors due to temperature changes in the input flow. The instrument was tested for two months on an average of six hours a day. Measurement errors are less than ±3% of the maximum scale value. Orig. art. has: 2 figures.
ASSOCIATION: none
SUBMITTED: 05Oct64

ENCL: 01
NO REF SOV: 004

SUB CODE: IE, ME
OTHER: 000

Card 2/3

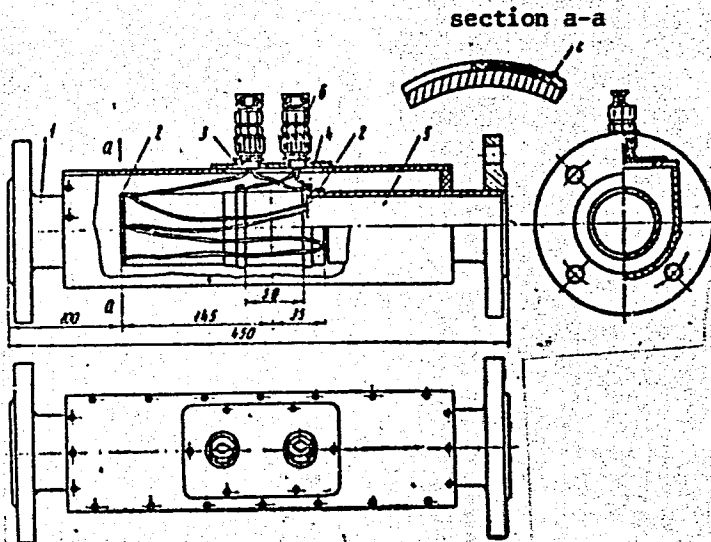L 2795-66
ACCESSION NR: AP5021450

ENCLOSURE: 01

section a-a

Fig. 1. Diagram of the flow-
meter: 1--gauge pipe; 2--ther-
mocouple junctions; 3--semicon-
ductor heater; 4--contact rings;
5--vinyl jacket; 6--hermetically
sealed connector

βVK
Card 3/3

ACC NR: AP6035705   (A, N)   SOURCE CODE: UR/0413/66/000/019/0053/0053

INVENTORS: Rukina, L. K.; Knorring, V. G.

ORG: none

TITLE: A direct current digital milliammeter. Class 21, No. 186560

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 19, 1966, 53

TOPIC TAGS: direct current, electric measuring instrument, ammeter

ABSTRACT: This Author Certificate presents a direct current digital milliammeter based on the principle of follow-up balancing. The milliammeter includes a galvanometric converter of the current to a displacement, a converter of the displacement to a pulse sequence, an anticoincidence circuit, a recording device, and a code-current converter (see Fig. 1). The design increases the response time, diminishes the effect of the zero drift, reduces the dead zone, and produces a discrete readout of the quantity being measured with an analog interpolation within the limits of the unit of discreteness. A differential frequency detector is used as the converter of the displacement to the pulse sequence. The recording device includes an analog phase meter which records the fractions of a period and a duodirectional pulse counter which records the whole periods of the cumulative phase difference between the signals

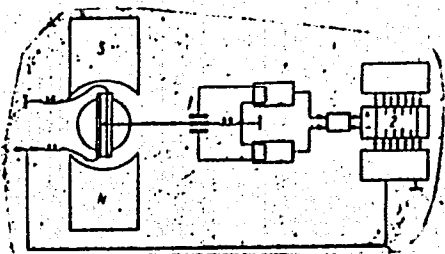UDC: 621.317.714.024.085.4

Card 1/2

ACC NR: AP6035705

Fig. 1. 1 - displacement
converter; 2 - duodirectional
pulse counter

from the two halves of the detector. Orig. art. has: 1 figure.

SUB CODE: 09/   SUBM DATE: 14Jan65

Card 2/2

L 41182-65   EWT(d)/EWP(c)/EWP(v)/T/EWP(k)/EWP(l)   Pf-4
ACCESSION NR: AP5004677   S/0115/64/000/009/0058/0059

AUTHOR: none

TITLE: Fourth scientific and technical conference on "Cybernetics for the improvement of measurement and inspection methods"

SOURCE: Izmeritel'naya tekhnika, no. 9, 1964, 58-59

TOPIC TAGS: cybernetics, electric measurement, electric quantity instrument, digital computer, electronic equipment, electric engineering conference

ABSTRACT: The conference was held 1-4 July at the All-Union Scientific Research Institute of Metrology by the Section of Electrical Measurements of the Council on the Problem of "Scientific Instrument Making" of the State Committee on Coordination of Scientific Research Work in the USSR together with the All-Union Scientific Research Institute of Electrical Measurement Instruments and the Leningrad Regional Administration of the Scientific and Technical Division of the Instrument Making Industry. More than 400 delegates from 29 cities of the country participated. Fifty-seven reports were heard and discussed. Reports were given by: P. V. NOVITSKIY (Leningrad)--"Definition of the Concept of Informational Error in Measurement and its Importance in Practical Use" and "On the Problem of the Average Informational Criterion of Accuracy Throughout the Entire Scale of an Instrument"; Ya. A.
Card 1/4

L 41182-65
ACCESSION NR: AP5004677   /7

KUPERSHMIDT (Moscow)--"On Determination of the Criteria of Accuracy for Measurement
Devices"; S. M. MANDEL'SHTAM (Leningrad)--report on a new criterion of accuracy of
measurement instruments; P. F. PARSHIN (Leningrad)--report on optimization when
using Fourier transforms on electronic digital computers; S. P. DMITRIYEV, G. Ya.
DOLGINTSEVA and A. A. IGNATOV (Leningrad)--proposal of a new method for solving
problems of optimum filtering for non-stationary random signals and interference;
I. B. CHELPANOV--"Calculation of the Dynamic Characteristics of an Optimum Complex
Two-Channel System which Uses Signals from a Position Meter and from a Speed Meter";
P. A. POLUEKTOV (Leningrad)--"Optimum Periodic Correction in the Measurement of
Continuous Signals"; S. P. ADAMOVICH (Moscow)--"Analysis and Construction of Devices
for Correction of Non-linearity and Scaling for Unitary Codes; G. V. GORELOVA
(Taganrog)--"A Method for Statistical Optimization in Graduating the Scales of
Electrical Measuring Instruments"; M. A. ZEMEL'MAN (Moscow)--"Analog-Digital Voltage
Converter with Automatic Error Correction"; B. N. MALINOVSKIY, V. S. KALENCHUK and
I. A. YAHOVICH (Kiev)--"Automatic Monitoring of the Parameters of the Electrical
Signals of Complex Radio and Electronic Equipment"; V. P. PEROV (Moscow)--"Operational
Cybernetics as an Independent Scientific Specialization"; Ye. N. GIL'BO (Leningrad)--
"On the Problem of Effective Non-linear Scales"; A. I. MARKELOV (Moscow)--"Devices
for Preliminary Processing of the Results of Measurements Presented in the Form of

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ACCESSION NR: AP5004677

Graphic Recordings For Subsequent Introduction of the Information into Universal Digital Computers"; O. M. MOGILEVER and S. S. SOKOLOV (Leningrad)--"On a Method for Reducing Excess Information"; T. V. NIKOLAYEVA (Leningrad)--"A Device for Temporal Discretization of Continuous Signals"; A. A. LYOVIN and M. L. BULIS (Moscow)--"Optimization of the Transmission of Telemetric Information as a Means for Raising the Efficiency and Eliminating Interference"; D. E. GUKOVSKIY (Moscow)--"On a Statistic Approach to the Detection of Events in Automatic Inspection"; M. I. LANIN (Leningrad)--"Method for Calculating the Holding Time of Communications in a Centralized Inspection System or Constant Servicing Time"; O. N. BRONSHTEYN, A. L. RAYKIN and V. V. RYKOV (Moscow)--"On a Single-Line Mass Service System with Losses"; V. M. SHLYANDIN (Penza)--report on circuit designs for direct compensation electrical digital measuring instruments; A. N. KOMOV (Novocherkassk)--report on a new method for compensation of digital bridges; M. N. GLAZOV (Leningrad)--report on the problem of voltage-to-angular rotation conversion; V. S. GUTNIKOV (Leningrad)--"Methods for Construction of Frequency Capacitance Pickups with a Linear Scale"; R. Ya. SYROPYATOVA and R. R. KHARCHENKO (Moscow)--report on the determination of the amplitude-frequency and phase characteristics of PFM and PWM modulators; Ye. I. TENYAKOV (Novocherkassk)--"The Phototransistor as a Switch for Electrical Measurement Purposes"; N. V. MALYGINA (Leningrad)--a report on ways for making universal equipment for measurement of current, voltage and power; P. P. ORNATSKIY and V. I. ZOZULYA (Kiev)--reports on the construction of static voltmeters, wattmeters and

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L 41182-65   /5
ACCESSION NR: AP5004677

phase motors; A. V. TRIKHANOV, I. G. SMYSHLYAYEV, N. I. SABLIN, V. M. RAZIN and V. A.
GORBUNOV (Tomsk)--report on a device for automatic processing of the measurements of
vibration amplitude of pneumatic hammers; L. K. RUKINA and V. G. KNORRING (Leningrad)
--report on the development of a digital compensator for measuring pressure, force,
etc.; N. B. DADUKINA (Leningrad)--report on a method for constructing frequency
pickups for gas analysis; Yo. M. KARPOV, V. A. BRAZHNIKOV and B. Ya. LIKHTTSINDER
(Kuybyshev)--reports on analysis and recording of boring speeds; Yu. V.
PSHENICHNIKOV (Kuybyshev)--"A High Speed Voltage-to-Digital Code Converter for ac
Pickups"; G. P. VIKHROV and V. K. ISAYEV (Vilna)--"A Highly Accurate Digital Peak-
to-Peak Voltmeter"; and S. M. PERSIN (Leningrad)--"A Low Level Analog-Digital Volt-
age Converter."

ASSOCIATION: none

SUBMITTED: 00   ENCL: 00   SUB CODE: EE, EC

NO REF SOV: 000   OTHER: 000   JPRS

nu
Card 4/4

L 20471-66

33

ACC NR: AT6005068   SOURCE CODE: UR/2563/65/000/256/0003/0009

B·1

AUTHOR: Knorring, V. G.; Rukina, L. K.

ORG: Leningrad Polytechnic Institute im. M. I. Kalinin (Leningradskiy politekhnicheskiy institut)

TITLE: A new method for the construction of digital compensation instruments for the measurement of mechanical quantities

SOURCE: Leningrad. Politekhnicheskiy institut. Trudy, no. 256, 1965. Tsifrovyye izmeritel'nyye i upravlyayushchiye ustroystva (Digital measuring and control devices), 3-9

TOPIC TAGS: manometer, electromechanical converter, analog digital converter, measuring instrument

ABSTRACT: A method is proposed for the design of precision instruments for the measurement of nonelectrical quantities (force, pressure, moment). The instruments consist of a closed automatic equilibration system in which the direct conversion section contains a nonelectrical quantity-to-frequency converter, and inverse conversion is carried out by a code-analog converter. The approach is discussed on the example of a manometer shown in Fig. 1.
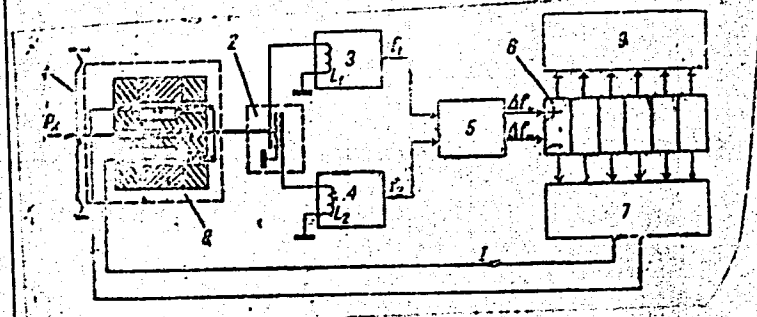
Card 1/3

L 26671-66
ACC NR: AT6005068

Fig. 1. The block diagram of a digital compensating manometer.

1 - membrane; 2 - differential capacitative undercompensation converter; 3, 4 - frequency dependent circuits of two LC generators; 5 - frequency reading circuits; 6 - reversive pulse counter; 7 - code-to-current converter; 8 - inverted magnetoelectric converter; 9 - reading device.

Card   2/3

L 20671-66
ACC NR: AT6005068

The authors analyze the operation of the instrument, establish its equivalent circuit, and develop the pertinent theoretical expressions. An analysis of the results shows that the procedures studied can be used to build instruments which are completely free of the static undercompensation error. These instruments are also free of insensitive zones because of the use of an ideal integrating stage without a starting threshold in the direct conversion circuit. Since these are digital systems, they may be made completely free of quantization errors without complicating the instrument. Finally, in contradistinction to other physical quantity-to-frequency conversion setups, the proposed units carry out tracking conversion and allow the reading of the quantity under determination at any instant of time. Orig. art. has: 17 formulas and 4 figures. [08]

SUB CODE: 09, 14/ SUBM DATE: none/ ORIG REF: 006/ OTH REF: 003/ ATD PRESS: 4223

Card 3/3 UCR

Rukina, L. P.

Methods for the determination of nucleic acids in tissues. O. P. Chepinoga, B. B. Skvirskaya, and L. P. Rukina (Inst. Biochem., Acad. Sci. Ukr. S.S.R., Kiev)—*Ukrain. Biokhim. Zhur.* 23, 335-40(in Russian, 340-2)(1951).—A partly exptl. crit. review of existing methods, and a proposed modification. B. S. Levine

②

RUKINA, L. P.

Metabolism of nucleic acids in the liver and CNS (central nervous system). O. P. Chepinoga, E. B. Skvirskaya, L. P. Rukina, and T. P. Silich (Biochem. Inst. Acad. Sci. Ukr. S.S.R. Kiev). Ukrain. Biokhim. Zhur. 24, 177–85 (in Russian, 185–7)(1952); cf. ibid. 23, No. 3(1951).—Brain and liver nucleic acid metabolism was studied in 150-g. white rats as follows: (1) controls; (2) after partial liver excision; (3) during prolonged narcosis; (4) a combination of (2) and (3). The left lower portion of the liver (about $^1/_6$ of the total liver wt.) was removed under ether. Sodium medinal (15 mg./100 g. wt., 3–4 times daily) was used for narcotic sleep induction. Detd. were: total nucleic acid (NA) P, ribonucleic acid (RNA) P, deoxyribonucleic acid (DNA) P, ribonuclease (RNAase) and deoxyribonuclease (DNAase) in liver and brain tissues. With (2) a decrease in NA P resulted in both brain and liver, enzyme activity increasing except for DNAase in the liver where it decreased. In (3) the effect on the CNS led to lowered NA P in brain and liver, and decreased enzyme activity except for DNAase of the brain which increased. (4) was not the summative effect of (2) + (3) since the new metabolic pattern from (2) is further changed by (3). A modified Schmidt-Tannhauser method (cf. Chepinoga, Skvirskaya, and L. P. Rukina, Ukrain. Biokhim. Zhur. 23, No. 3(1951)) was used for total NA P. DNAase was detd. viscometrically. A RNAase detn. was developed based upon the Kunitz method (C.A. 34, 7944) as follows: Detn. A: 0.5 ml. of 0.1M acetate buffer (pH 6.4), 0.5 ml. of 1-hr. 1:10 aq. ext. of minced tissue, and 1.0 ml. 0.4% Na salt of RNA. Detn. B: 0.5 ml. of 0.1M acetate buffer (pH 6.0), 0.5 ml. of ext., and 1.0 ml. H₂O. All samples were incubated 1 hr. at 37°, 2.0 ml. of 0.35% uranyl acetate with 5% CCl₃COOH added, left an addnl. 30 min. at 37° to ppt. proteins and remaining RNA, and then filtered. One ml. of filtrate was digested with 0.15 ml. of concd. H₂SO₄ and P detd. colorimetrically, comparing both A and B against their resp. controls.   Clayton F. Holovzny

(3)

RUKINA, L.P.

The interrelation between nucleic acids in the process of metabolism. O. P. Chepinoga and L. P. Rukina. *Ukrain.*
Biokhim. Zhur. 25, 388-96(in Russian, 397-8)(1953).—An attempt was made to show that ribonucleic (I) and deoxyribonucleic (II) acid in the process of metabolism can be mutually converted into one another without preliminary breakdown. Ground tissue of rabbit kidney was used in *in vitro* expts. To arrest metabolic depolymerization of II, $CdCl_2$ was added; this caused a reduction in the pentose nucleotides and an increase in II. Only in lung and thyroid gland tissues has the conversion of I into II thus far been observed. In liver tissue with the use of P^{32} there has been observed a reduction in the P content in the II fraction and a P increase in the I fraction. Simultaneously the specific activity of P^{32} in the I fraction was considerably lowered. Preliminary expts. with whole organisms previously conditioned with the citrate applied to support the *in vitro* findings.
B. S. Levine

U S S

The inhibiting effect of erythrocyte hemolyzates on the activity of deoxyribonuclease. O. P. Chepinoga and L. P. Rukina (Inst. Biochem., Acad. Sci. Ukr. S.S.R., Kiev). Ukrain. Biokhim. Zhur. 27, 32-9(Russian summary; 39-40)(1955).—The hemolyzate of washed erythrocytes (I) acts as a specific inhibitor of the activity of deoxyribonuclease (II) of blood serum. The inhibition factor (III) is a part of I and differs in some of its aspects from other known II inhibitors. III is inactivated by heating for 5 min. at 56°; behavior unlike that of a similar factor found in leucocytes (cf. Kurnick, et al., C.A. 47, 5519h). The basic properties of III coincide with those of a similar inhibitor found in yeasts (cf. Zamenhof and Chargaff, C.A. 43, 1853g). III remained unchanged after 48 hrs. of dialysis indicating that it most probably is a high-mol. substance. D. S. L.

Determination of nitrogenous bases of nucleic acids by paper chromatography. L. P. Rukina (Inst. Biochem., Acad. Sci. Ukr. S.S.R., Kiev). *Ukrain. Biokhim. Zhur.* 27, 227-31(Russian summary, 231-5)(1955).—Rabbits were decapitated and their livers rapidly removed. All further processing was done at low temp. Three g. of the liver were treated by a modification of the Schmidt and Thannhauser method (*C.A.* 40, 3181¹). Deoxyribonucleic acid (I) and ribonucleic acid (II) were isolated by a process previously described (cf. Davylcva, *C.A.* 48, 9520b). I was extd. from the ppt. with 10% CCl₃CO₂H at 00° for 20 min., followed by a 10-min. extn. with 5% CCl₃CO₂H. Exts. were combined, heated on boiling a water bath for 30 min. to destroy the CCl₃CO₂H, evapd. down to 10 ml. in ground-glass stoppered centrifuge tubes. A current of dry air was used to evap. I to dryness. The acidified centrifugate obtained after I pptn. contg. II was similarly heated for 30 min. for the destruction of the CCl₃CO₂H. It was cooled and 1.1 ml. of 70% cooled HClO₄ added to ppt. the K as KClO₄ and the walls of the tube washed twice with 2-3 ml. of cooled distd. H₂O. The wash H₂O was added to the supernatant contg. II and evapd. to dryness at 78° using a current of dry air. To the tube contg. I was added 0.05 ml. of 70% HClO₄; to the one contg. II 0.03 ml.; they were placed for 1 min. in a boiling water bath with the stoppers out. Tubes were then stoppered and hydrolysis allowed to proceed for 1 hr. The tubes were then cooled and 0.03 and 0.05 ml. of distd. H₂O added, corresponding to the vols. of added HClO₄, mixed, and centrifuged. The supernatant material was used in the chromatographic detns. Strips of chromatographic paper (4 cm. × 45 cm.) were washed with a soln. of HCl followed

(OVER)

L. P. RUKINA

by distd. H₂O to neutral pH and air dried. A sample (0.007 ml.) of the hydrolyzate was placed on a paper strip 6 cm. from the edge and distribution-sepn. accomplished by the method of Marshak and Vogel (C.A. 43, 6754c). The spots were made visible by ultraviolet illumination. The R₁s were raled, and the spots eluted with 5 ml. of 0.1N HCl (5 ml. or 1.0N HCl in the case of guanine) at 37° for 15 hrs. The centrifuged eluates were used in the quant. detn. of the bases by spectrophotometry with similar paper eluates of 0.007 ml. 1:1 mixt. of H₂O and HClO₄ as controls. The quantity of adenine in II was established as the difference between the values obtained for the eluates of the spots of adenine + uracil and uracil obtained in the acid system.   B. S. Levine
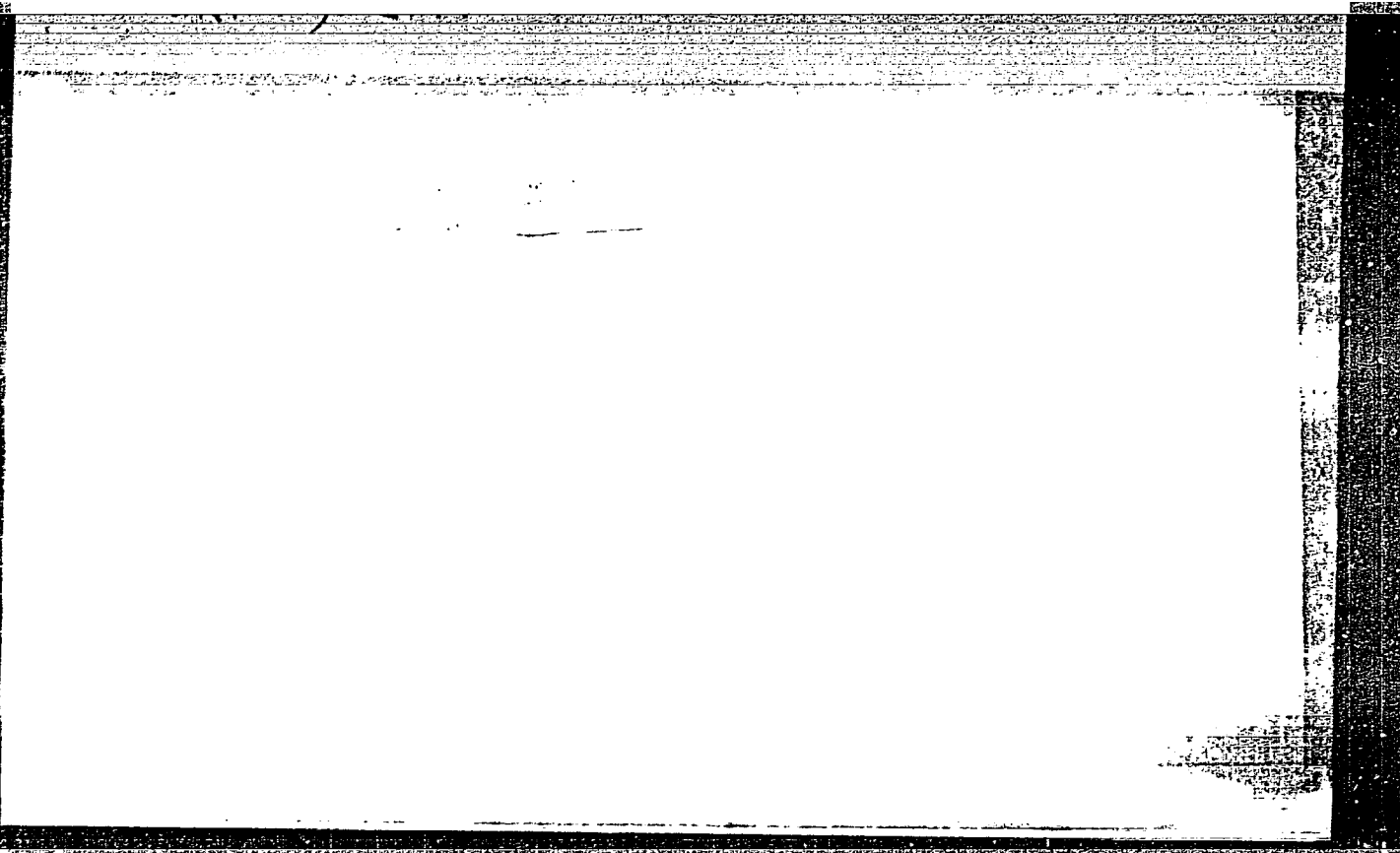
RUKINA, L. P.

Rukina, L. P.

"The characteristics of the nitrogen bases of nucleic acids in the liver of rabbits
in states of the organism associated with increased protein synthesis." Kiev State
U imeni T. G. Shevchenko. Kiev, 1956. (Dissertation For the Degree of Candidate
in Biological Sciences.)

Knizhnaya letopis'
No 21, 1956. Moscow.

Rukina, L. P.

adult rabbits. In RNA and DRNA of the liver of pregnant rabbits and of 24-day-old embryos the ratio of purine bases to P is doubled. In the liver of newborn rabbits the N compn. of DRNA is sharply changed, the ratio of adenine to P was tripled and similar ratios of guanine and of thymine were also increased. The ratio of guanine to P of RNA was quadrupled. The ratio of purine bases to P in the liver of 10-day old rabbits was lowered. In the liver of rabbits one month old the high ratio between guanine and ·P of RNA persisted; the cytosine to P ratio was increased: and the uracil to P ratio was lowered. In DRNA all 4 bases had a ratio to P similar to that in adult rabbits. The. ratio of N bases to the P of nucleic acids in the liver of rabbits 2 months old was the same as in adult rabbits. It is concluded that the processes of intensive protein synthesis. in the animal organism is accompanied by a change in the: content of nucleic acids and in their interratios and by a considerable rearrangement in their intermol. constitution, in particular in the N bases.   B. S. Levine

RUKIN, V., inzh.

Fuel-consumption meters. Avt. transp. 36 no. 7:45-46 Jl '58.

(MIRA 11:8)

(Automobiles--Fuel consumption--Measurement)

RUKINA, N.; IDEL'CHIK, Z.; FROLOVA, G.

Production of heparin. Mias. ind. SSSR 34 no.4:21-22 '63.
(MIRA 16:10)
1. Minskiy zavod endokrinnykh preparatov.

RUKINA, V. N.

RUKINA, V. N.

POLYANSKIY, A.P.; RUKINA, V.N.; GRIGOR'YEV, A.F.

Result of multiple-purpose and thorough exploitation of gas wells
in the Saratov Gas Trust. Neft.khoz. 32 no.8:85-98 Ag '54.(MLRA 7:8)
    (Saratov--Gas, Natural) (Gas, Natural--Saratov)

RUKINA, E. A.

Effect of microorganisms on the concrete of hydrotech-
nical structures. A. E. Kriss, N. G. Bakhman, E. M.
Kokhanskaya and E. A. Rukina. Microbiology (U. S.
S. R.) 9, 267-79(in English, 280-1)(1940); cf. C. A.
32, 7510¹.—The concrete of a river dam became covered
with algae by July, coinciding with the max. of "flowering"
of the water. The amt. of butyric acid-forming, ammoni-
fying, desulfurizing and denitrifying bacteria is greater
on concrete covered by algae than on other parts. Thio-
bacteria are not assocd. with algae. Aerobic cellulose
bacteria and nitrifying bacteria are restricted to certain
areas. Near the areas covered by algae the C content of
the water is lower and the O content higher (photosyn-
thesis). The amt. of sulfates is also higher than in the
middle of the river. The concrete covered by algae con-
tains less CO_2 and CaO. In bottom layers of the water the
amt. of bacteria is small or they are absent. The ground
water was of Devonian origin. Water in the tunnel of
the dam contained 85-160 mg. of Cl per l., Devonian
water contains 305 mg./l. Cl, and it is concluded that the
water contains 305 mg./l. Cl, and it is concluded that the
ground water was dild. by river water seeping through the
dam.   T. Lannes

Inst. Microbiol., ASUSSR
Central State Sci. Control Inst. im. Tarasevich, Moscow

KUZINA, E. A.

JT-1075 (Influence of microorganisms on the concrete of fluvial hydrotechnical
structures. II.) O vliianii mikroorganizmov na beton rechnykh gidrotekhnicheskikh
sooruzhenii. II.
Mikrobiologiia, 10(3): 314-322, 1941.

RUKINA, E.A.

RT-1192 (Influence of microorganisms on concrete of the marine hydrotechnical structures. III) O valiianii mikroorganizmov na beton morskikh gidrotekhnicheskikh sooruzhenii. III MIKROBIOLOGIIA, 10(5), 1941.

Rukina, V. B.

USSh/Electricity - Conductors   G-4

Abs Jour   : Ref Zhur - Fizika, No 1, 1958, 1404

Author   : Samsonov, G.V., Rukina, V.B.

Inst   : Institute of Metal Ceramic and Special Alloys, Academy of
               Sciences, Ukrainian, SSR.

Title   : Microhardness and Tantanlum Carbide in the Region Where
               they are Homogeneous.

Orig Pub   : Dopovidi AN URSR, 1957, No 3, 247-250

Abstract   : Experimental data are given on the measurement of the mi-
               crohardness and the electric resistivity of alloys in
               the system Ta-C in the region where the carbides Ta_2C and
               TaC are homogeneous. It is porposed to treat the results
               on the basis of the electron structure of the atoms Ta
               and C.

Card 1/1

KRISS, A.Ye.,RYABTSEVA,Z.S.,RUKINA,Ye.A., KIRIK, M. & GRIGOR'YEVA, T.A.

----"Fagin---Complex Preparation for the Treatment of Refractory Infected Wounds."
SO:Byul. Eksper.Biol.i Med. 1944(9).(Quoted in Referaty 1945)

ISAYEV, B.M.,KRISS, A.Ye. & RUKINA, Ye.A.

   "Some Observations on Bacterial Cytology using the Electron Microscope."
SO: Izvestia A.N. SSSR, Ser. Biol. 1945(6):678-687.

KRISS, A. E.; RUKINA, E. A.

Bacteriophage in the Sea, Doklady Akademii Nauk S.S.S.R., 1947, Vol 57, pp 833-836.

Institute of Microbiology, U.S.S.R. Academy of Sciences, Central State Scientific Controlling Institute imeni Tarasevich, Moscow.

KRISS, A. Ye.; RUKINA, E. A.

    The Nature of Bacteriophage: Part II. Pure Bacteriophage and Its Characteristics, (Institute of Microbiology, U.S.S.R. Academy of Sciences), Mikrobiologiia, 1948, Vol 17, No. 2, pp 176-188.

Institute of Microbiology, U.S.S.R. Academy of Sciences, Central State Scientific Controlling Institute imeni Tarasevich, Moscow.

RUKINA, YE. A.

FA 2/49T67

USSR/Medicine - Bacteriophage,   May/Jun 48
          Nature of
Medicine - Microorganisms

"The Nature of Bacteriophage: III, The Role of
Protective Colloids in the Preservation of the
Stability of Bacteriophage During Denaturizing
Actions," A. Ye. Kriss, Ye. A. Rukina, Inst
of Microbiol, Acad Sci USSR, Moscow

"Mikrobiol" Vol XVII, No 3

Reports series of experiments investigating the
role of albuminous component of bacteriophage.
Method adopted was to compare effects of

2/49T67

USSR/Medicine - Bacteriophage,   May/Jun 48
          Nature of (Contd)

denaturizing actions such as temperature and
dsslocation on bacteriophage purified to various
degrees. Results are shown graphically and
discussed. Submitted 12 Nov 47.

2/49T67

CA

11d

PROCESSES AND PROPERTIES INDEX

Microbiology of the Black Sea: Depth distribution of microörganisms. A. E. Kriss and E. A. Rukina. *Mikrobiologiya* 18, 141-53(1949).—Black Sea water was sampled at 5 test points, 50 km. apart and 100-170 km. off shore, at 1 m. depth, at 25 m. intervals in the O_2 zone (to 250 m.), and at 250 m. intervals in the H_2S zone (250-2000 m.).— Of 52 varieties found in the O_2 zone, 40 were aerobes and 12 were facultative anaerobes; 17 varieties (12 and 5, resp.) occurred in the planktonosphere. Of 28 varieties found in the H_2S zone, the figures were 17 and 11, with 5 (1 and 4) from the planktonosphere. Among the organisms were *Micrococcus albus*, *Micr. roseus*, *Micr. sulfureus*, *Micr. candidus*, *Sarcina flava*, *Mycobact. hyalinum*, *Bact. qualis*, *Pseudobact. furcosum*, *Pseudomonas gracilis*, *B. subtilis*, *B. amarus*, *B. angulans*, and *B. luteus*. Cell counts in the planktonosphere, O_2 zone, ranged up to 14,000/ml. In the H_2S zone, near the sea bottom (2000-2250 m.), cell counts ranged up to 513,000/ml.

Julian F. Smith

Inst. Microbiol., AS USSR
Sevastopol Biol. Station, AS USSR
Translation M-1046, 28 Nov 56

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

KRISS, A. E.; RUKINA, E. A.

    Origin of Hydrogen Sulfide in the Black Sea, (Institute of Microbiology, U.S.S.R.
Academy of Sciences, Moscow; Sevastopol Biological Station, U.S.S.R. Academy of
Sciences), Mikrobiologiia, 1949, Vol 18, No. 4, pp 332-345.

Institute of Microbiology, U.S.S.R. Academy of Sciences, Central State Scientific
Controlling Institute imeni Tarasevich, Moscow.

KRISS, A. E.; RUKINA, E. A.

Oxidation-Reduction Reactions in the Hydrogen Sulfide Zone of the Black Sea,
(Institute of Microbiology, U.S.S.R. Academy of Sciences, Moscow; Sevastopol Biological
Station, U.S.S.R. Academy of Sciences; All-Union Scientific Research Institute of
Marine Fisheries and Oceanography, Moscow), Mikrobiologiia, 1949, Vol 18, No. 5, pp 402-415.

Institute of Microbiology, U.S.S.R. Academy of Sciences, Central State Scientific
Controlling Institute imeni Tarasevich, Moscow.

KRISS, A. E.; RUKINA, E. A.; TIKHONENKO, A. A.

Biomass of Microorganisms on the Bottom of the Sulphurhydrate Region of the Black Sea, (Institute of Microbiology and the Sevastopol Biological Station, U.S.S.R. Academy of Sciences), Doklady Akademii Nauk S.S.S.R., 1950, Vol 75, No. 3, pp 453-456.

Institute of Microbiology, U.S.S.R. Academy of Sciences, Central State Scientific Controlling Institute imeni Tarasevich, Moscow.

C. A

1951

Occurrence of toxic organic compounds in the Black Sea.
A. E. Kriss, E. A. Rukina, and V. I. Biryuzova (Microbiol.
Inst. Acad. Sci., Moscow). *Mikrobiologiya* **20**, 95–102
(1951).—Bacterial decompn. of org. matter in Black Sea
mud is not inhibited by H₂S in the water. The decompn.
products include NH₃, N, CO₂, H, CH₄, and carbonates. 26
references.   Julian F. Smith

KRISS, A. Ye.; RUKINA, Ye. A.; BIRYUZOVA, V. I.

"Microzonality in the Distribution of Heterotropic Microorganisms in the Sea," Mikrobiologiya, Vol 20, No 3, 1951, pp 256-265.

Inst. of Microbiology, AS USSR.

Translation M-576, 29 Jun 55

RUKINA, Ye. A.

RUKINA, Ye.A.; NOVOZHILOVA, M.I.

Species of yeasts isolated from various depths of Black Sea. Trudy
Inst. mikrobiol. no.2:150-156 '52.   (MLRA 5:12)
        (WATER, bacteriology,
          yeasts in Black Sea)
        (YEASTS,
          in Black Sea)

RUKINA, Ye. A.

RUKINA, Ye.A.; TIKHONENKO, A.S.

Comparative evaluation of culture on slides in Petri's dishes and
method of culture on membranous ultrafilters in bacterilogical
investigation of water. Trudy Inst.mikrobiol. no.2:180-187 '52.

(MLRA 5:12)

(WATER, bacteriology,
determ., Petri's dish & membrane ultrafilter technics,
comparison)
(BACTERIA,
in water, determ., Petri's dish & membrane ultrafilter
technics, comparison)

1. KRISS, A. YE., RUKINA, YE. A., NOVOZHILOVA, M. I.

2. USSR (600)

4. Marine Biology

7. Distribution of heterotrophic microorganisms in ocean depths. Izv. AN SSSR. Ser. biol. no. 5, '52.

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

1. RUKINA, Ye.A., KRISS. A.E.

2. USSR (600)

4. Marine Biology

7. Microorganism in oceanic bottom deposits. Izv.AN SSSR Ser.biol. no. 6, 1952

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

CA

E.

Distribution of yeasts in the sea. A. R. Kriss, K. A. Rukina, and A. S. Tikhonenko. Zhur. Obshchel Biol. 13.

212-12(1952).—Yeast cells were found in the Black Sea at depths down to about 5700 ft. Horizontal and vertical distribution varied with plankton and with content of dissolved gases, especially O_2 and H_2S. Colorless, pink, and black yeasts were observed, among them Rhodotorula rufula, Torulopsis pulcherrima, and T. laurentii.   J. F. S.

RUKINA, Ye. A. and KRISS, A. Ye.'

"Biological Mass of Microorganisms and the Rate of Their Multiplication in Ocean Depths," Zhur. Obshch. Biol., 13, No.5, pp 346-62, 1952

Translation M-687, 16 Aug 55

RUKINA, Ye.A.;BIRYUZOVA, V.I.

Method of preparation of membranous ultrafilters for direct count, free from cells of microorganisms. Mikrobiologiia, Moskva 21 no.l:60-65 Jan-Feb 1952.   (CLML 22:1)

1, Institute of Microbiology, Academy of Sciences USSR, Moscow.

(A.)
RUKINA, Ye., KRISS, A. and LEBEDEVA, M.

   "Distribution of Numbers and Biological Masses of Bacteria in the Open Sea with
Increasing Distance from the Shore," DAN USSR, 76, No. 3, 1952.

KRISS, A. Ye.; LEBEDEVA, M. M.; RUKINA, YE. A.

Marine Biology

Distribution of the number and density of microorganisms in the sea in relation to distance from the shore. Dokl. AN SSSR 86, no. 3, 1952.

RUKINA, E. A.

Chemical Abst.
Vol. 48 No. 8
Apr. 25, 1954
Biological Chemistry

Purple sulfur bacteria in the hydrogen sulfide-containing depths of the Black Sea. A. E. Kriss and E. A. Rukina (Inst. Microbiol., Acad. Sci. U.S.S.R., Moscow). *Doklady Akad. Nauk S.S.S.R.* 93, 1107-10(1953).—A detailed description of specimens of purple S bacteria found in the H_2S-contg. depths of the Black Sea is given with illustrations. These form in their cultures not only red and orange pigments but also bacteriochlorophyll, whose absorption max. in MeOH is 775-70 mμ and 610-600 mμ. These failed to develop in the dark in various cultures, and it is suggested that in natural habitat the energy source might be radioactive in the sea depths since normal illumination sources are lacking.   G. M. Kosolapoff

KRISS, A.Ye.; MARKIANOVICH, Ye.M.; RUKINA, Ye.A.

New materials on the species of micro-organisms in the Black
Sea. Trudy SBS 8:220-287 '54.   (MIRA 11:1)
            (Black Sea--Bacteria)

USSR/ Biology - Microbiology

Card   : 1/1

Authors   : Kriss, A. E., Biryuzova, V. I., and Rukina, E. A.

Title   : Distribution of micro-organisms in the water mass of the Central and
                  Southern Caspian area and their mineralizing activity

Periodical   : Dokl. AN SSSR, 97, Ed. 2, 329 - 332, July 1954

Abstract   : In August-September 1952, the expedition of the All-Union Institute of
                  Oceanography and Ocean Fish Life investigated the distribution of micro-
                  organisms in the water mass of the Central and Southern ends of the
                  Caspian Sea. Their findings are described in detail. Nine references.
                  Table, drawings.

Institution   : Acad. of Sc. USSR, Institute of Microbiology

Presented by   : Academician V. N. Shaposhnikov, May 5, 1954

K UKIAA E A

USSR/Microbiology – General Microbiology.   F-1

Abs Jour   : Ref Zhur - Biol., No 4, 1958, 14619

Author   : Ierusalimskiy, N.D., Rukina, E.A.
Inst   : –
Title   : Study of Spore Formation Conditions of Butyric Acid
               Bacteria with Aid of Colloidal Wrappers.

Orig Pub   : Mikrobiologiya, 1956, 25, No 6, 649-658

Abstract   : Cultivation of Clostridium saccharobutiricum in colloidal
               wrappers immersed in a definite medium made it possible
               to trace the dependence of different spore formation sta-
               ges on changes in the medium. The accumulation of a lar-
               ge number of vegetative cells up to 3.5-7 billions was
               best on a rich nutrient medium with a yeast autolysate
               and peptone. To convert the vegetative cells into ripe
               pre-spore granulose-containing and clostridial forms, a
               favorable influence was exerted by transferring the cul-
               tures into a nitrogen-free medium with glucose and

Card 1/2

IYERUSALIMSKIY, N.D.; RUKINA, Ye.A.

Studying the conditions promoting sporulation in bacteria by the
method of continuous flow microcultures. Mikrobiologiia 28 no.6:
801-806 N-D '59.   (MIRA 13:4)

1. Institut mikrobiologii AN SSSR.
        (BACTERIA, culture)

VIRZILIN, N.N.; KUZMINA, Ye.V.

Stratigraphy and paleogeography of Cretaceous sediments in the
Fergana intermontane trough. Sov. geol. 7 no.5:7-37 My '64
(MIRA 18:2)

1. Leningradskiy gosudarstvennyy universitet.

RUKHIN, Lev Borisovich; RUKHINA, Ia.V.; KULAGINA, T.I., red.;
VODOLAGINA, S.D., tekhn.red.

[Cretaceous deposits in the Fergana Valley; stratigraphy and
lithology] Melovye otlozheniia Ferganskoi kotloviny; strati-
grafiia, litologiia. Leningrad, Izd-vo Leningr.univ., 1961.
161 p.   (MIRA 14:4)
          (Fergana—Geology, Stratigraphic)

RUKKAS, D.N., polkovnik meditsinskoy sluzhby

Planning activities for a military hospital. Voen.-med.zhur. no.7:
5-9 Jl '57.   (MIRA 11:1)
            (HOSPITALS,
               military, organiz. (Rus))
            (MEDICINE, MILITARY AND NAVAL,
               hosp.organiz. (Rus))

RUMANIA / Chemical Technology. Fats and Oils. Waxes.   H
           Soaps. Washing Agents. Flotation Reagents.

Abs Jour: Ref Zhur-Khimiya, No 22, 1958, 75329.

Author   : Rukkenshtein.
Inst   : Not given.
Title   : Steps Taken in the Technical Organization of
           Oil Factories for the Purpose of Improving the
           Technological Process.

Orig Pub: Rev. ind. aliment. prod. vegetale, 1957, 7,
          10-11.

Abstract: No abstract.

Card 1/1   50

41264

S/035/62/000/010/004/128
A001/A101

AUTHORS: Rambousek, Jan, Rukl, Antonin

TITLE: Changes in geographic latitude of the geodetic observatory
            Pecný during 1958.7 - 1959.9

PERIODICAL: Referativnyy zhurnal, Astronomiya i Geodeziya, no. 10, 1962, 13- 14,
            abstract 10A126 ("Geod. a kartogr. obzor.", 1961, v. 7, no. 10,
            190 - 195, no. 11, 208 - 212; no. 12, 225 - 227, Czech)

TEXT: Systematic observations for determining the latitude of the Pecný
Observatory near Ondrejova (CSSR) were initiated on September 2, 1958, in con-
nection with the IGY and IGC. The observations were carried out by the Horrebow-
-Talcott method according to the Poltava program with a transit instrument AP 100
manufactured at the state enterprise K. Zeiss in Jena. Altogether 1,150 latitude
pairs and 738 pairs for determining the value of a micrometer screw revolution
were processed. The accuracy of determining the mean value of the observatory
latitude amounts to $\pm$ 0".014 (rms error). On assumption that all observed lat-
itude variations were caused solely by changes in the position of the Earth's
instantaneous pole, the adjusted value of the observatory latitude is expressed
Card 1/3

Changes in geographic latitude of the...

by the formula:

$$\varphi = 49°54'56", 210 + 0", 085 \cos (18°t + 112°) -$$

$$0", 019 \sin (18°t + 112°) + 0", 237 \cos (15°t + 72°52).$$

A comparison of the coordinates of the instantaneous pole calculated from observations at the Pecný Observatory and from the data of the Latitude Service of the International Time Bureau made it possible to calculate the following value of the non-polar z-term: + 0".030cos $(18°t + 208°)$. From the comparison of the latitude mean value determined on the given day with the values obtained in each observational series of the same day, the adjusted value of diurnal latitude variation has been calculated:

$$\Delta\varphi d = +0",027\cos (t\odot+5^h,4).$$

Card 2/3

Changes in geographic latitude of the...

S/035/62/000/010/004/128
A001/A101

It is very close to that obtained by N. A. Popov at Poltava for the epoch 1939 - 1941. There are 34 references.

N. Modrinskiy

[Abstracter's note: Complete translation]

Card 3/3

RUKL, Vaclav

CZECHOSLOVAKIA/Human and Animal Physiology - Blood.

Abs Jour   : Ref Zhur - Biol., No 2, 1958, 8473

Author   : Vaclav Rukl and Zdenka Vykydalova
Inst   : _____
Title   : Observations on the Problem of the Detection and Evaluation
              of Heinz Bodies.

Orig Pub   : Pracovni lekar, 1956, 8, No 1, 41-42

Abstract   : Large quantities of phenylhydrazine were absorbed through
              the injured skin of 6 workers of a chemical factory with
              severe burns. A considerable amount of erythrocytes with
              Heinz bodies appeared in the peripheral blood. After 6
              days Heinz bodies were not detected. The decrease in the
              number of Heinz bodies was accompanied by an increase in
              the number of reticulocytes. Heinz bodies were not found
              among patients with severe burns who were not subjected to
              the effect of phenylhydrazine. The detection of Heinz bo-
              dies is of diagnostic significance.

Card 1/1

RUKL, Vaclav, MUDr.; FILIP, Bohumil, MUDr.

Unusual working hazard on polishing wheels. Pracovni lek.
7 no.3:164-165 May 55.

1. Z Odd. hygieny prace a chorob z povolani v Pardubicich.
    (INDUSTRIAL HYGIENE
        hazards in work on polishing wheels, angioneurosis)
    (OCCUPATIONAL DISEASES
        angioneurosis in workers with polishing wheels)
    (VASCULAR DISEASES, PERIPHERAL
        angioneurosis in workers with polishing wheels)

Rukl, V.

Phenylhydrazine poisoning. V. Rukl. (Pracovni Lékařství 5, 272–8 1953).—Three cases are reported in men aged 17, 20, and 27 years of whom the eldest was an alc. addict. Periods of exposure were 6 weeks, 3 and 9 months, resp. In all cases the poison entered through the skin. Following massive doses skin changes were noted after 3 hrs.; changes in the blood count developed within 14 days. In cases of continuous poisoning no conspicuous skin changes were observed, but a hemolytic anaemia occurred. That alc. potentiates the effect was confirmed; cyanosis was not found to be a typical manifestation.   L. J. Urbánek

RUKL V.   "Otrava fenylhydrazinem. Phenylhydrazine poisoning PRACOVNI LEK. (Praha)
1953, 5/5 (272-274)
(5629)

Three cases are reported. The periods of exposure were 6 weeks, 3 months and 9 months
respectively. Entry took place in all cases through the skin. The poisoning took
the form of haemolytic anaemia. Heinz's bodies were found in all cases. Alcohol
aggravates the effect of phenylhydrazine. (The paper is published by the department
of industrial hygiene in Pardubice.)   Rejsek-Prague

SO: Excerpta Medica, Vol. 8, No. 8, Sect. VI, August, 1954

RUKL, Vaclav, MUDr.,; VYKYDALOVA, Zdenka

Determination and evaluation of Heinz corpuscles. Pracovni
lek. 8 no. 1: 41-42 Jan 56.

1. Oddeleni chorob z povolani pri KUNZ v Pardubicich, prednosta
   MUDr. V. Rukl
       (ERYTHROCYTES,
         Heinz bodies in burns (Cz)).
       (BURNS, blood in,
         Heinz bodies (Cz))

LITVIN, K.I; starshiy inzhener; RUKLADZE, Ye.G.; TERENT'YEV, A.P.

Determination of barium by the method of "nascent reagents."
Nauch. trudy MGI no.27:97-113 '59.   (MIRA 14:6)
                        (Barium--Analysis)
                        (Chemical tests and reagents)

G I RUKMAN

"The Problem of Interchangeability and Accuracy in Radio Electronics"
from Annotations of Works Completed in 1955 at the State Union Sci. Res. Iust; Min.
of Radio Engineering Ind.

So: B-3,080,964

G I RUKMAN and M V BUKHAREVA

"Investigation of a Radio Engineering Method for Control of the Physi-cochemical Properties of Oxide Masses Used for the Manufacture of Cathodes" from Annotations of Works Completed in 1955 at the State Union Sci. Res. Iust; Min. of Radio Engineering Ind.

So: B-3,080,064

SOV/112-58-2-2525

Translation from: Referativnyy zhurnal, Elektrotekhnika, 1958, Nr 2, p 118 (USSR)

AUTHOR: Rukman, G. I., Tychinskiy, V. P., and Yukhvidin, Ya. A.

TITLE: A Method of Producing Power From Beta-Active Isotopes
(Ob odnom metode energeticheskogo ispol'zovaniya beta-aktivnykh izotopov)

PERIODICAL: Tr. n.-i. in-ta M-vo radiotekhnich. prom-sti SSSR, 1956,
Nr 6 (36), pp 3-8

ABSTRACT: Two types of atomic power sources based on β-radiation utilization
are known: (1) a well-insulated electrode is directly charged by β-particles;
(2) β-particle energy is transformed in a semiconductor into the energy of a
great number of relatively slow electrons. The disadvantages of the first
method — a high internal resistance of the atomic battery (on the order of hun-
dreds of megohms) — and of the second method — a low efficiency — are pointed
out. A new method is suggested, based on the charge accumulation created by
β-radiation in an electric capacitor. A charged capacitor is periodically dis-
charged by a switching device onto an impulse transformer, the secondary

Card 1/2

SOV/112-58-2-2525

A Method of Producing Power From Beta-Active Isotopes

winding of which supplies a load. A simplified scheme of an atomic battery is presented; its power and efficiency are calculated; with 10^5 curie β-source activity, with an average β-particle energy of 100-kev, and with a 100-$\mu\mu f$ capacitor, the optimum charging time that corresponds to the maximum efficiency (20.5%) is 20 microseconds, the capacitor voltage is 70 kv, and the mean output power is 13 w. With a 10:1 transformer ratio, the equivalent battery resistance is on the order of hundreds of ohms. The S^{35} sulfur isotope, with an average energy of about 100 kev and a half-life of 87.1 days, is recommended as a source of β-radiation. Bibliography: 8 items.

E.A.G.

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Rukman, G

DEVYATKOV, N.; RUKMAN, G., kand.tekhn.nauk.

Vacuum electronics. Radio no.11:31-33 N '57. (MIRA 10:10)

1. Chlen-korrespondent AN SSSR (for Devyatkov).
(Electronics)

RUBIN, G.I.; KORNILOV, A.P.; KHRYUKIN, V.S.; BRAVINSKIY, V.G.

Radio interference (phase metering) circuits used in measuring
engineering. Izm. tekh. no.4:77-79 Jl-Ag '57.   (MLRA 10:8)
                    (Interferometer)

Я. И. Хургин

Стационарные импульсные процессы в статистической радиофизике.

11 июня
(с 18 до 22 часов)

М. С. Александров

Распределение разности фаз колебаний в совокупности флюктуирующего сигнала, шумов и коррелированной шумовой помехи.

В. С. Филиппов

Некоторые теоремы конструктивной теории информации для дискретного канала с шумовой помехой.

О. С. Шилов

Определение вероятности потери сообщения в транспортированных включениях с шумами потерями.

Р. Р. Варшамов

Некоторые вопросы теории линейного кодирования.

12 июня
(с 10 до 16 часов)

Н. П. Бобров

Системы передачи дискретных сигналов с фазоразностной манипуляцией.

И. М. Гомозов

Оптимальный приемник сигналов с ЧМ с неизвестным моментом при...

Г. Н. Русаков,
Г. И. Хижняков

Слет как канал передачи информации.

Г. Н. Русаков,
Г. И. Хижняков

О квантовых флюктуациях электромагнитного поля в связи с проблемой передачи и приема информации.

А. А. Сикора

Некоторые соображения по внутренним преобразованиям «ВАЛ КОД».

12 июня
(с 18 до 22 часов)

В. И. Марюшин

Групповая передача многократных сигналов и ее преимущество.

Д. Д. Кловский

Вопросы оптимальной помехоустойчивости при замирающих сигналах.

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

82431

S/056/60/038/03/32/033
B006/B014

24.4200

AUTHORS: Braginskiy, V. B., Ivanenko, D. D., Rukman, G. I.

TITLE: The Possibility of Making Laboratory Tests for the Purpose of Measuring the Propagation Rate of Gravitational Interaction

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960, Vol. 38, No. 3, pp. 1005-1007

TEXT: New experiments for investigating gravitational waves have been suggested repeatedly (observation of gravitational radiation, verification of effects of the general relativity theory, Eötvös experiments, etc.). Measurement of the propagation rate of gravitational interaction has been suggested only in Ref. 5. The difficulties involved are discussed in detail. According to Ref. 6, the amplitude of a field at a distance R from the emitter may be expressed by $E_R = 2p_o e^{i\omega t} R^{-3} \cos\theta (1+k^2 R^2/2 - ik^3 R^3/2+...)$, where $k = \omega/c_g$, and c_g is the propagation rate of the gravitational field,

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The Possibility of Making Laboratory Tests for
the Purpose of Measuring the Propagation Rate
of Gravitational Interaction

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p_o is the dipole moment (the dipole oscillates with the frequency ω). This
holds for distances R, which are small as compared to the wavelength,
where $kR \ll 1$. Thus, measurement of E_R permits the determination of c_g.
The resulting effect is, however, extremely small ($\approx 10^{-17}$ rad if
$c_g = 3 \cdot 10^{10}$ cm/sec; now it is possible to measure phase shifts up to
10^{-6} rad). When $\omega/2\pi = 200$ cps and R = 1 m, $k^2 R^2/2 \approx 10^{-11}$. Such an
amplitude change is measurable through codification of the frequency
change of the oscillating dipole (~ 0.5 cps) and demodulation of the
change in the field amplitude along with a change in the oscillator
frequency. A piezotransmitter (Weber, Ref. 1) with an appropriate ampli-
fier could be used to measure the field strength. It should be accurate to
within 10^{-11} (constant temperature of 0.1°C). A few other technical
details are briefly described. Finally, the authors thank V. V. Migulin
and M. S. Akulin for their discussions. Mention is also made of V. P.
Kozyrev. There are 8 references, 5 of which are Soviet.

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The Possibility of Making Laboratory Tests for   82431
the Purpose of Measuring the Propagation Rate   S/056/60/038/03/32/033
of Gravitational Interaction   B006/B014

ASSOCIATION: Moskovskiy gosudarstvennyy universitet (Moscow State University)

SUBMITTED: January 3, 1960

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S/188/61/000/003/001/002
B125/B203

6, 4400

AUTHORS: Braginskiy, V. B., Rukman, G. I.

TITLE: Recording and measurement of electric signals of weak power

PERIODICAL: Moskovskiy Universitet. Vestnik. Seriya III. Fizika,
               astronomiya, no. 3, 1961, 3 - 9

TEXT: The present paper reports on the results of measurements of weak
signals by a system with long accumulation time. The longest time used
was $6 \cdot 10^3$ sec. For judging the amount of the small amplitude U_o of the
sinusoidal electric signal $U_o \sin\omega t$ with its coherent separation from the
background of the thermal noise $U_{therm}(t)$, it is necessary to evaluate

the quantities $B_i = \dfrac{2Cn}{\tau_o} \displaystyle\int_{t}^{t+\frac{\tau_o}{n}} \left[U_o \sin\omega t + U_{therm}(t) \right] \sin\omega t dt$ (2) statistically.

Here, n is the number of repetitions of measurements of B_i, $\tau_o/n = \tau$ is
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Recording and measurement of...

the time of accumulation, C a calibration factor $(\bar{B}_i = CU_o)$. This opera-
tion (2) was made by the measuring device described below. The recordable
minimum power P_{min} is determined by the half-width of the test interval
$\varepsilon(\alpha, n)$ for U_o. The theoretically attainable value of P^o_{min} is $P^o_{min} =$

$$= \frac{\varepsilon^2(\alpha, n)}{2R} = \frac{2kTt^2(\alpha, n)}{\tau(n-1)}.$$ Here, $t(\alpha, n)$ is a known coefficient dependent
on the number of repetitions of measurements n and the $(1-\alpha)$-probability
of the error. Fig. 1 shows the block diagram of the measuring device.
The power of the electric signal to be recorded was $1.35 \cdot 10^{-22} - 3.4 \cdot 10^{-20}$ w.
Measuring method and evaluation of results: Fig. 2 shows the results of
measurement of five electric signals of the powers $1.35 \cdot 10^{-22}$; $5.4 \cdot 10^{-22}$;
$2.1 \cdot 10^{-21}$; $8.5 \cdot 10^{-21}$, and $3.4 \cdot 10^{-20}$ w. These powers were determined from
the known values of voltage applied to the divider and from the known
resistances in the divider. The quantities $\Delta_i = \bar{B}_{sing} - B_o$ are plotted

on the axis of ordinates, and the effective value of the admission poten-
tial $U_o/\sqrt{2}$ on the axis of abscissas. Also given are the mean values Δ_i,

the verification intervals, and the number of repetitions of measurements

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Recording and measurement of...

n. B_{sing} is the new deflection of the galvanometer G (Fig. 1), and B_o the deflection of this instrument in "zero position". 30 sec were required to determine each value of Δ_i. The power of $8.5 \cdot 10^{-21}$ w was measured within 900 sec with an accuracy of $\pm 33 \%$. Table 1 gives the limiting values of the power $P_{min} = \dfrac{\epsilon^2(0.99)}{R} \dfrac{[v. \; oersted]^2}{[ohm]}$ which can be recorded with the dependability 0.99 at various numbers of repetitions of measurements n and the same accumulation time τ for a single measurement. P_o denotes the theoretical values of P_m at equal n, τ and α, but with $T = 293^\circ K$. The quality factor $M = P_{min}/P^o_{min}$ varies between 4.7 and 7.2. Table 2 gives the results of measurement of the signal $P = 2.4 \cdot 10^{-21}$ w for $\tau_o = 1$ hr at various times: $\tau_o/2n = 15$ sec, 30 sec, 60 sec. M can be reduced with a respective reduction of the zero drive and the fluctuations of the parameters by 30 - 40 %. By a considerable reduction of the zero drive it is also nearly possible to halve the total observation time τ_o. The factor M can altogether be reduced to values of the order 1.6 -

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2.5. With the use of amplifiers with low noise, M can be reduced to near-ly 1. The described method for recording and measuring weak electric powers and the limiting values of recorded powers attained may be general-ized for measurements of a weak mechanical signal if the transducer gain of the electromechanical pickup is sufficiently near 1. Discussion of re-sults: Under laboratory conditions it is possible to record, in $6 \cdot 10^3$ sec, signals of $4.3 \cdot 10^{-23}$ w (with a dependability of 0.99), or to measure a power of $3.4 \cdot 10^{-20}$ w with an accuracy of ± 7 % if frequency and phase of the signal are known. If a measuring instrument with $M \sim 1$ can be devel-oped, it is possible to record, within the same $6 \cdot 10^3$ sec, a signal of $9.2 \cdot 10^{-24}$ w. At temperatures up to the order of $1^{\circ}K$, the principally pos-sible separation time of the signal $(10^5 - 10^6 \text{sec})$ permits, with $M \sim 1$, the recording of a signal of $2 \cdot 10^{-27} - 2 \cdot 10^{-28}$ w (with a dependability of 0.99). These limiting values should be considered when planning finest physical experiments. The authors thank Professor A. A. Kharkevich, Professor V. V. Migulin, R. L. Stratonovich, and P. S. Land for useful discussions, as well as V. K. Martynov for assisting in the measurements. There are

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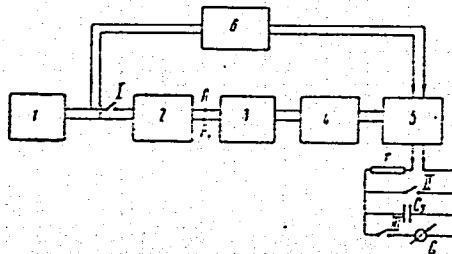
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B125/B203

2 figures, 2 tables, and 3 references: 2 Soviet-bloc and 1 non-Soviet-bloc. The reference to the English-language publication reads as follows: Weber J. Phys. Rev., 117, no. 1, 306 - 317, 1960.

ASSOCIATION: Kafedra teorii kol·baniy (Department for the Theory of Oscillations)

SUBMITTED: February 1, 1961

Fig. 1: Block diagram of the measuring device.
Legend: (1) generator ГГ-10 (ZG-10), (2) divider, (3) preamplifier, (4) 28-И (28-I) amplifier, (5) synchronous detector, (6) phase converter.

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26426
S/056/61/041/001/021/021
B 02/B23

9.9867

AUTHORS: Braginskiy, V. B., Rukman, G. I.

TITLE: The possibility of recording gravitational radiation
                 under laboratory conditions

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 41,
                 no. 1(7), 1961, 304 - 305

TEXT: It is known that the intensity of gravitational radiation occurring
as a result of excitation of elastic, longitudinal natural oscillations
in cylindrical bodies is higher than that attained by using other
radiation devices (see J. Weber, Phys. Rev. 117, 306, 1960). The
present "Letter to the Editor" discusses the possibility of recording or
measuring such gravitational radiation as has been mentioned above, the
intensity of which ranges in the order of 10^{-39} w. The consumption of
such an oscillating system (consisting of n = 2 cylinders with a cross
section S = 10^4 cm^2, oscillation amplitudes ξ = 10^{-7}, and a frequency of
10^6 cps) would amount to about 10^6 w. Recording or measuring such a small
power as 10^{-25} w is extremely difficult. The smallest measurable power is

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given by $P_{min} = 2kT\theta^2 (\alpha, m)M/\tau(m-1)$, where T is the temperature of the signal source, τ the period of time required for one measurement, m the number of measurements, $\theta(\alpha, m)$ the reliability index of the result obtained from m selected measurements, α the degree of reliability of a measurement result, and M the quality factor of the whole measuring device.

$P_{min} = 4.10^{-23}$w is possible on the condition that $\alpha = 0.990$, $T = 300^\circ K$; $\tau m = 6.10^{-3}$ sec, which corresponds to $M \approx 5$. If τm can be extended to 6.10^5 sec (about 8 hr) and $M \approx 1$, $P_{min} = 10^{-25}$w can be reached. In order to achieve this, it would be necessary that the total power emitted from the radiator be absorbed by the measuring device and converted with a 100 % efficiency. As this is not the case, the actual emitted power had to exceed 10^{-25}w by $10^{12} - 10^{15}$. In the following, an improved experimental arrangement is proposed. The radiation system consists of two groups each having n parallel cylinders. If oscillations are excited in these groups in phase, the emitted power (gravitational waves) turns out to be

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about 4 times higher than that emitted by one group. In case of excitation in phase opposition and maintaining distance and orientation of the cylinders, only the octupole radiation is conserved, which is considerably weaker than the quadrupole radiation of a single group. By displacing the oscillation phase in one group by π, radiation losses occurring in the other group can be changed synchronously. The modulation depth of the power required for excitation amounts to $2 \cdot 10^{-25}$ w for the values of S, n, ξ, φ and v_{sound}. This direct effect of power modulation is measurable. Modulation can be checked additionally by changing the mutual orientation of the cylinders. The experimental arrangement must, of course, electrostatically and acoustically be screened. When the inverse piezo-effect is applied for exciting oscillations, $BaTiO_3$ is an adequate material for cylinders. According to L. I. Bershteyn (Izv. AN SSSR, seriya fizich., 14, 145, 1950) and A. N. Malakhov, a spectral density of power (caused by amplitude fluctuations of $10^{-9} - 10^{-10}$ w/cps) equivalent to a noise temperature of $T \approx 3 \cdot 10^{13}$ ^{o}K is to be expected when the system is excited up to 10^{6} cps and the phase

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