

USSR/FRANCE AND Equipment for Chemical Industries - Control and Measuring Devices.
Automatic Regulation. K-2

Author: Andriashkin, B. I.

Institution: Scientific Research Institute of Rubber Consumers' Goods

Title: Utilization of Elektropneumatic Dispatcher Instrument in Scheduled Regulation Systems

Original
Periodical: Khim. prom-st', 1956, No 1, 42-44

Abstract: Description of a modernized system of automatic regulation of vulcanization of rubber footwear in pots under pressure, developed by the Scientific Research Institute of Rubber Consumers' Goods. The system ensures the reaching of definite temperature values within set duration intervals. With optimal values of the process parameters parallel operation of KEP and an automatically equilibrated bridge ensure minimum duration of performance of vulcanization cycle operations. In cyclic operations analogous to those of vulcanization of rubber

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101510001-

R/014/63/000/002/001/001

AUTHOR: Androescu, D. St., Lt. Col., Engineer

TITLE: The use of radio location in the teleguidance of rockets. Part 2

PERIODICAL: Viata Militara, no. 2, 1963, 31.

TEXT: An "Answers to Readers' Questions" article discussing teleguidance by means of radio location beams. The guidance of a rocket by means of radio location beams can be achieved either by radio "sighting" or by keeping the rocket within a zone of equal signal. Radio "sighting" means putting the rocket within the beam of a radio locator and transmitting orders to keep it within this beam; thus the rocket is not really led by the beam but rather uses it as a reference line while it moves on its trajectory. The two methods possible in this system are: 1. Leading toward the expected position where the target will meet the rocket, as calculated on the basis of the data of the rocket and the coordinates of the target as determined with the aid of other radio location stations. The calculating installations continuously feed corrections to the radio locator so that its beam will continuously intercept the path of the target. 2. Keeping the rocket on the path of the radio locator, which is following the target. — Keeping the rocket within a zone of equal signal differs from the above in that the orders for the correction of the trajectory

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The use of radio

originate within the rocket itself, on a special receptor to signal deviations from the guidance beam. This method allows the use of the same beam for more than one rocket, which is not the case for the "sighting" methods, and thus permits the simultaneous launching of many rockets toward the same target.

Includes 4 diagrams.

Card 2 of 2

R/014/63/000/003/001/001

AUTHOR: Andreev, D. St., Lt. Col. Engineer

TITLE: Automatic guidance and combined guidance systems for rockets. (Answer to Readers).

PERIODICAL: Voennoye Delo, no. 3, 1963, 31.

TEXT: Briefly outlines the operation of automatic rocket guidance systems, emphasizing the requirement that the target must stand out clearly from its environment. This type of guidance system has an element sensitive to heat, sound, electromagnetic or light impulses which, together with the devices processing the information, form the target coordinator. There are 4 variants of automatic guidance systems: active systems, where a small radio locator is installed in the front of the rocket and guides it to the target; passive systems, using one of the above stimuli (heat, sound etc.) radiated by the target to guide the rocket; semi-active systems, which use "illumination" of the target by an external source on a ship or plane; and semi-passive systems, which are like the passive ones but utilize "illumination" originating with the party that launched the target rather than signals emitted by the target itself. All automatic guidance systems cannot analyze data and thus are easily "cheated" by false targets or disturbances. Therefore, combined systems are often used,

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R/014/63/000/003/001/001

Automatic guidance and

in particular autonomous and automatic guidance systems, especially suited for land-to-land rockets, and teleguidance and automatic guidance systems, especially suited for air-to-land rockets.

Includes 4 diagrams showing active guidance systems and 2 illustrating passive systems.

Card 2 of 2

AID Nr. 987-13 11 June

ANDREESCU, D.

AUTOMATIC LUNAR PROBE (ROMANIA)

Andrescu, D. Știința și tehnică, no. 3, Mar 1963, 24-26.

R/002/63/000/003/002/002

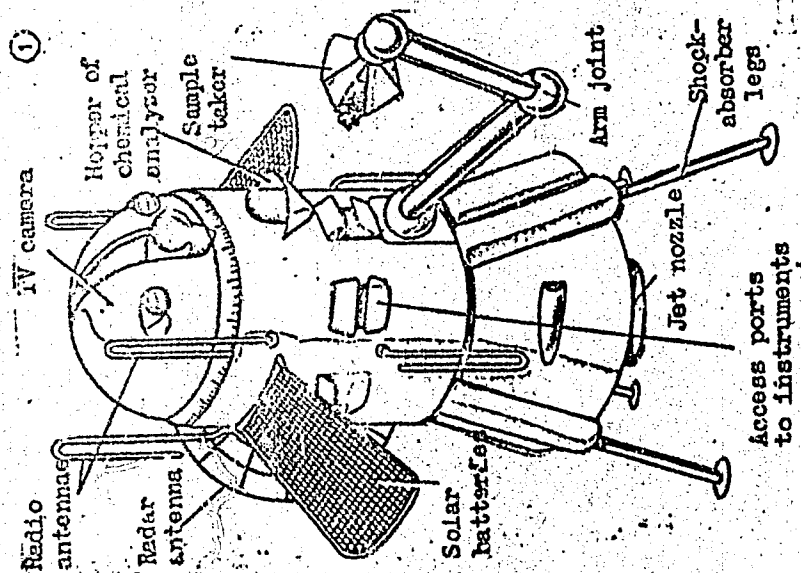
The possible design of an automatic lunar probe which could be launched directly from earth or from a heavy earth satellite is shown in the illustration. For purposes of observation the TV camera would rotate 360° in a horizontal plane and -40° to +90° in a vertical plane. Since aerodynamic maneuvers could not be used for a landing on the moon, deceleration would be accomplished by rocket motors. The landing sequence is described. At a predetermined distance (100 to 200 km) from the lunar surface the probe's radio altimeter would activate the gas attitude jets located on the periphery of the probe. The flight velocity of 2500 to 3000 m/sec would be reduced to 300 to 400 m/sec by a solid-fuel retro rocket which would be jettisoned after burn out. A few kilometers from the moon a liquid-fuel retro rocket would be ignited which would cut off within several tens of meters from the surface of the moon to prevent possible rousing of the dust surface. The probe could drop 60 m with a velocity not exceeding 14 m/sec and land safely on its metal legs.

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AII Nr. 987-13 11 June

AUTOMATIC LUNAR PROBE (HUMANLA) [Cont'd]

R/002/6.1/000/003/002/002



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ANDREESCU, D. St., ing.

Lunar vehicles. St si Teh Buc 15 no.9:30-32 S '63

1. Committee on Astronautics, Rumanian Academy.

R/0002/64/000/005/0041/0043

ACCESSION NR: AP4039636

AUTHOR: Androescu, Dumitru (Engineer, Member)

TITLE: When will man reach the moon?

SOURCE: Stiinta si tehnica, no. 5, 1964, 41-43

TOPIC TAGS: moon spaceship, manned flight, earth orbit, space station, space assembly, radiation belt, space fuel, moon landing, protective devices, earth satellite, moon satellite, astronaut, astronautics, moon environment, space travel, spaceship weight

ABSTRACT: The author discusses the equipment needed and some of the problems to be overcome for a manned trip to the moon. Since a moon spaceship would have to accelerate, maneuver, and decelerate several times during the round trip, the weight of the fuel it would have to carry initially would make the ship too heavy -- over 15,000 tons -- to launch from earth. The solution is to assemble the spaceship from components launched separately into an earth orbit and joined in space. The round trip should take about ten days, and three astronauts would be needed to man the ship. A spaceship of this type, with a 3-man crew, would need 40.8 kilograms of

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ACCESSION NR: AP4039636

food, 95 kilograms of water, 47.5 kilograms of oxygen, and about 470 kilograms of air conditioning and power generating equipment. In addition, there would be 227 kilograms of other equipment, 454 kilograms of instruments and gauges, radiation and meteor protection devices, etc. According to this project, total weight of the spaceship, not including motors and fuel reserves, would be 13.4 tons. Other projects, which call for a landing on the moon, estimate the total weight at between 50 and 70 tons. One of the main problems with regard to a moon flight is the radiation belt. This is now being studied by means of the two Soviet satellites, Elektron 1 and Elektron 2, placed in orbit on 30 January 1964. Another problem is that of the moon's environment. The American satellite, Ranger 6, also launched on 30 January 1964, was supposed to take photographs while descending for a landing on the moon. Because of a malfunction, however, none of the six cameras aboard the satellite worked. The sending of other measuring instruments to the moon is being contemplated. It is now impossible to say when man will first land on the moon. According to a recent statement of the Soviet professor G. Pokrovski, "the next step in the development of astronautics will be a manned landing on the moon (after low-altitude flights around the moon and return trips to the earth). This must be preceded by a detailed study -- by means of automatic devices landed on the moon by

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rockets -- of all conditions necessary to man's existence on the moon's surface. All this will, no doubt, take much time." Yuri Gagarin, Soviet astronaut, said the same thing at the 14th Congress of the International Federation of Astronautics in Paris. Orig. art. has: 2 figures.

ASSOCIATION: Comisia de astronautica a Academiei R.P.R. (Astronautic Commission of the R.P.R. Academy)

SUBMITTED: 00

DATE ACQ: 12Jun64

ENCL: 01

SUB CODE: SV

NO REF SOV: 000

OTHER: 000

Card 3/4

ACCESSION NR: AP4039636

ENCLOSURE: 01

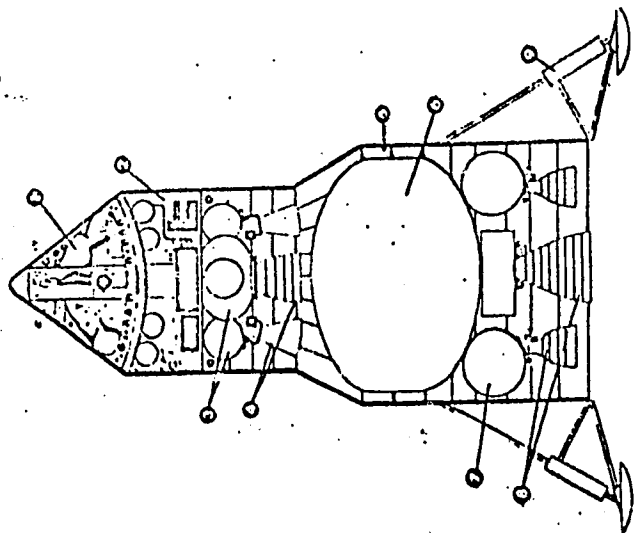


Figure 1. Simplified section of a moon spaceship (project):
1 - crew's quarters; 2 - equipment;
3 - fuel; 4 - launching motors for return trip from moon; 5 - moon landing stage; 6 - hydrogen tank;
7 - liquid oxygen; 8 - moon landing motors; 9 - supports.

Cord 4/4

ANDREESCU, E.; PEIU, M.; FILIPESCU, C.

Additions to the knowledge of the biology and destruction of curculio
Sciaphobus Scapalidus, Gyll. P. 239.

LESCRARI STIINTIFICE. (Institutul Agronomic "Profesor Ion Ionescu de la Brad,"
Iasi) Bucuresti, Rumania.

Monthly list of East European Accessions (EEAI) LC, Vol. 8, no. 8, Aug. 1959

Uncl.

ANDREESCU, D. St.

SURNAME, Given Names

Country: Rumania

Academic Degrees: -Engineer-

Affiliation: -not given-

Source: Bucharest, Stiinta si Tehnica, Vol XIII, No 12, Dec 1961, pp 8-9.

Data: "The Construction of Interplanetary Stations."

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3543

R/002/62/000/004/004/004
D272/D304

64700 (1031)

AUTHOR: Andreescu, D. St., Engineer

TITLE: Interception

PERIODICAL: Știința și tehnica, no. 4, 1962, 30-33

TEXT: Characteristics of anti-aircraft ("ground-to-air") rockets and their installations are first described, the author mentioning that they consist generally of two stages, being fuelled with solid or liquid propellants. After describing the characteristics of the target of the anti-missile, i.e. the low "reflection surface", high speed, and high protection of the incoming rocket warhead, it is shown that an effective destruction of the warhead must be preceded by early detection of the launching itself, characterized by ionized gas clouds and heat evolved by the motors. A simplified variant of an anti-missile defence system (Fig. 2) consists essentially of (1) a radiolocation station to detect the missile at a distance of 4500-5000 km, in a sector with an arc of 45° , (2) a second radiolocation station for precise determination of direction and character

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D272/D304

Interception

of the target missile, sending first data to an electronic computer. (3) and (4) escorting radiolocation stations for localization of the ballistic trajectory parameters from a distance of 1500-2000 km, which are transmitted directly to the electronic computing complex (c) which transmits the results to the launching guidance installation (6), the data obtained at the radiolocation station for the antimissile rockets (5) being compared in the same complex with further data from (6) in order to provide eventual correction of the intercept trajectory. The difficulties in destroying the protected warhead are then discussed, showing that a well protected warhead can pass through a thermonuclear sphere of explosion when the latter's diameter is less than 1 km, due to the high thermal resistance of the protective layer and the short duration of 0.15 - 0.2 sec in traversing. A thermonuclear warhead of 20,000 TNT would destroy another warhead only if at a distance of less than 300 m from the explosion epicenter. After mentioning in addition the "evasion" possibilities - masking the launching, confusing the radiolocation stations by escorting rocket fragments or transmitters - the achievements of Soviet scientists in developing an improved anti-missile rocket and an invulnerable rocket

Car. 2/3

ANDRESCU, Fl., dr.; MARINESCU, H., dr.

Considerations on a case of the trisomy 13-15 syndrome (Patau syndrome). *Pediatria (Bucur)* 14 no.1:39-43 Jan-F'65.

1. Lucrare efectuata in Spitalul unificat din Gherbina, Sectia maternitate.

Andrescu, Gh.

H-23

RUMANIA / Chemical Technology, Chemical Products and Their
Application, Part 3. - Treatment of Natural Gases and
Mineral Oil, Motor and Rocket Fuel, Lubricants.

Abs Jour : Ref Zhur - Khim., No 14, 1958, No 48061.

Author : Cl. Speranta, Gh. Andrescu.

Inst : -

Title : Upon the Improvement of Some Processes of Catalytic Alkylat-
ion.

Orig Pub : Petrol si gaze, 1956, 1956, 7, No 12, 639 - 646.

Abstract : The improvement of the sulfuric acid process of olefin
alkylation by isobutene (I) in modern installations con-
sists in cooling the mixture after contacting and separa-
ting H_2SO_4 in order to return it into the reactor, in
consequence of which a great excess of I is produced for
recirculation without supplying it to a special separating
column. The excessive I rises the alkylate yield, decreases

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CIA-RDP86-00513R000101510001-2

RUMANIA / Chemical Technology, Chemical Products and Their
Application, Part 3. - Treatment of Natural Gases and
Mineral Oil, Motor and Rocket Fuel, Lubricants.

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Abs Jour : Ref Zhur - Khim., No 14, 1958, No 48061.

the H_2SO_4 consumption, and improves the product quality.
The working volume of the reactor is 21 cub.m, the area
of the heat interchange is 386 sq.m, the output is 165 to
180 cub.m daily; the H_2SO_4 concentration is 90 to 97%, its
consumption is 25.2 g per liter of alkylate, i.e., 4 times
lower than in a regular installation. The temperature of
end of boiling of the produced alkylate is 206° , its ac-
tane number (ON) is 110, the purity degree is 95 to 98%.
A modern installation for the catalytic alkylation of but-
ylenes in the presence of HF is described. The contact
reactors are of the horizontal type, which renders the
stirring easier, makes the installation cheaper and
decreases the amount of deposits on stirrer shaft. The HF

Card 2/3

FILOTTI, Tr.; ANDREESCU, Gh.; CONSTANTINESCU, Eugenia; BUCUR, V.

Platinum catalysts for gasoline reforming. Petrol se gaze 13 no.3:129-134
Mr. '62

1. Institutul Petrochim.

ANDRESCU, I.

ANDRESCU, I; UGIROWITZ, R.; CHROSTKIN, M.

Testing of Transmission Belts. Pt. 1.

8. 13 (INDUSTRIA MOCARA) (Bucuresti, Rumania) Vol. 5, no. 1, Jan. 1978

33: Monthly Index of East European Accessions (MIEA) 10 Vol. 7, No. 1, 1978

ANDREESCU, M.

KAZHAL, N. [Caşal, N.]; DANIYELESKU, G.; ANDREYESKU, M.

Comparative study of the antigen structure of the liver of patients with epidemic hepatitis and healthy subjects. Vop. virus. 5 no. 6:691-695 N-D '60. (MIRA 14:4)

1. Institut inframikrobiologii Rumynskoy akademii nauk, Bukharest.
(HEPATITIS, INFECTIOUS) (ALLERGY) (LIVER)

ATHANASIU, Pierette; CAJAL, N.; IALOMITEANU, M.; ANDREESCU, M.; SFERDIAN, I.

Comparative studies of the ~~hepatic~~ and ~~muscular~~ serous aldolase in epidemic hepatitis. Studii cerc inframicrobiol Special issue-supplement to 12:275-299 '61.

1. Institutul de inframicrobiologie al Academiei R.P.R. 2. Membru al Comitetului de redactie si redactor responsabil adjunct, "Studii si cercetari de inframicrobiologie" (for Calaj).

(HEPATITIS, INFECTIOUS) (ALDOASE)

ATHANASIU, Pierrette; CAJAL, N., IALOMITEANU, M.; ANDRICESCU, M.; SFERDIAN, I.

Comparative investigations on hepatic and muscular serum aldolase in epidemic hepatitis. Rev. sci. med. 6 no.3/4:137-140 '61.

(HEPATITIS, INFECTIOUS blood) (ALDOLASE blood)
(MUSCLES chemistry) (LIVER chemistry)

PORTOCALA, R.; ANDREESCU, M.

Reproduction of influenza virus with the aid of viral ribonucleic acid. V. Influence of the quality of the phenol on the ribonucleic acid activity. Stud. cercet. inframicrobiol. Buc.r. 12 no.1:77-81 '61.

1. Comunicare prezentata la Institutul de inframicrobiologie al Academiei R.P.R.
(INFLUENZA VIRUSES culture) (RIBONUCLEIC ACID pharmacology)
(PHENOLS pharmacology)

ATHANASIU, Pierrette; ANDREESCU, M.; IALOMITEANU, M.

The study of serotonin in epidemic hepatitis. Stud. cercet. infra-
microbiol. Bucur. 12 no.1:129-135 '61.

(HEPATITIS, INFECTIOUS metabolism)

(SEROTONIN metabolism)

CAJAL, N.; BURDUCU, O.; ANDRESCU, M.

Study of the action of radiophosphorus (P-32) and radioiodine (I-131) on serum properdin values. Stud. cercet. infimicrobiol 12 no.3:297-301 '61.

(PROPERDIN) (PHOSPHORUS radioactive)
(IODINE radioactive)

FATREX, M.; ATANASIU, M.; ANDRESCU, M.; POPU, Vera; RUTTER, G.

Cellular and biological and rational changes in white mice during anti-inflammatory immunization. 7. The biochemical and biochemical study of nucleic acid changes in the pulmonary tissue. Stud. cercet. infimicrobiol. 12:221-224 '61.

2. Cellular and biological changes in white mice during anti-inflammatory immunization. 7. The biochemical and biochemical study of nucleic acid changes in the pulmonary tissue. Stud. cercet. infimicrobiol. 12:221-224 '61.

(INFLAMMATORY immunology)
(NUCLEIC ACIDS chemistry)

(NUCLEIC ACIDS chemistry)
(LUNG chemistry)

PETRESCU, Al.; ATHANASIU, Pierrette; ANDREESCU, M.; BOERU, Vera; RUTNER, G.

Morphofunctional changes in the cells of white mice during influenza immunisation. I. Histochemical and biochemical investigation of the nucleic acids and nucleases in the lung tissue. Rev. sci. med. 7 no.3/4: 185-188 '62.

(INFLUENZA) (VACCINATION) (LUNG) (NUCLEIC ACIDS)
(RIBONUCLEASE) (DESOXYRIBONUCLEASE)

ROMANIA

ANDRESCU, M., MD.

— Bucharest, Sanitatea, No 12, Dec 63, pp 12-13

"Tobacco Smoking."

PETRESCU, Al.; ATHANASIU, Pierrette;; ANDRESCU, M.;
BOERU, Vera; RUTTER, G.

Morphological and cytochemical changes in white mice during
immunization against influenza. Rev. sci. med. 8 no. 1/2:83-85
1; 5

(INFLUENZA VACCINE) (LUNG)

RUMANIA

M. IALOMITEANU, P. ATHANASIU and M. ANDREESCU, Institute of Inframicrobiology of Rumanian Academy of Sciences (Institutul de Inframicrobiologie al Academiei RPR,) and Hospital for Infectious Diseases (Spitalul de boli contagioase,) "V. Babes," Bucharest.

"New Liver Function Tests in Infectious Hepatitis. Part 1. New Test Determining Tryptophane Metabolism in Infectious Hepatitis "

Bucharest, Studii si cercetari de inframicrobiologie, Vol 14, No 3, 1963; pp 349-354.

Abstract [English summary modified]: Following previous studies in which authors found increased urinary excretion of 5-hydroxyindoleacetic acid in infectious hepatitis, they now gave 500 mg. serotonin to 60 patients with infectious hepatitis, 5 with chronic hepatitis, 5 with other hepatic diseases and 20 healthy control subjects, measuring 5-HIAA in urine 4 to 28 hours after dose: values increased 50 to 150 mg. in inf. hep., other hepatoses up to 60, normal persons 10 to 50. This is proposed as functional and prognostic test. Structural formulae, graph; 4 Rumanian and 4 Western references.

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N. ANDREESCU

Distr: 4E2c

Influence of the degree of sintering on the properties of mixed nickel ferrite. ¹⁸ Elena I. Busch, Gh. Stancu, and N. Andrescu. *Rev. met., Acad. rep. populare Romaniae* 3, No. 8, 70-80 (1958) (in German).—The properties of sintered ferrites are closely related to the temp. of heat treatment, which, in turn, detrs. a definite degree of sintering. By varying the degree of sintering, a particular ferrite of given compn. may be given different magnetic properties. Sintering at temps. lower than the optimum causes a rise in the porosity and a deterioration in magnetic properties. Tables are presented of magnetic permeability, specific resistance, and μ , resulting from different sintering temps. for ferrites of the following compns. (wt. %): 15 Ni, 35 ZnO, 50 Fe₂O₃; 25 NiO, 30 ZnO, 35 Fe₂O₃, and 10 CuO, 4 NiO, 30 ZnO 60 Fe₂O₃.
E. M. Sherwood.

LABUSCA, E.; ANDREESCU, N.; TEODORESCU, I.; MIRION, I.

Contributions to the identification of the causes determining the
appearance of rectangular cycles of hysteresis in ferrites. Studii
cerc fiz 11 no.3:765-778 '60. (EEAI 10:2)
(Ferrites) (Hysteresis)

ANDREESCU, N.

A new method of measuring the permeability and permittivity in
high frequencies. Studii cerc fiz 11 no.4:1048-1054 '60.
(EEAI 10:8)

1. Institutul de fizica atomica, Bucuresti.
(Electric fields) (Permeability) (Dielectric constants)
(Electric measurements)

24136

R/005/61/000/004/001/001
D015/D105

9.4300

AUTHOR: Andreescu, N., Engineer

TITLE: A simplified method of measuring permeability and permittivity at high frequency

PERIODICAL: Telecommunicatii, no. 4, 1961, 176-181

TEXT: The article describes a method of measuring the complex permeability and permittivity of ferrites at frequencies ranging from 200 to 5,000 Mc. This method is based on the use of the coaxial measuring standard line and is of great help in establishing the technological processes necessary for studying the properties of ferrites within the above-mentioned frequency intervals. This paper deals only with μ and ϵ of the sample, because these are the results of measurements, and because they can be used for making the necessary corrections. The stationary-wave method permits the determination of μ and ϵ , if the characteristic impedance, Z , of the test section of the coaxial line, and the wave propagation complex constant, γ , within the section are known. This calculation is obtained from the

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A simplified method of measuring

equations:

$$z = \sqrt{\frac{\mu}{\epsilon}} \quad (4)$$

$$\gamma = j \frac{2\pi}{\lambda_0} \sqrt{\mu\epsilon}$$

in which z is the relative characteristic impedance of the line section,
i.e.

$$z = \frac{Z}{Z_0} \quad (4')$$

where Z_0 is the characteristic impedance of the no-load coaxial line
and λ_0 , the wave length in the no-load line. For the determination of

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A simplified method of measuring

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z and γ , it is necessary to accomplish two, or even three measurements of the input impedance, for two or three different positions of the sample in the measuring line. z and γ may then be determined according to one of the following methods: (1) the method of measuring the input impedance, the sample being in the no-load and short-circuited condition, worked out by J.B. Birks [Ref 5: Proc. Phys. Soc. 60, 1948, 282]; (2) the method of the three reactive loads, recommended by I. N. Kollí and K. M. Polivanov [Ref 6: Izv. Ak. Nauk USSR, 1954, no. 3]; and (3) the method of the two identical samples, worked out by E. B. Zaltsman [Ref 7: Izmeritelnaya tekhnika, 1957, no. 2]. Since these methods are fairly complicated, the author suggests measuring the input impedance inside the section which disconnects the sample from the rest of the line when this is short-circuited even beyond the sample, as shown in Fig. 1a, and measuring the input impedance within that section, when the line is short-circuited at a distance g , subsequent to the sample, as shown in Fig. 1b. Thus, a single sample of the material studied has to be used and the two positions to be measured are easily achieved since g is constant over a large frequency interval. The input impedance of the condition shown in Fig. 1a is given

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A simplified method of measuring

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by

$$Z_A = Z \text{th} \gamma d, \quad (5)$$

in which d is the thickness of the sample. Dividing by Z_0 , the author obtains the reduced impedances expressed by:

$$z_A = \frac{Z_A}{Z_0} = z \text{th} \gamma d. \quad (5')$$

He then establishes the expression of the impedances at points A and B and finally derives the equation

$$\text{th} \gamma d = \frac{z_A}{z} = \sqrt{\frac{z_A}{z_B} \cdot \frac{z_A - z_B + j \text{tg} \beta_0 \delta}{j \text{tg} \beta_0 \delta}} \quad (11)$$

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A simplified method of measuring

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Knowing $\text{th } \gamma d$, γ can be determined by solving the transcendental equation $\text{th } \gamma d = T e^{j\epsilon}$. Having determined γ and z , μ and ϵ can finally be determined by using equations (4) and (5). However, this calculation is very difficult and should be simplified. Having accomplished the simplifications, the equation (11) may be expressed by

$$\text{th } \gamma d \approx \sqrt{\frac{a_1 - ja_2}{b_1 - jb_2} \cdot \frac{a_1 - b_1 + j(b_2 - a_2 + g)}{jg}}, \quad (11').$$

μ and ϵ may now be derived from the equations, (4) and (5') being expressed by

$$\mu \approx \frac{\gamma(a_1 - ja_2)}{j \text{th } \gamma d} \quad (31')$$

and

$$\epsilon \approx \frac{\gamma \text{th } \gamma d}{j\beta_0^2 (a - ja_2)}. \quad (33')$$

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A simplified method of measuring

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D015/D105

The values a_1 , b_1 , a_2 , b_2 and g being known, one may calculate

$\text{th } \gamma d = T e^{j\gamma}$. From here, the determination of γd is made by a graph shown in Fig. 2, which has T in the ordinate and γ in the abscissa, and in which the curves $\rho = \text{ct.}$ and $\theta = \text{ct.}$, are represented. Having now the values of γ , the values of μ and ϵ may be determined by using the equations (31') and (33'). If $|\gamma d| \ll 1$, μ and ϵ are given by

$$\mu \approx \frac{a_1 - ja_2}{jd} = -\frac{a_2}{d} - j \frac{a_1}{d} \quad (31'')$$

and

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A simplified method of measuring

replaced by a determination at a constant distance g for a wide field of frequencies. Compared to the Kolli and Folivanov method, the author's method requires only simple calculations, while compared to the Zaltsman method the method described requires only a single sample of the material to be tested. The measuring accuracy is increased by the fact that a direct measuring of the position of the voltage minimum is avoided. There are 5 figures and 10 references: 10 Soviet-bloc and 2 non-Soviet-bloc. The two references to English-language publications read as follows: J. B. Birks, Proc. Phys. Soc., 60, 1948, 282; and Tables of inverse hyperbolic functions, Harvard University Press, Cambridge, Massachusetts, 1949.

Card 8/10

S/058/63/000/002/051/070
A160/A101

AUTHORS: Lăbușcă, E., Andreescu, N., Teodorescu, I.

TITLE: An electron-microscopic study of the structure of ferrites with a great permeability and a study of some of their specific properties

PERIODICAL: Referativnyy zhurnal, Fizika, no. 2, 1963, 84, abstract 2563
("Rev. phys. Acad. RPR", no. 2, 1962, v. 7, 261 - 267)

TEXT: The effect of the duration of sintering of mixed Fe_2O_3 - MnO - MgO - ZnO ferrites on their structure and properties was studied. A comparison of the ferrites' macrostructures (obtained by the electron-microscopic method) with their magnetic properties reveals that the greatest permeability possess those ferrites which have the maximum structure homogeneity. In such ferrites, the maximum permeability increases with an increase of the sintering duration. A change of the maximum induction B_m is only observed at the first sintering stage until a stable ferrite structure develops, and then the magnitude B_m remains constant. The field corresponding to the maximum permeability decreases with an increase of the sintering duration. Investigated were also the temperature de-

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An electron-microscopic study of the...

S/058/63/000/002/051/070
A160/A101

pendence of permeability, its dependence on the field, and the spectra of the complex magnetic permeability in the frequency range of up to 300 kilohertz.

L. Sobolev

[Abstracter's note: Complete translation]

Card 2/2

ANDREESCU N.

S/196/63/000/002/006/026
E194/E155

AUTHORS: Andreyesku, N., and Motsok, X.

TITLE: The influence of irradiation in the nuclear reactor of the Bucharest Institute of Atomic Physics on the magnetic properties of certain ferrites used in automatic devices

PERIODICAL: Referativnyy zhurnal, Elektrotehnika i energetika, no.2, 1963, 4, abstract 2 B 27. (Rev. phys. RPR, v.7, no.2, 1962, 183-191)

TEXT: The influence of irradiation on the magnetic characteristics (H_M , B_B , H_S , B_r/B_M and μ_{BH}) of ferrites with a rectangular hysteresis loop and ferrites of high permeability prepared in the Institute of Atomic Physics was investigated. Toroidal cores of the following analysis were irradiated: $Fe_2O_3 \cdot ZnO \cdot Me_1O \cdot Me_2O$, where Me_1 and Me_2 are ions of Mn, Mg, Ni. The samples were irradiated in a neutron flux with an intensity of 6×10^{12} neutrons/cm².sec. The magnetic properties of ferrites
Card 1/2

The influence of irradiation in ...

S/196/63/000/002/006/026
E194/E155

with a rectangular hysteresis loop were little changed by an irradiation dose of $(1.7 - 2.6) \times 10^{18}$ neutrons/cm². In ferrites of high H_s and very rectangular permeability curves, the permeability falls and the curve is somewhat less rectangular after irradiation. Test results on ferrites of high permeability show that the maximum hysteresis loop is little changed by neutron irradiation although the initial permeability and the permeability in weak fields are diminished. The diminution is associated with changes in the grain structure of the ferrites, perhaps due to dislocation or to defects in the crystal lattice. Changes in the rectangularity after irradiation may be due to reduction in the degree of uniformity caused by radiation.

5 figures, 6 references.

ASSOCIATION: In-t atomnoy fiziki, Bukharest, RNR
(Institute of Atomic Physics, Bucharest, RPR)

[Abstractor's note: Complete translation.]

Card 2/2

LABUSCA, El.; ALECU, M.; ANDREESCU, N.; MOTOC, C.

Wear of the refractory lining in blast furnaces studied with the aid of radioisotopes. Studii cerc metalurgie 7 no.4:465-487 '62.

③
RUMANIA

LABUSCA, Elena; ANDRESCU, Nicolae; MOTOC, Cornelia

Done during the Institute of Atomic Physics of the Rumanian
Academy (Institutul de fizica atomica al Academiei R.P.R.)
- (For all).

Bucharest, Studii si Cercetari de Metalurgie, No 2, 1963,
pp 215-229

"The Effects of Irradiation With Neutrons On Structures
and Magnetic Properties of Manganese and Lithium
Ferrites of High Permeability."

(3)

ANDREESCU, N., ing.

A simplified method for permeability and permittivity
measurements at high frequencies. Telecommunicatii 5 no. 4:
176-181 J1-Ag '61.

LABUSCA, Elena; ANDREESCU, N.; MOTOC, C.

Effects o neutron irradiation on the magnetic structure and
properties of manganese ferrites and lithium with high permeability.
Rev Roum metalurg 8 no. 2:183-194 '63.

LEBUSHKE, E. [Labusca, E.]; ALEKU, M. [Alec, M.]; ANDREESKU, N. [Andrescu, N.]
MOTSOK, K. [Motco, C.]

Study on the wear of the refractory lining of blast furnaces with
the aid of radioisotopes. Rev Roum metalurg 8 no. 2:251-263 '63.

ANDREESCU, P.

Organization of help in heart and vascular diseases. p. 21.
(Ocrotirea Sanatatii in R.P.R.; Vol. 7, No. 1. Jan/Mar. 1957. Bucuresti,
Rumania)

SO: Monthly List of East European Accessions (EKAL) Lc. Vol. 6, No. 8, Aug 1957. Uncl.

ANDREESCU, P.dr.

Social importance of heart diseases and organization of their prevention. Med. intern., Bucur. 11 no.5:652-664 '60.

1. Lucrare efectuata la ASCAR (Centrul de Asistenta a cardiacilor)
(HEART DISEASES, prev. & control)

ZAPAN, M.; CONSTANTINESCU, M.; COSOCARU, Z.; ANDREESCU, V.; TITIRICA, G.

Method for the continuous determination of water softening
by ion exchangers. Rev chimie Min petr 15 no.9:553-555 S '64.

1. Chair of General Chemistry, Institute for Petroleum, Gas
and Geology, Bucharest.

ZAPAN, M.; NARTI, D.; VRABIESCU, E.; ANDREESCU, V.; COSOCARU, Z.

The Techirghiol mud as an ion exchanger. Rev chimie Min petr 15 no.
10:637-640 0 '64.

1. Chair of General Chemistry, Institute for Petroleum, Gas and
Geology, Bucharest.

1-1/2/55-1-5	ENG(1)/ENT(1)/EXP(1)/EPR(1)/EPR(1)/ENG(1)/EPR/EPR(5)	1-1/2/55
ENG/TH/EN/ME		4
ACCESSION NR/	05012409	RD/0003/6/015/009/0553/0555

AUTSURI, Zaim, M. SOST'YANOV, N. I. ZORICH, E. I. ANDREYEV, V. TITICA, G.

FIG. 2. Method for the continuous determination of water softening by means of ion chromatograph.

SOURCE: REVISTA DE OBRAS, V. 15, NO. 9, 1964, 553-555.

20210 TACS: electrochemistry; ion exchange

Abstract [Authors' English summary modified]: The authors describe an original technique for the direct following of *in situ* softening and similar reactions by means of measurements of the difference in potential appearing during the ion exchange. The measurements are made by introducing into the ionite mass in an ionic column a set of graphite electrodes which are connected to a sensitive millivoltmeter without a source of a potentiometer.

Abstract reading of the degree of water softening.

0.15, Art. 12, Figures, 3 plates, and 3 tables.

ASSOCIATION: Catedra de chimie generala a Institutului de petrol, gaze si geologie,
Bucuresti (Department of General Chemistry, Institute of Petroleum, Gases and
Coal 1/2)

1. 11540-55

ACQUISITION NO: AP9012-07

(Geology)

SUBMITTED: CO

RECD: CO

SUB CODE: GO

NO REF NOY: 000

OTHER: 001

JPLB

APPROVED FOR RELEASE: 03/20/2001

CIA-RDP86-00513R000101510001-2

THE
END 2/2

CONSTANTINESCU, M.; VRABIESCU, Elvira; ANDREESCU, Verona; ZAPAN, M.

Kinetic study on the electric effects during the ion exchange of some granular cationites. Rev chimie Min petr 16 no.1:35-39 Ja '65.

1. Chair of General and Physical Chemistry of the Petroleum, Gas, and Geology Institute, Bucharest.

658-40

A. G. 3510, TR. AP-023232

RU/0003/64/015/010/0837/0840

AUTHOR: Zupan, M.; Andreescu, V.; Guseanu, Z.; Nartel, D.; Trablescu, E.

TITLE: Toshigniol and as an ion exchanger

SYNOPSIS: Revista de chimie, Y, 15, no. 10, 1964, 637-640

TOPIC TERMS: ion exchange; electrical potential

ABSTRACT:

The authors tested the mud from Toshigniol lake by various methods, and particularly by the recording of the electrical potential during ion exchanges. The mud was found to possess ion-exchanging qualities for lower-valence ions, espec. Ca^{2+} , Mg^{2+} , Fe^{2+} , and K^{+} ; it behaved like synthetic ion exchangers and subjected to regeneration with a sodium chloride solution. (C.A.B. INT. SER. 3 tables, 2 figures, 1 graph.)

Card 1/1

1. 11651-55

ACCESSION NR: AP3023232

ASSOCIATION: Catedra de Chimie Generala a Institutului de petrol, gaze si geologie,
Bucuresti (Department of General Chemistry, Institute of Petroleum, Gases and
Geology)

SUBMITTER: CO

ENCL: CO

SUB CODE: CO

NR REF NOV: 000

OTHER: 017

JPRS

L 31862-66 STG(T) EM

ACC NR: 1104128

SOURCE CODE: RU/0003/65/016/001/0035/0039

AUTHOR: Constantin, M.--Konstantinescu, M.; Vrabiescu, Elvira--Vrebiyesku, Ye.--
Vrabiyescu, Ye.; Andreescu, Verona--Andreyesku, V.

ORG: Department of General and Physical Chemistry, Institute of Petroleum, Gases,
and Geology, Bucharest (Catedra de chimie fizica si generala, de la Institutul de
petrol, gaze si geologie)

TITLE: Kinetic study concerning the electrical effects during the ion exchange of
some granular cationites [Presented at the Republic Chemistry Symposium at Iasi,
1964]

SOURCE: Revista de chimie, v. 16, no. 1, 1965, 35-39

TOPIC TAGS: ion exchange, chemical kinetics

ABSTRACT: An analysis of
the kinetic processes occurring during the ion exchange of
water-softeners of the cation type under the influence of
voltages of 0 to 90 volts of continuous and alternating
current. The effect of the voltage in terms of the concen-
tration of the solution flowing over the cationite is studied
and compared to the effect with distilled water, and some
electrokinetic processes and their possible interaction in
the ion-exchange process are discussed. Orig. art. has: 8 figures. [Based on
authors' Eng. abstract] [JPRS]

SUB CODE: 07 / SUBM DATE: none / ORIG REF: 006 / OTH REF: 002 / SOV REF: 001

Card 1/1 JS

UDC: 661.183.123.2:537.36

CIUCA, M.; POPOVICI, Marcella; NESTORESCO, N.; GEORGESCO, Colette; ANDREESCO, Viorica; SOARE, Luiza

Persistence of the polylysogeny of lysogenic strains of *E. coli* M (1920-1921) and of *S. typhi* 0901 in various environmental conditions.

1. Travail de l'Institut "Dr. I. Cantacuzino".
(*ESCHERICHIA COLI*) (*SALMONELLA TYPHOSA*)
(*SALMONELLA PHAGES*) (*COLIPHAGES*)

CIUCA, M., academician; POPOVICI, Marcelina, NESTORESCU, N.,
ANDREESCU, Viorica; GEORGESCU, Colista; COARE, Iulza;
DRAGOI, Tatiana; FESOLE, Nina

Research on some genetic aspects of the biological evolution
of "lytic" and "lysogenic" enteric bacteriophages. Stud.
seriet. infimierobiol. 14 no.5 545 550 '63.

1. Membru corespondent al Academiei R.P.R. (for Andreescu).
(COLIPHAGES) (SALMONELLA PHAGES) (GENETICS)

ABSTRACTS-CALZ, 1.

Purification and utilization of town and industrial waste waters for agricultural purposes. p. 34

HIDROTEHNICA. (Asociatia Stiintifica a Inginerilor si Tehnicienilor din Romania) Bucuresti, Romania Vol. 4, no. 2, Feb. 1959

Monthly list of East European Accessions (EEA) IC, Vol. 8, no. 7, July 1959

Uncl.

VAINER, Henrieta; ANDREESCU-TIGOIU, Viorica

Investigations on anti-pertussis gamma-globulin isolated from
anti-pertussis goat serum. Rev. sci. med. 5 no.3/4:251-256 '60.
(WHOOPIG COUGH immunol.) (GAMMA GLOBULIN)

POZSGI, N.; ~~ANDREESCU~~^U ~~TIGOIU~~, Viorica; DONA, D.

Cytotoxic effect of Bordetella pertussis on HeLa, Kb, Detroit and human-embryo tissue cultures. I. Arch. Roum. path. exp. microbiol. 20 no.3:431-440 S '61.

1. Travail de l'Institut "Dr. I. Cantacuzino" Service de Pertussis et de la Chaire de Micribiologie II de l'Institut Medico-Pharmaceutique de Bucarest.

(TISSUE CULTURE) (BORDETELLA PERTUSSIS)

CIPLEA, Al. Gh.; POZSGI, N.; ~~ANDRESCU~~^Y-TIGOIU, Viorica; IANCO, Larissa

Contribution to the study of tissue reactivity in experimental infection with *Bordetella pertussis*. Arch. roum. path. exp. microbiol. 21 no.1:47-58 Mr '62.

1. Travail de l'Institut "Dr. I. Cantacuzino" -- Services de la B. pertussis et d'Anatomie Pathologique -- et de la Chaire de Microbiologie II de l'Institut Medico-Pharmaceutique de Bucarest.
(WHOOPIING COUGH) (BONE MARROW) (SPLEEN) (LIVER)

62-50-65 FBS-2/EEC(K)-2/E/GM)/1/20(c)/EIP(b)/EMA(c) P2-6 IJR(c) TI/II/D/
ACCESSION NR: AL5019585 GS/AI BU/0011/65/018/003/0203/0205

AUTHOR: Maslov, I. I. Bakalskiy, E. I. Andreev, A.

TITLE: Effective solar cell from p-type silicon of very low resistivity

SOURCE: Bulgarska akademiya na naukite, Leksy, v. 18, no. 3, 1965, 203-205

TOPIC TAGS: solar cell, solar battery, battery, solar cell battery

ABSTRACT: A study is made to prove that solar cells with sufficiently high efficiency can be produced from very low resistivity (0.05-0.1 ohm-cm) p-type silicon, which is obtained from industrial silicon by means of the zone-melting technique without chemical purification. Single crystals obtained from industrial silicon (purity 98-99%) and zone melted in vacuum 10 to 50 times were used as experimental specimens. All crystals showed a p-type conductivity which is primarily determined by the concentration of the boron (about 10^{18} cm⁻³) remaining in the silicon single crystals. The experiments showed that solar cells with satisfactory characteristics can be obtained from even a single crystal, merely by fivefold zone melting. While the efficiency of such cells is poor, their characteristics are poor. Strong leakage current is observed. Solar cells with better characteristics are obtained when the material has been zone melted 50 times. The best cells were

L. 62650-65

ACCESSION NR: APS019585

obtained from silicon purified 50 times, showing the importance of the purity of the material with respect to impurities other than boron. An efficiency of 8 to 8.5% was reached. The current-voltage characteristic was represented by a logarithmic curve. The value of constant A in the exponent of the expression for the current-voltage characteristic of the p-n junction was determined as 3.26 in the range of 0-400 millivolts and as 1.92 in the range of 400-600 millivolts. The value of the saturation current amounted to 9-10 microamperes. The series resistance of the solar cells was of the order of 0.3 ohms. Orig. art. has: 2 figures. [JA]

ASSOCIATION: Institute of Physics, Bulgarian Academy of Science

SUBMITTED: 00

ENCL: 00

SUB CODE: ELSS

NO REF SOVI: 001

OTHER: 004

ATD PRESS: 4060

Card

2/2

ANDREEV, A.

"Utilization of Karnak Cotton Scraps for Manufacturing Yarns Up to No. 120."

p. 31 (Elektroenergiia, Vol. 7, No. 3, 1958, Sofia, Bulgaria)

Monthly Index of East European Accessions (EEAI) IC, Vol. 7, No. 11,
Nov. 1956

ANDREEV, A.

TECHNOLOGY

Periodical LEKA PROMISHLENCST. TEKSTIL. Vol. 7, no. 7, 1958.

ANDREEV, A. Modern high-speed productive carding machines. p. 12.

Monthly List of East European Accessions (EEAI) LC, Vol. 8, no. 3, March, 1959. Uncl.

ANDREEV, A.

"Exchanging the lap winder in combing processes through the common drawing machine"

Leka Promishlenost. Tekstil. Sofia, Bulgaria. Vol. 7, no. 10, 1958

Monthly list of East European Accessions (EFAI), LC, Vol. 8, No. 6, Jun 59, Unclass

ANDREEV, A.

"Investigation of Compressing machinery and installations."

ELEKTROENERGIJA, Sofia, Bulgaria, Vol. 10, no. 3, Mar. 1959.

Monthly list of East Europe Accessions (EEAI), LC, Vol. 8, No. 6, ^{S. 1.} ~~Jun~~ 59,
Unclas

ANDREEV, Aleksandur D-r, mladshi nauchon sutrudnik

Qualification and classification of the cotton in Poland.
Tekstilna prom 10 no.5:7-10 '61.

1. Nauchnoizsledovatel'skii institut za trikotazhna promishlenost,
Sofia,

ANDREEV, Aleksandur, d-r inzh.

Influence of cotton ripeness on the neatness of combings. Tekstilna
prom 11 no.4:4-5 '62.

1. Nauchnoizsledovatel'ski institut za trikotazhna promishlenost.

ANDREEV, Aleksandur, d-r

Syrian cotton. Tekstilna prom 12 no.2:10-12 '62.

1. Nauchnoizsledovatel'ski institut za trikotazhna promishlenost.

ANDREEV, Andrei.

Oldest Bulgarian literature on dentistry and teeth. Stomatologia,
Sofia no.2:10-16 1955.

(DENTISTRY, history,
in Bulgaria, oldest dent. literature)

(LITERATURE,
dent., oldest dent. literature in Bulgaria)

ANDREEV, Andrei, inzh.

Technical standardization of labor in the furniture industry.
Duvomebel prom 5 no.5:13-20 S-0 '62.

1. Norma'ivno-izsledovatel'sko biro (NIB) baza DIP "Moskva,"
Sofia.

NESTOROV, Nikola; MADZHAROV, Ivan; ANDREEV, Andrei

Effect of the placenta tissue preparation on the feeding of
pigs. Izv Zhivotn nauki 1 no.3:45-54 '64.

1. Vasil Kolarov Higher Agricultural Institute, Plovdiv, and
Institute of Animal Husbandry, Kostinbrod.

SHOPOV, D.; PENGHEV, V.; ANDREEV, A.

Hydrocarbon changes in hydrocarbon naphthene-paraffin part of fraction 400-450° of Tyulenovo oil after-low-temperature catalytic treatment. Doklady BAN 16 no.1:81-84 '63.

1. Submitted by Corresponding Member B. Kourtev [Kurtsev, B.].

SHOPOV, D.; ANDREEV, A.

Kinetics of catalytic cracking of tetralin. Doklady BAN 16
no.6:625-628 '63,

1. Submitted by Corresponding Member B.Kourtev [Kurtov, B.].

ANDREEV, A.; KHRISTOV, KH.

Formula for computing the losses from mechanically incompletely burned pulverized coal in steam boilers. p. 49.

Spravochnik po tsvetni metali i splavi. Sofia, Bulgaria. Vol. 10, no. 8/9, Aug./ Sept. 1959.

Monthly List of East European Accessions (EFAI), IC, Vol. 9, No. 2, February, 1960, Uncl.

ANDREEV, Andrei, inzh.; MASLINKOV, Ivan, inzh.

Steam boilers BKZ-210-140-FB of the Maritsa-Iztok I.
Thermoelectric Plant. Elektroenergiia 13 no.5/6:39-41
My-Je '62.

ANDREEV, Andrei, inzh.

Some new processing methods for the combustion of Bulgarian lignites.
Elektroenergiia 13 no.10:2-6 0 '62.

ANDREEV, Andrei, inzh.

Burning of lignite in cyclone furnaces at the liquid slag
separation. Elektroenergiia 14 no.5/6:41-43 My-Je '63.

ANDREEV, Andrei, inzh.

A new interpretation of the concept of conditions for lignite coals. Elektroenergiia 14 no.10:12-15 0'63.

1. Chlen na Redaktsionnata kolegiia, "Elektroenergiia".

L 00911-67 EWP(j) RM

ACC NR: AP603544

SOURCE CODE: BU/0011/66/019/001/0037/0040

AUTHOR: Shopov, D., Andreev, A., Institute of Organic Chemistry, Bulgarian Academy of Sciences

TITLE: Dehydrogenation of tetralin and cis- and trans-decalin on alpha-iron

SOURCE: Bulgarska akademiya na naukite. Doklady, v. 19, no. 1, 1966, 37-40

TOPIC TAGS: dehydrogenation, x ray analysis, iron compound

ABSTRACT: [English article] In the past the low catalytic activity of iron was pictured in several different ways because insufficient attention was paid to the electronic structure of the catalyst or of the organic molecules. Consequently, the authors carried out experiments in a semimicroflow system. The catalyst was obtained by decomposing the iron oxalate in a hydrogen current by a method described earlier (A. A. Balandin, A. I. Kukina, Chang Hou-Sheng, I. Ya. Kostinskaya, Zh. Fiz. khimii, 37, 1963, 2504). The structure of the α -iron thus obtained was determined by an X-ray structural analysis. The catalyst contained less than 0.0001 p. c. of nickel. Results show that tetralin and decalin dehydrogenation can occur on α -iron. This reaction is obviously closely connected with the molecular structure of tetralin and decalin. The transformation of tetralin in the direction of dehydrogenation only is connected with the energy of localization and delocalization of the respective aromatic systems.

Card 1/2

0921 2158

L 00911-67

ACC NR: AP6035443

This paper was presented by Academician D. Ivanov on October 1/3, 1965.
Orig. art. has: 4 figures. [JPRS: 36,862]

SUB CODE: 07,20 SIVM DATE: 18 Oct 65 / ORIG REF: 001 / OTH REF: 002
SOV REF: 003

hs

Card 2/2

ANDREEV, A. [deceased]

Tuberculin allergy and tuberculin tests. Sovr. med. (Sofia)
15 no.2:51-55 '64

DECEASED

ANDREEV, Andrei M., d-r [deceased]

The book "Man compared to other animals" by Vasil kh. Stoiarov-Beran; on the occasion of the 140th anniversary of his birth.
Priroda Bulg 13 no.3:112-117 My-Je '64.

^{*}
ANDREEV, A. Iv.

Exercise therapy of pleurisy in children. Sovrem.med., Sofia 6
no.5:52-57 1955.

1. Iz Vtora detska gradska bolnits-Sofia (gl.lekar: P. Belopitov)

(EXERCISE THERAPY, in various diseases,
pleurisy in child)

(PLEURISY, in infant and child,
ther., exercise)

L 11228-66 EWT(d)/EWT(1)/EPP(n)-2/EWP(k)/EWA(h)/ETC(m)-6/T-2/EWP(h)/EWP(n)/
 ACC NR: AP5024911 EWP(v)/EWP(t)/EWT(m) EM/NW/ UR/0382/65/000/003/0114/0120
 JD/JG

AUTHOR: Andreev, A.M.; Glukhikh, V.A.; Karasev, B.G.

33
B

ORG: None

TITLE: Principles of rational design of direct current electromagnetic pumps

SOURCE: Magnitnaya gidrodinamika, no.3, 1965, 114-120

TOPIC TAGS: magnetohydrodynamic pump, electrodynamic pump design, direct current pump design

ABSTRACT: The present work develops an optimization^{of} direct current ^{74.23.4.5}electromagnetic pump design. The aim is to find the optimum channel dimensions for the liquid metal transfer, the electromagnetic loads and the optimum liquid metal velocities maximizing the efficiency coefficient. Fig. 1 shows the active, stray and wall currents and the active and stray magnetic fields of the direct current pump. Its equivalent circuit diagram is shown in Fig. 2. Expressions for pump efficiency and for the mutual dependence of various design parameters have been developed. Procedures for pump design optimization on a rational basis are proposed. The design computations in accordance with the suggested procedures have been shown by tests to differ less than 10% from actual performance of several constructions. Orig. art. has 3 figures, 22 formulas.

Card 2/2

UDC 621.689:538.4

L 11:228-66
ACC NR: AP5024911

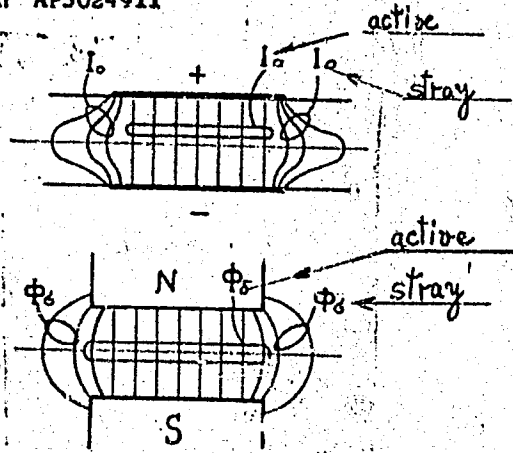


Fig. 1. Distribution of current and magnetic flow along the longitudinal axis of the D.C. electromagnetic pump.

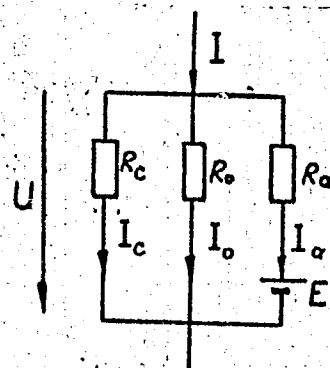


Fig. 2. Equivalent circuit diagram of the direct current electromagnetic pump.

SUB CODE: 13,09/ SUBM DATE: 22Jun64/

ORIG REF: 002 OTH REF: 002

Card 2/2

KUMANOV, Stefan; ANDREEV, Andrei

Molasses as feed in fattening pigs for meat. Izv Zhivotn nauki 1 no.2:35-41 '64.

1. Zootechnical Faculty of the G. Dimitrov Higher Agricultural Institute, Sofia, Corresponding Member of the Bulgarian Academy of Sciences, and Chief Editor and Member of the Board of Editors, "Izvestiia nauki" (for Kumanov). 2. Institute of Animal Husbandry, Stara Zagora (for Andreev).

ANDREEV

ANDREYEV, Andrey Iv. (Bolgariya)

Deep breathing as the earliest exercise therapy during the acute period of rheumatism in children. Vop. kur., fizioter. i lech. fiz. kul't. 24 no.6:510-516 N-D '59. (MIRA 15:1)

1. Iz Nauchno-issledovatel'skogo insituta okhrany materinstva i detstva (dir. St. Kolarov) v Sofii.
(RHEUMATIC FEVER) (EXERCISE THERAPY)

ANDREEV, Andrei St., inzh.

Moisture content in lignites and its influence on the economy of their combustion. Izv Inst energ BAN 2:71-119 '62.

1. Chlen na Redaktsionnata kolegiia, "Izvestiia na Instituta po energetika."

ANDREEV, Andrei Tomov, inzh.

Observance of technology, basis for the real technical labor standardization in the furniture industry. Durvo-mebel prom 6 no. 6: 8-11 N-D '63.

1. Standardization and Research Bureau of the Moskva State Industrial Enterprise, Sofia.

IKONOMOV, Il.: ANDREEV, B.

Unusual form of neurofibroma of the leg. Khirurgia, Sofia 9 no.6:
537-541 1956.

1. (Iz Klinikata po ortopediia i travmatologija pri VMI--Sofia).
(NEUROFIBROMA, case reports,
leg (Bul))
(LEXI, neoplasms,
neurofibroma, case report (Bul))

IKONOMOV, I.; ANDREEV, P.

Results following surgical therapy of fractures of the elbow joint.
Khirurgia. Sofia 11 no.5-6:485-487 1958.

1. Iz Klinikata po optopedia i travmatologia pri VMI--Sofia.
(ELBOW, fractures,
surg. (Bul))

ANDREEV, Bl., K.M.N.

Cancer of the auricle of the ear; some problems in therapy. Suvrem.
med., Sofia 9 no.4:34-41 1958.

1. Iz Nauchnoizsledovatel'skii onkologichen institut (Direktor: prof.
Ves. Mikhailov)

(EAR, EXTERNAL, neoplasms
radiother. (Bul))

(RADIOTHERAPY, in various dis.
cancer of auricle of ear (Bul))

MIKHAILOV, V., Prof.; ANDREEV, Bl.; K M N., NALDENOV, V.; MARKOV, M.

Treatment of neoplastic diseases with TEM. Suvrem. med., Sofia
9 no.4:42-43 1958.

1. Iz Nauchnoizsledovatel'skii onkologichen institut -- Sofia
(Direktor: prof. V. Mikhailov).

(CYTOXIC DRUGS, ther. use

2,4,6-tris-aziridinyl-s-triazine in cancer (Bul))