"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3

ZINCHENKO, N. P., Cand Tech Sci (diss) -- "The dynamic stability of connections in systems of folded rubber as a function of the type of butadiene-styrene polymer and the physico-mechanical properties of the rubber". Moscow, 1960. 15 pp (Min Higher Educ USSR, Inst of Fine Chem Tech im M. V. Lomonosov, State Committee of the Council of Ministers USSR on Chem, Sci Res Inst of the Food Industry), 150 copies (KL, No 11, 1960, 132)

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15.5300

15.9200 also 2209

83840

S/138/60/000/004/006/008
A051/A029

AUTHORS: Buyko, G.N., Zinchenko, N.P.

TITLE: On the Dynamic Stability of Adhesion in Double-Rubber Systems Depending on the Butadiene-Styrene Polymer Type and the Physico-Mechanical Properties of the Rubber

PERIODICAL: Kauchuk i Rezina, 1960, No. 4, pp. 27 - 37

TEXT: Rubber separation from the latex, the effects on the dynamic stability of the adhesion in double-rubber systems, and the tire performance were investigated. Experimental samples of butadiene-styrene rubber of low-temperature polymerization were studied. The experimental procedure is outlined and the general characteristics of the butadiene-styrene copolymers coagulated with various electrolytes are given. The properties of the rubber mixtures and vulcanizates depending on the type of butadiene-styrene polymer, as well as the mechanical properties of the vulcanizates are discussed. As a result of extensive testing several conclusions were drawn: 1) The dynamic durability of the multi-layer systems, as well as other important technical properties of tire rubber, based on butadiene-styrene rub-

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A051/A029

On the Dynamic Stability of Adhesion in Double-Rubber Systems Depending on the Butadiene-Styrene Polymer Type and the Physico-Mechanical Properties of the Rubber

ber, depend to a great extent on the conditions of polymer separation from the latex, namely, on the nature of the coagulation agent. The CKC-30A (SKS-30A), CKC-30AM (SKS-30AM), and the CKC-30APM (SKS-30ARM) butadiene-styrene rubbers contain a large amount of calcium salts, precipitated by calcium chloride, which are not eliminated in the washing of the rubber. These admixtures are detrimental to the technical properties of the polymer. 2) The direct introduction of calcium and sodium salts of dibutylnaphthalenesulfoacid and stearic acid into the polymer not containing these admixtures has proved the negative effect of these salts on the properties of the polymer and its vulcanizates even when only 0.5 to 1% of these salts are introduced. 3) As a result of replacing calcium chloride as coagulating agent by sodium chloride a polymer is produced which does not contain harmful admixtures and surpasses butadiene-styrene rubber coagulated with calcium chloride. Depending on the conditions of the testing, the dynamic stability of the adhesion in rubber and rubber-cord systems is 2 to 5 times greater in systems based on rubber

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On the Dynamic Stability of Adhesion in Double-Rubber Systems Depending on the Butadiene-Styrene Polymer Type and the Physico-Mechanical Properties of the Rubber

coagulated with sodium chloride. 4) The investigation of the dynamic stability of the adhesion in multi-layer systems carried out parallel to the study of the physico-mechanical and other properties of the butadiene-styrene rubbers and their vulcanizates shows that one of the deciding factors determining the dynamic stability is the fatigue process of the vulcanizates in the double layers and that lamination in the process of repeated deformations is determined by a complex of phenomena, which bring about a change in the physico-mechanical and physico-chemical properties of the material. 5) The positive role played by the sodium chloride was confirmed by the investigation results of the butadiene-styrene rubber obtained by coagulation with calcium chloride in the presence of BX (VKh) Nekal and samples of rubbers which were obtained using sodium chloride and VKh Nekal or colophony emulsifier. 6) The results of stationary and road tests of heavy truck tires manufactured solely from butadiene-styrene polymers have confirmed the conclusions of laboratory tests on the advantages of rubber coagulated with sodium chloride. In the stationary tests the resistance of the tires to peel-

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A051/A029

On the Dynamic Stability of Adhesion in Double-Rubber Systems Depending on the Butadiene-Styrene Polymer Type and the Physico-Mechanical Properties of the Rubber

ing of the protective layer increased twice compared to tires made of rubber coagulated with calcium chloride. By using the sodium chloride as the coagulator the performance of the truck tires had increased by 30%. 7) As a result of the tests and figures obtained, demands placed on the tire industry as to quality of the butadiene-styrene rubber have been determined and outlined. There are 6 tables, 9 sets of figures, 17 references: 11 Soviet, 3 English and 3 French.

ASSOCIATION: Nauchno-issledovatel'skiy institut shinnoy promyshlennosti (Scientific Research Institute of the Tire Industry)

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BUYKO, G.N.: ZINCHENKO, N.P.

Dynamic binding strength in doubled rubber systems as determined by the tupe of the butadiene-styrene polymer and by the physical and mechanical properties of rubber. Kauch.i rez. 19 no.4:27-37 Ap '60. (MIRA 13:12)

1. Nauchno-issledovatel'skiy institut shinnoy promyshlennosti.
(Rubber, Synthetic--Testing)
(Tires, Rubber--Testing)

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ZINCHENKO, N. S.

USSR/Radio Waves - SHF
Wave Guides

PA 20T63

Dec 1946

"Rectangular Wave Guides as Cut-off Wavemeters for Centimeter Waves," A. A. Mits, Candidate of Mechanical Sciences, N. S. Zinchenko, 5 pp

"Radiotekhnika" Vol I, No 9

The possibility of employing a rectangular wave guide as a wavemeter operating at cut-off wave length in the centimeter wave range is examined. The advantages of such a wavemeter against the types of existing wavemeters are demonstrated. Wave length measurements by means of such a wavemeter can be performed to within 10^{-3} mm, the measurement accuracy being independent of the wave length measured. An example of such a wavementer setup is described.

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"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3

ZINCHENKO, N. S.

USSR/Radio Mar/Apr 1948
Vacuum Tubes, Magnetron
Oscillations

"Frequency Stability of Dynatron-Type Oscillations of Magnetrons," N. S. Zinchenko, Candidate Physicomath Sci, 14 pp

"Radiotekh" Vol III, No 2

Research on the frequency stability of dynatron oscillations of magnetron generators as function of the supply system made on long, short, and decimeter waves. Establishes circuit regularities and explains changes of the frequency of dynatron-type magnetron oscillations. Compares frequency stabilities of magnetron

51T103

USSR/Radio (Contd) Mar/Apr 1948

and tube oscillators in dynatron operation. Shows influence of circuit voltages on frequency stability of split magnetrons with a grid.

51T103

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"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3

ZINCHENKO, N. S.

PA 36/49T16

USSR/Electronics Jan/Feb 49
Oscillators, Magnetron
Oscillations, Parasitic

"Frequency Stability of Magnetron Oscillations of the Dynatron Type," N. S. Zinchenko, Cand Physico-math Sci, 3 pp

"Radiotekh" Vol IV, No 1 - p.54-6

Introduces data on frequency stability of magnetron oscillations versus the angle between the filament and lines of force of the magnetic field, parasitic oscillations, and values of the damping resistances. Submitted 21 Aug 48.

36/49T16

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"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3

9(3) PHASE I BOOK EXPLOITATION SOV/1967

Zinchenko, Nikolay Semenovich

Kurs lektsiy po elektronnoy optike (Course of Lectures on Electron Optics) Kharkov, Izd-vo Khar'kovskogo univ-ta, 1958. 274 p. Errata slip inserted. 5,000 copies printed.

Resp. Ed.: L.K. Chernyayev, Candidate of Technical Sciences; Ed.: A.N. Tret'yakova; Tech. Ed.: Ya. T. Chernyshenko.

PURPOSE: This book has been approved by the UkrSSR Ministry of Higher Education as a textbook for vuz students specializing in physics and radio engineering.

COVERAGE: The author claims that this is the first textbook on electron optics in Soviet literature. It is based on the course of lectures delivered by him in the Radio Physics Department of the Khar'kovskiy gosudarstvennyy universitet (Khar'kov State University) in 1955-1957. It covers the basic problems on geometrical electron optics (paraxial flow of electrons in axially symmetrical electric and magnetic fields, electron lenses, field mapping) and problems on the optics of high-density electron beams (the function of space charge in

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electron beams, focusing by electrostatic and magnetic fields, effect of gas remnants, etc.). He refers to the book by J.R. Pierce, articles by M.D. Gabovich, and thanks Professor V.I. Kalinin, Docents V.P. Taranenko and V.P. Shestopalov, Candidate of Technical Sciences, L.K. Chernyayev, I.K. Ovchinnikov, V.M. Sorokina and N.T. Turanov. There are 119 references, of which 65 are English, 43 Soviet, and 11 German.

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Course of Lectures on Electron Optics SOV/1967

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"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3

ZINCHENKO N. S.

Г. М. Бартенев

Вопросы затухания вероятных радиоволн в ионосфере. Статистика наблюдений за время с 1935 до 1957 гг.

В. Е. Кашеровский

Методы безыгнульного зондирования ионосферы.

Г. В. Васильев,
Ю. В. Кушнеревский

Ионосферная станция ручного управления с механическим сопряжением настроек передатчика и приемника.

11 июня
(с 10 до 16 часов)

Е. Л. Фейнберг,
А. Д. Петровский

О приближенном [illegible] радиоволн в [illegible] распространения радиоволн [illegible].

С. М. Дальнов (Чехословакия)

Измерение эффекта Доплера третьего [illegible] искусственного [illegible] Земли.

[illegible]

В. А. Загуляев

Исследование лучших [illegible] в ионосфере.

Н. Н. Бахарева

Спорадический слой Е по наблюдениям на станциях Советского Союза за период Международного геофизического года.

[illegible]

А. Н. [illegible]

Отражение радиоволн [illegible] от слоя снега.

11 июня
(с 18 до 22 часов)

В. С. Халстед (США)

Применение тропосферного распространения УКВ для целей [illegible] радиосвязи в телеграфии.

Н. М. Трофимов

Исследование дальнего приема [illegible] других сигналов на УКВ.

Н. Ф. Грачев

Дальний и [illegible] прием [illegible].

[illegible]

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

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"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3

OVCHINNIKOV, I.K. [Ovchynnykov, I.K.]; ZINCHENKO, N.S. [Zinchenko, M.S.]

Vibrating sound method for investigating axisymmetrical electron beams. Ukr. fiz. zhur. 4 no.2:219-228 Mr-Ap '59. (MIRA 13:1)

1. Institut radiofiziki i elektroniki AN USSR i Khar'kovskiy gosudarstvennyy universitet im. Gor'kogo.
(Electron beams)

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A005/A001

9.9000

Translation from: Referativnyy zhurnal, Fizika, 1960, No. 6, pp. 322 - 323, # 15065

AUTHOR: Zinchenko, N.S.

TITLE: Measurement of the Coefficients of Reflection and Dielectric Constant of Water in the Millimeter Region of Radiowaves

PERIODICAL: Uch. zap. Khar'kovsk. un-t, 1959, Vol. 102, Tr. Radiofiz. fak., Vol. 3, pp. 81-87

TEXT: Results are presented from measurements of the coefficient of reflection, dielectric constant and absorption coefficient of water at wave lengths of 13.6; 8.5; 6.3; 4.3 mm. The measurements were carried out by the method of reflection in free space. Horns were used as radiating and receiving antennae, whose slope to the horizon and the altitude over the free water surface varied. The great area of the water surface provided for the absence of errors owing to boundary effects. A considerable wavelength dependence of the reflection coefficient was detected as a consequence of the anomalous water dispersion in the given wavelength region. The values of the complex dielectric constant, the

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A005/A001

Measurement of the Coefficients of Reflection and Dielectric Constant of Water in the Millimeter Region of Radiowaves

diffraction coefficient, and the absorption coefficient were calculated from the results of the reflection coefficient measurements. The conductivity of water was calculated at the frequencies measured. The coincidence of the measurement results with the values of the diffraction and absorption coefficients calculated from the Onsager formulae testify to the dipole character of absorption in water at millimeter wavelengths.

I.V. Ivanov

Translator's note: This is the full translation of the original Russian abstract.

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S/142/60/000/01/007/022
E140/E463

9.3140

AUTHORS: Zinchenko, N.S. and Ovchinnikov, I.K.

TITLE: Experimental Study of the Passage of an Electron Beam Through a Magnetic Undulator

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Radiotekhnika, 1960, Nr 1, pp 69-76 (USSR)

ABSTRACT: This study was undertaken for three reasons. Firstly, the nonrelativistic electron beam in passage through the magnetic undulator may be a model for a relativistic beam. Secondly, radiation of very short waves may be obtained. Thirdly, periodic magnetic fields permit increasing the stability of electron motion with beam focusing. The principal difficulty in obtaining appreciable radiation powers in such systems is the difficulty of passing the beam through the magnetic undulator. In previous experiments, the beam transmission factor was less than 10%. Since the power is proportional to the square of the current, the radiated power was only 1% of the maximum possible. The work described in this article was carried out in 1956 and 1957 in the Institute of Radio Engineering and Electronics of the Ukrainian

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"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3

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Experimental Study of the Passage of an Electron Beam Through a Magnetic Undulator

Academy of Sciences. The electron optical system is fairly evident from the figures. The system consisted of an electron gun, accelerating diaphragm, magnetic focus coil, magnetic undulator and collector. The cathode gave a current density of 180 A/cm^2 in pulse conditions. Armco iron was used for the undulator. The collector was water-cooled. The field distribution of the undulator was first found approximately by an electrolytic tank. The actual distribution was measured in the final undulator using a laboratory magnetometer with a needle 1 mm long and 0.4 mm thick. The field distribution is shown in Fig 5. The projection of the beam on the plane of symmetry has almost a sinusoidal character. Further, an analysis of the beam stability is given employing the theory of Mathieu equations. Experiments were carried out using a tube with glass envelope. The total beam length was 200 to 230 mm. Three undulators of length 12 mm, 7.6 mm and 6.8 mm were used. Beam currents up to 30 mA were used with almost

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E140/E463

Experimental Study of the Passage of an Electron Beam Through a Magnetic Undulator

100% transmission. This was maintained for relatively long periods (up to three hours) without requiring voltage, entry angle or other adjustment. The only critical factor was the exact location of the tube with respect to the plane of symmetry of the undulator magnetic field. There are 7 figures and 10 references, 5 of which are Soviet, 3 English and 2 French.

SUBMITTED: June 20, 1959

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"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3

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S/141/60/003/004/005/019
E192/E382

AUTHORS: Zinchenko, N.S. and Usikov, A.Ya.

TITLE: Reflection of the Radio Waves of the Millimetre Wave Band from a Layer of Snow

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Radiofizika, 1960, Vol. 3, No. 4, pp. 614 - 618

TEXT: The wavelengths employed in the measurements were 31.9, 13.6, 8.5, 6.7 and 4.4 mm. The measurement was based on the method of surface reflection in free space. The equipment employed consisted of a transmitter and a receiver which were arranged in the manner illustrated in Fig. 1. By means of the equipment it was possible to measure the height and the inclination of the transmitter and the receiver with respect to the reflecting plane. During this measurement, the incidence angles ϑ of the radio waves were changed since the axes of the antennae were directed at the same point of the reflecting surface. The receiver was based on a crystal detector placed in a waveguide and a mirror galvanometer having a low internal impedance. The antennae were in the form of pyramidal horns, a pair of them being provided for each wavelength. The width of the beam of the antennae was 6° for all the waves except for 31.9 mm, where

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E192/E382

Reflection of the Radio Waves of the Millimetre Wave Band from a Layer of Snow

it was 10°. The equipment permitted the measurement of the reflection coefficient R of snow for incidence angles ranging from 30 to 80°. The circles (points) of Fig. 2 show R as a function of ϑ for the snow density $\rho = 0.37$ g/cm^3, the thickness of the snow layer being 14 cm. The shaded area in Fig. 2 gives the values of the reflection coefficient for dry snow having $\rho = 0.5$ g/cm^3 and a thickness of 14 cm. The triangles in the figure show the reflection coefficient R for humid snow for a horizontally polarised wave. The solid curve in Fig. 2 represents the calculated values of the reflection coefficient under the assumption that the snow layer was infinitely thick and that its permittivity is $\varepsilon = 2 + i\,0.001$ and $\rho = 0.5$ g/cm^3. Fig. 3 shows R as a function of ϑ for the wavelength of 13.6 mm, the thickness of the snow layer being 14 cm and its density 0.5 g/cm^3. The reflection coefficient for the wavelength of

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Reflection of the Radio Waves of the Millimetre Wave Band from a Layer of Snow

8.5 mm is illustrated in Fig. 4. The reflection coefficients for dry snow, measured at $\lambda = 4.4$ mm, are indicated in Fig. 5; the upper curve gives R for a smooth snow surface, while the lower curve is for a surface whose roughness was of the same order as the wavelength. A comparison of the reflection coefficient for various wavelengths is given in Fig. 6. The dependence of R on the wavelength is shown in Fig. 7; Curve R was taken for $\vartheta = 55^{\circ}$. Fig. 7 shows also a parameter $\alpha = 2\pi a/\lambda'$, where a is the diameter of the snow particles and λ' is the wavelength in snow; α represents the scattering properties of the snow particles. The dependence of R on α is shown in Fig. 8. The work was carried out at the Institute of Radiophysics and Electronics of the AS UkrSSR during 1952.

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E192/E382

Reflection of the Radio Waves of the Millimetre Wave Band from a Layer of Snow

There are 8 figures and 4 references: 2 English and 2 Soviet.

ASSOCIATION: Institut radiofiziki i elektroniki AN UkrSSR (Institute of Radiophysics and Electronics of the AS Ukrainian SSR)

SUBMITTED: November 19, 1959

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"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3

ZINCHENKO, Nikolay Semenovich; KALININ, V.I., prof., retsenzent [deceased]; TARANENKO, V.P., dotsent, retsenzent; SHESTOPALOV, V.P., dotsent, retsenzent; CHERNYAYEV, L.K., kand. tekhn. nauk, otv. red.; TRET'YAKOVA, A.N., red.; ALEKSANDROVA, G.P., tekhn.red.

[Lecture course on electron optics] Kurs lektsii po elektronnoi optike. Izd.2., ispr. i dop. Moskva, Izd-vo Khar'kovskogo gos. univ. im. A.M.Gor'kogo, 1961. 361 p. (MIRA 14:9)
(Electron optics)

APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3"

"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3

ZINCHENKO, N.S.

S/141/61/004/001/022/022
E192/E382

AUTHOR: None given

TITLE: Fourth All-Union Conference on Radio-electronics of the Ministry of Specialised Higher and Secondary Education of the USSR

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Radiofizika, 1961, Vol. 4, No. 1, pp. 187 - 196

TEXT: The conference took place during October 24 - 29, 1960 in Khar'kov and was attended by 1 000 delegates from 35 towns in the Soviet Union.
Over 230 papers were read at the conference. The conference was opened by the Deputy Minister of the MVSSO UkrSSR (Ministry of Specialised Higher and Secondary Education of the Ukrainian SSR) Comrade I.S. Dzyubko and by the lectures of Corresponding Member of the AS Ukrainian SSR C.Ya. Braude, entitled "Radio Oceanographic Investigations of the Sea-wave Phenomena" and Corresponding Member of the AS Ukrainian SSR N.D. Morgulis dealing with "Some Problems of the Physics of Thermionic Energy Conversion".
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Fourth All-Union Conference ....

During the concluding plenary session the following survey papers were read:
"Some Problems of Electrodynamics and Thermodynamics of the General Relativity Theory During Accelerated Motion of Macroscopic Bodies with Relativistic Velocities" by V.L. German and "Methods of Experimental Investigation of Electron Beams" by N.S. Zinchenko.
The achievement of the conference was summarised by Corresponding Member of the AS Ukrainian SSR A. Ya. Usikov.
The conference recommended that the Fifth All-Union Conference on Radio-electronics should take place in Minsk in the Spring of 1962.
The conference was divided into the following sections: electrodynamics at UHF; UHF electronics; general electronics; quantum radiophysics; radio-wave propagation and radio-astronomy; general radio-engineering; semiconductors and their application in radio-engineering and radio measurements.

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1. Papers read at the sections of UHF electronics, general electronics and UHF electrodynamics.
In general, it can be said that the papers in these sections were mainly concerned with the investigation of various processes dealing with the interaction of plasma and electromagnetic fields.
The work of O.G. Zagorodnov et al described the experimental investigation of the nonlinear distortion of sinusoidal electromagnetic waves propagating in a cylindrical plasma waveguide.
The lecture by V.Ye. Golant and A.P. Zhilinskiy dealt with the nonlinear effects which accompany wave propagation in waveguides containing plasma.
The work of V.D. Shapiro investigated theoretically the stability of longitudinal nonlinear oscillations of plasma electrons with respect to the perturbations whose wavelength is small in comparison with the wavelength of the stationary potential.

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The works of O.G. Zagorodnov et al were devoted to the investigation of the propagation of electromagnetic waves in moving plasma. A detailed analysis of the propagation of electromagnetic waves in plasma waveguides was given in the experimental works of O.G. Zagorodnov et al (three papers). The work of V.P. Shestopalov and I.P. Yakimenko investigated in detail the scattering characteristics of a helix-plasma system.
The paper of N.A. Kuz'min was concerned with the variation method of analysis of the waveguides which are partially filled with a gyrotropic medium.
The problem of wave propagation in a waveguide partially filled with a weakly relativistic plasma in the presence of a constant magnetic field applied along the axis of the system was considered in the work of A.V. Gaponov and M.I. Petelin.
The paper of Ya.M. Turover was concerned with the evaluation of the possibility of description of a plasma delay line by telegraph equations.

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The work of V.D. Ivanova and V.S. Mikhalevskiy gave an experimental investigation of the frequency-control of a travelling-wave tube oscillator.
The paper by Yu.F. Filippov was devoted to the investigation of magnetohydrodynamic oscillations of the medium in resonators and waveguides.
Electromagnetic waves propagating in plasma transversely to an external magnetic field were considered in the work of Yu.N. Dnestrovskaya and D.P. Kostomarov.
Several papers were concerned with the investigation of the interaction of plasma with electron and ion beams; in particular, M.S. Kovner investigated the stability of a beam of charged particles and plasma by using the kinetic equation.
The paper of V.O. Rapoport was concerned with the phenomenological method of solving the problem of amplification of electromagnetic waves in a plasma beam moving in plasma in the presence of a magnetic field.
The work of V.D. Shapiro considered the deceleration of an electron beam as a result of its interaction with bulk plasma oscillations.

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M.A. Gintsburg gave a detailed analysis of the interaction of plasma with ion beams on the basis of the kinetic equation. The problems of high-frequency discharges in rarefied gases were discussed in two papers: the work of S.B. Mochenov gave a theoretical analysis of the influence of irregularities of the magnetic field on the discharge characteristics, while the work of G.N. Zastenker et al gave results of an experimental investigation of the formation of the discharge at frequencies between 3 and 20 Mc/s and pressures from 0.3 to 30 mm Hg. I.A. Savchenko and A.A. Zaytsev presented the results of an experimental investigation of the electron oscillations in plasma.

2. Section of UHF electronics.

The papers read at this section dealt with the interaction of plasma with electromagnetic fields; apart from that, a number of papers dealt with the theoretical and experimental investigation of electron devices for UHF.

The opening lecture at the section by V.S. Ganzburg and V.G. Karmazin surveyed the present state of technology of a high-power klystron amplifier.

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3. Section of UHF electrodynamics.
Some of the papers read at this section dealt with the propagation of electromagnetic waves in plasma, while a number of papers were concerned with the problems of the electrodynamics of delay systems, waveguides and resonators.
4. Section of general electronics .
During the sessions of this section, 15 papers were read and discussed. Some of the papers were devoted to the investigation of various aspects of electron optics.
5. Section on quantum radiophysics.
Some of the papers in this section dealt with the problem of nuclear magnetic resonance; several papers were concerned with the processes taking place in ferrite media; other papers were devoted to the theory of masers and parametric amplifiers.
6. Section on radio-wave propagation and radio-astronomy.
The 37 papers read at this section were devoted to some of the problems of radio-astronomy, experimental and theoretical investigation of radio-wave propagation in nonuniform media,

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methods of investigation of the structure of the ionosphere and to special antenna systems.

7. Section on general radio-engineering.
The 12 papers read at this section covered a fair variety of subjects.

8. Semiconductor section.
Some of the papers read in this section were concerned with the preparation and application of semiconductor devices for radio-engineering; there were also papers dealing with the investigation of internal processes in semiconductors.

9. Radio-measurements section.
The papers in this section were concerned with the development and investigation of quartz crystal oscillators, measurement of the parameters of travelling-wave and backward-wave tubes, measurement of dielectric characteristics of various substances and new methods of measurement.

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E192/E382

26.2340

AUTHOR: Zinchenko, N.S.

TITLE: Design of the Magnetic Focusing for an electron beam in an electrostatic delaying field

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Radiotekhnika, v. 4, no. 4, 1961, 496 - 498

TEXT: The problem of focusing of electron beams of a uniform radius, which move in an electrostatic field, has a number of special features. In particular, unlike in magnetic focusing of a beam, which occurs in an equipotential space, the axial velocity of the electron decreases with the length of the beam. In the case considered, the electron beam is accelerated between the cathode and an accelerating diaphragm, passes through an aperture in the diaphragm and enters the delaying field where the collector potential is lower than the accelerating potential. The problem of focusing of the beam is analyzed under the usual simplifying assumptions (Ref. 9 - I.R. Gekker - IVUZ, Radiotekhnika, 1960, 3, no. 4, 441); thus, the effect of the secondary electrons produced by the collector is neglected.

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The distribution function for the magnetic field along the axis of the system can be derived by considering the equilibrium condition for the radial forces acting on the boundary electrons in all the transverse cross-sections of the beam. If the radial component of the magnetic field is neglected, the change of the magnetic field can be expressed by:

$$B(z) = \frac{\sqrt{2}\ I^{1/2}}{\sqrt{\pi \varepsilon_o \eta}\ v_z^{1/2} r_o} \qquad (1)$$

where I is the electron current of the beam,
ε is the permittivity of vacuum,
$\eta = e/m$, which is the ratio of the electron charge to the electron mass,
v_z is the axial velocity of the electrons and
r_o is the radius of the beam.

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Consequently, for an arbitrary function describing the decrease of the coaxial potential, the beam will be focused if the magnetic field increases inversely proportionately to the square root of the axial velocity of the electrons. In particular, if the axial potential is linearly distributed, i.e. $\Phi(z) = \Phi_o(1 - \alpha z)$, the axial magnetic field is given by:

$$B(z) = \frac{2^{1/4} I^{1/2} (1 - \alpha z)^{-1/4}}{(\pi \varepsilon_o)^{1/2} \eta^{3/4} \Phi_o^{1/4} r_o} \qquad (2)$$

where α is the delay coefficient. In order to obtain a given axial potential distribution for the delaying electric field, it is necessary to employ a suitable shape of the electrodes and potentials applied to them. The shape of the electrodes can be determined from the potential distribution between them, which can be represented by the following series:

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Design of ....

$$V(r, z) = \Phi(z) - \frac{\Phi^{II}(z)}{2^2} r^2 + \frac{\Phi^{IV}(z)}{2^2 \cdot 4^4} r^4 - \frac{\Phi^{VI}(z)}{2^2 \cdot 4^2 \cdot 6^2} r^6 + \ldots \quad (3).$$

The necessary axial distribution of the magnetic field can be produced by means of a suitable coil in which the radius of the turns changes as a function of the length of the coil while the number of turns per unit length is constant. The problem of designing such coils was discussed by the author (Ref. 10 - Course of lectures on electron optics, pub. by Khar'kov State University, 1958, 169). The possibility of magnetic focusing of a cylindrical beam in a delaying electrostatic field was investigated experimentally by means of a special tube, in which the axial potential was a linear function of z. The distribution

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of the potential was checked by means of an electrolytic tank. The experiments showed that as the delay coefficient of the electric field was increased, the magnitude of the focusing magnetic field was reduced in comparison with the calculated values. It is concluded, however, that a cylindrical electron beam, moving in a delaying electrostatic field, can be focused magnetically. The presence of the secondary electrons emitted by the collector leads to an increase of the space charge in the beam.

There are 12 references: 9 Soviet-bloc and 3 non-Soviet-bloc. The English-language reference mentioned is: Ref. 7 - H.I. Wokstein - RCA Rev., 1958, 19, no. 2, 259.

ASSOCIATION: Uchenyy sovet IRE AN UkrSSR (Scientific Council of the IRE AS UkrSSR)

SUBMITTED: July 10, 1960

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B104/B102

9,3130 (1140, 1163, 1538)

AUTHORS: Zinchenko, N. S., and Sorokina, V. M.

TITLE: Potential distribution in a tubular electron beam of finite length

PERIODICAL: Zhurnal tekhnicheskoy fiziki, v. 31, no. 9, 1961, 1073-1076

TEXT: The authors derived formulas for calculating the longitudinal and transverse distribution of the potential in a hollow electron beam of finite length. It was assumed that the current density in the electron beam was homogeneous and that the electrons had equal axial velocity components. The tubular beam with constant cross section was assumed to be surrounded by a cylindrical tube (Fig. 1). The potential of such an electron-optical system is a function of r and z; an exact solution of Poisson's equation, however, cannot be obtained. If the potential drop in the beam is linearized, one obtains the following approximate equation:

$$\frac{1}{r}\frac{d}{dr}\left(r\frac{\partial V_2}{\partial r}\right)+\frac{\partial^2 V_2}{\partial z^2}=\frac{j}{\varepsilon_0\sqrt{2\eta V_0}}\left(1+\frac{1}{2}\frac{V_2}{V_0}\right),$$

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where V_0 is the accelerating potential relative to the cathode; $V_2 = V_0 - V$ is the potential drop in the beam; j is the current density in the beam. The following boundary conditions are given:

$$V_1\Big|_{\substack{r=0\\z=L}} = V_2\Big|_{\substack{r=0\\r=L}} = V_3\Big|_{\substack{r=0\\z=L}} = 0; \quad V_3\Big|_{r=d} = 0,$$
$$V_1\Big|_{r=a} = V_2\Big|_{r=a}; \quad \frac{\partial V_1}{\partial r}\Big|_{r=a} = \frac{\partial V_2}{\partial r}\Big|_{r=a}, \qquad (1).$$
$$V_2\Big|_{r=b} = V_3\Big|_{r=b}; \quad \frac{\partial V_2}{\partial r}\Big|_{r=b} = \frac{\partial V_3}{\partial r}\Big|_{r=b}.$$

By separation of the variables, the following solutions are obtained:

(2),

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$$+\sum_{n=p+1}^{\infty}[C_4'J_0(\xi_n r)+C_5'N_0(\xi_n r)-t)]\sin\lambda_n z, \quad (3),$$

$$V_3=\sum_{n=1}^{p}[C_2I_0(\lambda_n r)+C_3K_0(\lambda_n r)]\sin\lambda_n z+$$

$$+\sum_{n=p+1}^{\infty}[C_2'I_0(\lambda_n r)+C_3'K_0(\lambda_n r)]\sin\lambda_n z, \quad (4).$$

Here, J_0 and N_0 are ordinary, I_0 and K_0 modified Bessel functions; $\lambda_n = n\pi/L$; $k^2 = j/2\varepsilon_0\sqrt{2\eta V_0}\,V_0$; $\xi_n = \sqrt{\lambda_n^2 - k^2}$; $t = b_n/(\lambda_n^2 - k^2)$; $b_n = 4j/n\pi\varepsilon_0\sqrt{2\eta V_0}$. By the limiting process $a \to 0$, these expressions yield those for a full electron beam; the respective expressions for a tubular electron beam in an unbounded space can be obtained by the limiting process $c \to \infty$. Finally, an example is calculated. There are

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B104/B102

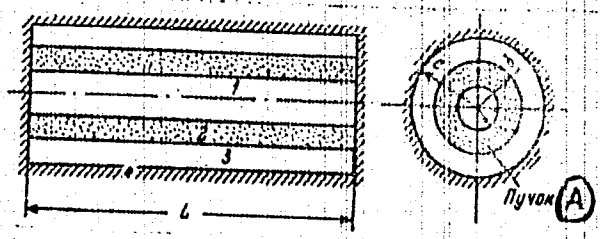
...ntial distribution in a...

...igures and 4 references: 1 Soviet and 3 non-Soviet. The three ...ferences to English-language publications read as follows: A. V. Haeff, ...ec. IRE, 27, 3, 1939; A. L. Samuel, Proc. IRE, 37, 11, 1252, 1949; ...W. Tax, J. Appl. Phys., 20, 3, 242, 1949.

...SSOCIATION: Institut radiofiziki i elektroniki AN SSSR (Institute of Radiophysics and Electronics AS USSR), Khar'kovskiy gosudarstvennyy universitet im. Gor'kogo Kafedra elektroniki (Khar'kov State University imeni Gor'kiy Department of Electronics)

...MITTED: December 19, 1960

...gend to Fig. 1: (A) Beam



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"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3

S/057/63/033/002/004/023
B108/B186

AUTHORS: Zinchenko, N. S., and Sayenko, V. I.

TITLE: Calculation of the potential distribution in the system cylindrical electron beam - constant electrostatic field

PERIODICAL: Zhurnal tekhnicheskoy fiziki, v. 33, no. 2, 1963, 154-163

TEXT: The potential distribution in an electron-optical system is calculated. The potential V at any point is the amount that the linear potential V_L between the electrodes differs from the potential $V_p(r,z) = \sum_n V_n(r)Q_n(z)$ produced by the space charge of the electron beam. This leads to solving a boundary value problem for the two regions $0 \leq r \leq r_o$, $j_e \neq 0$ and $r_o \leq r < \infty$, $j_e = 0$ (r_o is the radius of the beam), with the condition $V_p/V_L \ll 1$. The current that can be reached in the beam is estimated. The whole calculation is illustrated by a numerical example. There are 2 figures.

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"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3

Calculation of the potential ... S/057/63/033/002/004/023
B108/B186

ASSOCIATION: Institut radiofiziki i elektroniki AN USSR, Khar'kov (Institute of Radiophysics and Electronics AS UkrSSR, Khar'kov)

SUBMITTED: February 14, 1962

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"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3

ACCESSION NR: AP4042007 S/0057/64/034/007/1306/1311

AUTHOR: Zinchenko, N.S.; Zhigaylo, B.A.

TITLE: The effect of ion focusing on velocity modulate electron beams

SOURCE: Zhurnal tekhnicheskoy fiziki, v.34, no.7, 1964, 1306-1311

TOPIC TAGS: electron beam, electron beam control, ionization phenomenon

ABSTRACT: Velocity modulated beams of 800 to 1400 V electrons at currents of the order of 10 mA were investigated. It was found that at pressures of the order of 10^{-5} mm Hg the velocity modulated beams were narrower (more sharply focused) than unmodulated beams, and the narrower, the greater the modulation parameter, although the opposite behavior would be expected in a hard vacuum. The cathode of the electron gun was located 5 mm from the 0.8 mm gap of the 10 kilomegacycle/sec toroidal resonant cavity which served both as modulator and accelerating electrode. Modulation coefficients from 0.5 to 1.0 were employed. The beam was collected in a Faraday cage 6 cm from the modulator. The width of the beam was observed by photographing it and by means of a vibrating probe located midway between the modulator and the collector. The focusing effect was considerable. In a 1070 V 10 mA beam at 8 x

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$x \cdot 10^{-5}$ mm Hg the width at half maximum as measured with the vibrating probe decreased by a factor 3 when the beam was modulated. The focusing effect increased with increasing modulation parameter and residual gas pressure and decreased with increasing accelerating potential. Similar results were obtained with low modulation frequencies (kilocycles per second). The collector was so modified as to permit the positive ion current to be measured. The ion current was found to increase with increasing modulation. The ion current accompanying a 1000 V beam at 10^{-5} mm Hg increased by a factor 3 when the modulation parameter was increased from 0 to 1. The increased efficiency of gas focusing for velocity modulated beams is ascribed to the non-linearity of the ionization cross section as a function of electron energy: the slowest electrons in the modulated beam produce many more ions than those of average velocity, whereas the most rapid electrons produce only a few less. A modulated beam consequently produces more ions than an unmodulated beam of the same average energy, and its space charge is accordingly more nearly neutralized. The effect could be enhanced by judicious choice of the residual gas, and it should be of technical importance in the design of low voltage electronic devices. Orig.art. has: 6 figures.

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ACCESSION NR: AP4042007

ASSOCIATION: none

SUBMITTED: 30Aug63 [illegible] ENCL: 00

SUB CODE: EC, MP NR REF SOV: 002 OTHER: 000

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ACC NR: AP6031272 SOURCE CODE: UR/0057/66/036/009/1681/1684

AUTHOR: Yekhichev, O. I.; Zinchenko, G. N.; Zinchenko, N. S.; Karnaukhov, I. M.; Slabospitskiy, R. P.; Taranov, A. Ya.

ORG: none

TITLE: An atomic beam ionizer as a source of polarized ions

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 36, no. 9, 1966, 1681-1684

TOPIC TAGS: ionizer, polarized ions, polarized ion source, atomic beam ionizer, electron beam, ionization

ABSTRACT: An ionizer based on the principle of ion focusing as developed and patented earlier by Zinchenko and others, is described in some detail. In this arrangement, the electron beam is coaxial with, instead of perpendicular to, the beam of polarized atoms, thus increasing the ionization length. The electron beam was produced by an electron gun with an oxide cathode 5.5 and 9.6 mm in inner and outer diameter, respectively. The distance from the cathode to the anode was about 7 mm, and from the anode to the collector, 60 mm. The hole diameters in the cathode, anode, and collector were 6, 7, and 8 mm, respectively. An investigation of the characteristics of the device revealed that the transmission factor of the electrons was 100 percent through the anode orifice, and 92 percent through the entire ionizer. The divergence of the electron beam was small, the beam diameter varying between 6 and 8 mm. A hydrogen atom beam produced by the dissociation of molecules in glow-discharge and

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ACC NR: AP6031272

focused according to atomic spins in a field of a magnetic quadrupole was introduced into the ionizer. The measured efficiency of ionization was found to be 4.5 x 10^{-4} at a 90-mamp electron current and a 1400-v potential difference between the cathode and anode. The mass-spectrometric data on the composition of the focused atomic beam showed that it consists of hydrogen atoms, thus confirming the stated efficiency of ionization. This efficiency is 3 to 5 times higher than the results reported in the Proceedings of the International Symposium on Polarization Phenomena of Nucleons (Birkhaser Verlag. Basel und Stuttgart, 1961). Orig. art. has: 3 figures and 1 formula.

[FP]

SUB CODE: 20/ SUBM DATE: 10Dec65/ ORIG REF: 004/ OTH REF: 001/ ATD PRESS: 5080

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APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3"

"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3

ZINCHENKO, N.S.; ZHIGAYLO, B.A.

Effect of ion focusing in velocity modulated electron beams.
Zhur. tekh. fiz. 34 no.7:1306-1311 Jl '64 (MIRA 17:8)

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"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3

ZINCHENKO, N.S.; ZHIGAYLO, B.A.

Interrelation between resonance regions in frequency doubling with the aid of ferrites. Zhur. tekh. fiz. 39 no.1:164-167 Ja '64. (MIRA 17:1)

1. Institut radiofiziki i elektroniki AN UkrSSR, Khar'kov.

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"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3

ACCESSION NR: AP4009938 S/0057/64/034/001/0164/0167

AUTHOR: Zinchenko, N.S.; Zhigaylo, E.A.

TITLE: Interaction between resonance regions of ferrite frequency doublers

SOURCE: Zhurnal tekhnicheskoy fiziki, v.34, no.1, 1964, 164-167

TOPIC TAGS: ferrites, frequency doublers, ferrite frequency doublers, ferrite frequency doubler resonances

ABSTRACT: The present paper reports results of experiments performed in 1959 on the frequency doubling of 8 mm and 4 mm microwaves by ferrites. With the 8 mm waves, ferrite samples in the form of semi-discs 1.6 mm thick with diameters of 3.2, 5, 7.2 and 10 mm were employed, as well as spheres 2.4 mm in diameter. With the 4 mm waves, only semi-discs 1 mm thick and 3.6 mm in diameter were used. The semi-discs were fastened to the narrow wall of the rectangular waveguide with their planes parallel to the wide wall. The spheres were supported in the center of the waveguide. The magnetizing field was perpendicular to the wide wall of the waveguide. The microwave powers at the initial and the doubled frequencies were monitored separately with thermistor bridges. The fraction of the incident power appearing at the doub-

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ACC.NR: AP4009938

led frequency was investigated as a function of the magnetizing field strength. When the ferrite sample was small compared with the wavelength only one resonance was observed. For the larger samples, however, there were several resonances of different heights and widths. The number and configuration of these resonances depended not only on the sample size, but also on the angle between the uhf magnetic field and the magnetizing field. When this angle was varied continuously, the heights, widths and positions of these resonance changed continuously. In one of the three cases for which curves are given, there were five resonances at magnetizing fields between 14 000 and 19 000 Oe. [Abstracter's note: It is not stated whether this case is typical or extreme.] The observed resonances are ascribed to different magnetostatic vibration modes of the ferrite, which are excited by non-uniform spin precession in the sample. A quantitative theory is not attempted. The authors consider further investigation of this phenomenon to be desirable. "The authors thank I.N.Truten' and Ye.M.Kuleshov for their interest in the work and for making a number of instruments available." Orig.art.has: 3 figures.

Card 2/3

APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3"

"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3

ACC.NR: AP4009938

ASSOCIATION: Institut radiofiziki i elektroniki AN UkrSSR, Khar'kov (Institute of Radiophysics and Electronics, AN UkrSSR)

SUBMITTED: 12Dec61 DATE ACQ: 10Feb64 ENCL: 00

SUB CODE: PH, GE NR REF SOV: 000 OTHER: 003

Card 3/3

APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3"

"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3

ZHABITSKIY, G.; ZINCHENKO, O., kapitan

Youth trains for the defense of the motherland. Komm. Vooruzh. Sil 46 no.9:69-75 My '65. (MIRA 18:7)

1. Pervyy sekretar' TSentral'nogo komiteta Leninskogo kommunisticheskogo soyuza molodezhi Belorussii (for Zhabitskiy). 2. Pomoshchnik nachal'nika politicheskogo upravleniya Belorusskogo voyennogo okruga po komsomol'skoy rabote (for Zinchenko).

APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3"

"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3

ZINCHENKO, O.

Zinchenko, O. "Influence of the secretory activity of the root system upon the activity of the soil microflora," Sbornik nauch. rabot studentov (Rost. n/D gos. un-t im. Molotova), Issue 1, 1949, p. 71-76

SO: U-3566, 15 March 53, (Letopis 'Zhurnal 'nykh Statey, No. 14, 1949).

APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3"

"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3

ZINCHENKO, O.A.

Influence of granulated fertilizers on the effectiveness of azotobacterin. Trudy Vses. inst. sel'khoz. mikrobiol. no.14:223-235 '58. (MIRA 15:4)

(Azotobacter) (Fertilizers and manures)

APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3"

"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3

ZIN O, P.I.

Some problems in the study of memory. Vop.psikhol. no.1 11-18 Ja-F '56. (MLRA 9:5)

1. Khar'kovskiy pedagogicheskiy institut inostrannykh yazykov. (Memory)

APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3"

"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3

ZINCHENKO, P. I.

USSR / Human and Animal Physiology. The Nervous System. T

Abs Jour: Ref Zhur-Biol., No 9, 1958, 41738.

Author : Zinchenko, P. I.
Inst : Scientific Research Institute of Psychology USSR.
Title : On the Problem of the Relationship Between the Formation of Association and the Content of Activity.

Orig Pub: Nauk. zap. nauk dosl. in-t, psikhol. URSR, 1956, 4, 151-169 (Ukr).

Abstract: The experimental subjects were given 10 lines of 4 words each, and were asked to underline one, associated either by meaning with the first word of the line "house-building" (first series) or

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"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3

USSR / Human and Animal Physiology. The Nervous System. T

Abs Jour: Ref Zhur-Biol., No 9, 1958, 41738.

Abstract: having a specific relationship, as "house-window" (second series) or an artificial relationship, such as "house-fish." They were then required to reproduce all remembered words independently, or recall 3 words of each line upon presentation of the first one. In all the series, the words remembered better if they were connected with the activity of the experimental subject. However, regardless of this, words having specific, and particularly, meaningful associations, were remembered better than the ones lacking these. Confirmatory data were obtained following delayed reproduction of arbitrary remembering with a group of schoolchildren of various ages. Objectively, content associations were formed on the basis of reinforcement acting upon the past experience of

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"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3

USSR / Human and Animal Physiology. The Nervous System. T

Abs Jour: Ref Zhur-Biol., No 9, 1958, 41738.

Abstract: the man. It is concluded that the success of remembering is determined not only by the role that the material plays in the activity, but also by its objective content. -- M. I. Lisina.

Card 3/3

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"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3

ZINCHENKO, P. I.

Development of the memory. Nauk. zap. Nauk.-dosl. inst. psykhol. 11:43-46 '59. (MIRA 13:11)

1. Pedagogicheskiy institut inostrannykh yazykov im.N.K.Krupskoy, Khar'kov.

(Memory)

APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3"

"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3

ZINCHENKO, P.I.

Peculiarities of the mnemonic and cognitive orientation in memory processes [with summary in English]. Vop.psikhol. 5 no.1:76-92 Ja-F '59. (MIRA 12:4)

1. Khar'kovskiy pedagogicheskiy institut inostrannykh yazykov im. N.K. Krupskoy.

(Mnemonics)

APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3"

"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3

ZINCHENKO, P.I.

"Psychological problems in industrial training". Edited by E.S. Milerian. Reviewed by P.I. Zinchenko. Vop. psikhol. 6 no.1:172-175 Ja-F '60. (MIRA 13:6)

(Manual training--Psychological aspects)

(Milerian, E.S.)

APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3"

"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3

ZINCHENKO, P.I.

Problems in the development of memorization processes. Vop. psikhol. 6 no. 6:75-86 N-D '60. (MIRA 13:12)

1. Khar'kovskiy pedagogicheskiy institut inostrannykh yazykov imeni N.K. Krupskoy.

(Memory)

APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3"

"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3

ZINCHENKO, P.I.

One concept in the psychology of learning. Vop. psikhol. 7 no.6: 161-171 N-D '61. (MIRA 15:1)

1. Khar'kovskiy universitet imeni A.M.Gor'kogo.
(Learning, Psychology of)

APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3"

"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3

ZINCHENKO, P.I.

Practical lessons in the psychology of memory. Vop. psikhol. 9 no.1: 122-136 Ja-F '63. (MIRA 16:4)

1. Khar'kovskiy gosudarstvennyy universitet imeni A.M.Gor'kogo. (Memory)

APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3"

"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3

ZINCHENKO, P. I.; REPKINA, G. V.

"Problema operativnoy pamyati."

report submitted for 15th Intl Cong, Intl Assn of Applied Psychology, Ljubljana, Yugoslavia, 2-8 Aug 1964.

Khar'kovskiy universitet.

APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3"

"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3

YARCHUK, A.Ya., inzh.; ZINCHENKO, S.A., inzh.

Model of an electric traction motor in pulsed operation. Sbor. trud. LIIZHT no.205:121-131 '63. (MIRA 18:1)

APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3"

"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3

ZINCHENKO, P.I.; REPKINA, G.V.

Problem of immediate (operative) memory. Vop. psikhol. 10 no.6: 3-12 N-D '64. (MIRA 18:2)

1. Gosudarstvennyy universitet, Khar'kov.

APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3"

"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3

ZINCHENKO, S.N.

Characteristics of intellectual disorders in children with congenital myxedema. Trudy TSIU 78:71-76 '65.

(MIRA 18:9)

1. Kafedra detskoy psikhiatrii (zav.- zasluzhennyy deyatel' nauki prof. G.Ye. Sukhareva) TSentral'nogo instituta usovershenstvovaniya vrachey.

APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3"

"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3

ZINCHENKO, T., agronom

Variety testing station is of great help to collective farms.
Nauka i pered. op. v sel'khoz 8 no.12:61 D '58. (MIRA 12:1)

1.Tuligule-Berezanskiy sorteuchastok Nikolayevskoy oblasti.
(Field crops--Varieties)

APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3"

"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3

ZINCHENKO, T.V.; FEFER, I.M.

Chemical investigation of Marrubium praecox Janka of the mint family (Labiatae). Farmatsev. zhur. 16 no.1:47-51 '61. (MIRA 17:8)

1. Kiyevskiy institut usovershenstvovaniya vrachey, kafedra farmakognozii i farmakologii.

APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3"

"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3

ZINCHENKO, T.V.

Studies on the alkaloid content of seeds in some Datura species. Farmatsev. zhur. 16 no.4:35-40 '61. (MIRA 17:6)

1. Kafedra farmakognozii Kiyevskogo instituta usovershenstvovaniya vrachey.

APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3"

"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3

KHARKEVICH, S.S.; ZINCHENKO, T.V.

The knotweed Polygonum alpinum All., its cultivation in Kiev and possibilities of utilization. Trudy Bot.inst.Ser.6 no.7: 389-393 '59. (MIRA 13:4)

1. Botanicheskiy sad AN USSR, Kiyev (for Kharkevich).
2. Kiyevskiy insti ut usovershenstvovaniya vrachey (for Zinchenko).
(Kiev--Knotweed)

APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3"

"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3

ZINCHENKO, T.V.; FEFER, I.H.

Studying the glycosides of the hedge nettle Stachys betonica.
Farmatsev. zhur. 17 no.3:35-38 '62. (MIRA 17:10)

1. Kafedra farmakognozii i farmakologii Kiyevskogo instituta usovershenstvovaniya vrachey.

APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3"

"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3

KHARKEVICH, S.S.; ZINCHENKO, T.V.

Alpine knotweed (Polygonum alpinum All.), its useful properties and possibilities of utilization. Trudy Bot.sada AN URSR 5:38-56 '58. (MIRA 12:2)

(Knotweed) (Tannins)

APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3"

"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3

Country : USSR M
Category: Cultivated Plants. Grains.

Abs Jour: RZhBiol., No 22, 1958, No 100255

Author : Zinchenko, T. Ya.
Inst : -
Title : Two-Year Experiment in Testing Crossings Gotten Through Soviet and American Breeding.

Orig Pub: Kukuruza, 1958, No 3, 38

Abstract: Under the conditions of the arid south of Ukraine (Nikolayevskaya Oblast'), corn hybrids of Soviet breeding surpass the American hybrids in the yield of kernels, green roughage and ears, resistance to drought, diseases and pests.

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M-35

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"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3

ZINCHENKO, V.

Remote control of endless rope haulage winches. Mast. ugl. 7 no.2: 18-19 F '58. (MIRA 11:3)

1. Starshiy inzhener podzemnogo transporta tresta Dzerzhinskugol'.
(Remote control) (Mine haulage)

APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3"

"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3

ZINCHENKO, V.A.; GERTSEVA, N.M.

Determination of metallic sodium in the presence of bivalent titanium chloride. Zhur.anal.khim. 17 no.6:670-673 S '62. (MIRA 16:1)

1. Vsesoyuznyy alyuminiyevo-magniyevyy institut, Leningrad.
(Sodium—Analysis) (Titanium chloride)

APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3"

"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3

ZINCHENKO, V.A.; YERSHOVA, N.A.; GERTSEVA, N.M.

Determination of bi- and trivalent titanium in titanium slags.
Titan i ego splavy no.8:242-246 '62. (MIRA 16:1)
(Titanium—Analysis)
(Valence (Theoretical chemistry))

APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3"

"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3

ZUBOV, M.F.; FEDOSEYENKO, L.G.; SANIN, M.A.; PIVOVAROVA, T.M.; ZIL'BERMINTS, I.V., kand. biolog. nauk; FADEYEV, Yu.N., kand. sel'skokhoz. nauk; ZHURAVLEVA, L.M.; KIPIANI, A.A., aspirant; MEL'NIKOV, N.N.; BOCHAROVA, L.P.; SHVETSOVA-SHILOVSKAYA, K.D.; SHAPOVALOV, G.K.; SPIRINA, T.A.; SEDYKH, A.S.; ZINCHENKO, V.A., aspirantka

From experiments in the use of new preparations. Zashch. rast. ot vred. i bol. 8 no.10:24-26 O '63. (MIRA 17:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh sredstv zashchity rasteniy (for Zubov, Fedosayenko, Sanin, Pivovarova). 2. Gruzinskiy institut zashchity rasteniy (for Kipiani). 3. Moskovskaya ordena Lenina sel'skokhozyaystvennaya akademiya im Timiryazeva (for Zinchenko).

APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3"

"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3

ZINCHENKO, V.A.; BARINOVA, O.D.

Vanadium determination in titanium tetrachloride and metallic titanium. Titan i ego splavy no.8:251-259 '62. (MIRA 16:1)
(Titanium--Analysis) (Titanium chloride--Analysis)
(Vanadium--Analysis)

APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3"

"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3

S/075/62/017/006/002/004
I032/I232

AUTHORS: Zinchenko, V.A., Gertseva, N.M.

TITLE: Determination of metallic sodium in the presence of titanium dichloride

PERIODICAL: Zhurnal analiticheskoy khimii, v.17, no.6, 1962, 670-673

TEXT: Metallic sodium in melts containing titanium dichloride is determined gasometrically by the following method. The sample is treated wtih an aqueous solution of sulfosalicylic acid that has been neutralised with ammonia containing some ammonium chloride. The sulfosalicylic acid forms a stable complex compound with the bivalent titanium ion, which fact prevents oxidation of the titanium ion by ionic hydrogen. The amount of hydrogen gas evolved is therefore equivalent to the amount of metallic sodium in the sample. There

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"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3

S/075/62/017/006/002/004
I032/I232

Determination of metallic sodium in the...

are 1 figure and 4 tables. The English language references read: 1. Dean, R.S., Metal Ind. 90, 8, 9,10 (1957). 2. Hanry, T.A., Baker, D.H., U.S. Bur. Mines; Rept. Invest. No.5661 (1960)

ASSOCIATION:

(All-Union Aluminium-Magnesium Institute, Leningrad)

SUBMITTED: June 13, 1961

Card 2/2

APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3"

"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3

PETROV-SPIRIDONOV, A.Ye., kand. biolog. nauk; ZINCHENKO, V.A., aspirant

Polarographic method of determining the reaction of plants to the effect of propamin. Izv. TSKHA no.4:220-223 '63. (MIRA 17:1)

APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3"

"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3

26381
S/032/61/027/008/001/020
B107/B206

5.5210

AUTHOR: Zinchenko, V. A., and Rudina, S. I.

TITLE: Colorimetric determination of titanium in aluminum and magnesium by using diantipyryl methane

PERIODICAL: Zavodskaya laboratoriya, v. 27, no. 8, 1961, 956-958

TEXT: A method for the determination of from $1 \cdot 10^{-4}$ to $5 \cdot 10^{-5}$% of Ti in highly pure aluminum is described. The determination of titanium with diantipyryl methane was proposed by A. A. Minin (Ref. 2: Uchenyye zapiski Permskogo gosudarstvennogo universiteta, v. XI, no. 4, 177(1956)). In acid solution diantipyryl methane forms a bright yellow titanium complex; the reaction is 20 times more sensitive than that with H_2O_2. Al, Mg, V, fluoride, and phosphate do not interfere; with diantipyryl methane, Zn, Cd, Hg form difficultly soluble compounds, and may thus be filtered off; Cr, Ni and Co interfere by their proper color. The interfering Fe^{III} is reduced with ascorbic acid. Diantipyryl methane was prepared from antipyrine and formalin according to a formula by V. P. Zhivopistsev

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"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3

(Ref.3: Zavodskaya laboratoriya, XXVI, 10, 1187 (1960)). The determination may be carried out in sulfuric acid or in the mixture HCl - H_2SO_4. Between 0.5 and 8 N the acidity does not affect the optical density. Complex formation is completed after 15 minutes; coloring then remains unchanged for a long time. If Fe^{III} exists in the solution, 30 to 40 minutes are necessary for a complete reduction by ascorbic acid. The minimum amount of titanium which may thus be determined, is $1 \cdot 10^{-4}$% of Ti for a weighed portion of 1 g of aluminum. The method was tested by adding certain amounts of titanium to the weighed portion of high-purity aluminum. The sensitivity of the method may be increased by precipitating titanium together with ferric hydroxide, manganese(IV)hydroxide, or magnesium hydroxide, and separating it. In this way, even $5 \cdot 10^{-5}$% of Ti may be determined in a weighed portion of 2 g of aluminum. For the determination of titanium in metallic magnesium larger weighed portions (3-5 g) are used, and titanium is separated by coprecipitation with aluminum hydroxide. There are 2 tables and 3 Soviet references.

APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3"

"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3

Colorimetric determination of...

26381
S/032/61/027/008/001/020
B107/B206

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy alyuminiyevo-magniyevyy institut (All-Union Scientific Research Institute of Aluminum and Magnesium)

Card 3/3

APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3"

"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3

ZINCHENKO, V. D.

ZINCHENKO, V. D. -- "Investigation of the Durability of Flexible Road Surfacing on Sandy Bases Under Conditions in the Steppe Area of the Ukraninian SSR," Sub 13 May 52, Moscow Motor Vehicle and Road Inst imeni V. M. Molotov (Dissertation for the Degree of Candidate in Technical Sciences)

SO: VECHERNAYA MOSKVA, JANUARY-DECEMBER 1952

APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3"

"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3

ZHELTONOGOVA, V.A.; ZINCHENKO, V.G.

Age of certain Silurian sediments in the Salair Range of Western Siberia. Sov. geol. 3 no. 9:128-130 S '60. (MIRA 13:11)

1. Zapadno-Sibirskoye geologicheskoye upravleniye.
(Salair Range--Sediments (Geology)
(Geological time)

APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3"

"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3

L 5024-66 EWT(1)/EPA(s)-2

ACCESSION NR: AP5024579

UR/0292/65/000/009/0027/0031
621.313.33.001.4

AUTHOR: Chertok, B. N. (Engineer); Zinchenko, V. G. (Engineer); Strusovskaya, M. I. (Engineer); Kharabash, P. N. [illegible]

TITLE: Investigation of the effect of partial insulation around the cast squirrel cage of a rotor

SOURCE: Elektrotekhnika, no. 9, 1965, 27-31

TOPIC TAGS: induction motor

ABSTRACT: The results of an experimental investigation of the squirrel-cage rotor-core insulation and its effect on the induction-motor performance are reported. The aluminum-phosphate coating of the core was found to be the best. This coating [illegible] and, when applied [illegible] the NaOH- [illegible] The effect [illegible] comparing the performance of [illegible] of a [illegible] induction motor; [illegible] was found that the reduction of the [illegible] insulation, resulted in [illegible]

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"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3

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ACCESSION NR: AP5024579

lowering the stator-winding temperature by 120 and enhancing the motor efficiency by 2.5--3%; also the motor minimum and maximum torques increased by [illegible] and 12%. [illegible] formulas, and [illegible] tables.

ASSOCIATION: none

SUBMITTED: 00 ENCL: 00 SUB CODE: EE

NO REF SOV: 005 OTHER: 002

Card 2/2

APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3"

"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3

ZINCHENKO, V.G.

Age of the Tomskozavod series. Mat.po geol.Zap.Sib. no.63:149-153 '62. (MIRA 16:10)

APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3"

"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R002065220001-3

CHERTOK, B.N., inzh.; ZINCHENKO, V.G., inzh.; STRUSOVSKAYA, M.I., inzh.; KHARABASH, P.N.

Study of the effectiveness of the partial insulation of a cast squirrel-cage rotor. Elektrotekhnika, 36 no.9:27-31 S '65. (MIRA 18:9)

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ZINCHENKO, V. I.

ZINCHENKO, V. I.: "Investigation of factors affecting the noise of ship engines with compression-ignition". Leningrad, 1955. Min Maritime Fleet USSR. Leningrad Higher Engineering Maritime School imeni Admiral S. O. Makarov. (Dissertations for the Degree of Candidate of Technical Sciences)

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Subject : USSR/Engineering

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Author : Zinchenko, V. I., Kand. Tech. Sci.

Title : Influence of Construction factors on the noise of ships' engines.

Periodical : Vest. mash., #4, p. 13-17, Ap 1956

Abstract : The author analyses factors which influence the internal combustion engine's noise. He divides the sources of noise into the aerodynamic (inlet and outlet of gases and of air) and the mechanical impact of engine parts (pistons, valves etc.). He surveys factors which influence the volume of noise, such as the engine's rotational motion and its angular speed, the number and diameter of cylinders, the engine's foundation, etc. Results of tests with a number of standard Soviet motors are given. Formulae, charts, 2 references, 1955.

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Institution : None

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