STIKSA, J.; DAUM, S.; NIKODYMOVA, I.

Influence of metaproterenol on respiratory insufficiency and the distribution of air and blood in obstruction diseases of the airways. Cas. lek. Cesk. 105 no.2:46-51 14 Ja '66.

1. Vyzkumny ustav experimentalni terapie, interni katedra Ustavu pro doskolovani lekaru, Praha (reditel prof. dr. O. Smahel, DrSc.).

DAUM, S., (Praha-Krc, Budejovicka 800); JANOTA, M.; BOUDIK, F.; Technicka spoluprace: MACHANOVA, A.; PLACHA, B.; DOUBRAVOVA, V.

Diffusion capacity of the lung in patients with uremia. Cas. lek. Cesk. 104 no.47:1285-1290 26 N '65.

1. Vyzkumny ustav experimentalni terapie v Praze (reditel prof. dr. O. Smahel, DrSc.) a II. interni klinika fakulty vseobecneho lekarstvi Karlovy University v Praze (prednosta prof. dr. F. Herles). Submitted April 1965.

DAUM, S.; NIKODYMOVA, L.; STIKSA, J.; VOKAC, Z.; VAVROVA, V.; HLOUSKOVA, Z.; Technicka spoluprace: MACHANOVA, A.; PLACHA, B.; URBANOVA, A.

Diffusion capacity of the lungs and its components in interstitial pulmonary fibrosis in adolescents. Cas. lek. Cesk. 104 no.49/50: 1366-1371 10 D '65.

1. Vyzkumny ustav experimentalni terapie v Praze (reditel prof. dr. O. Smahel, DrSc.) a Ustav vyzkumu vyvoje ditete v Praze (reditel prof. dr. J. Houstek, DrSc.).

CZECHOSLOVAKIA UDC 616.152.264.01 - 074

STIKSA, J.; DAUM, S.; PLACHA, B.; Research Institute for Experimental Therapy, and Chair for Internal Diseases, Institute for Postgraduate Medical Training (Vyzkumny Ustav Experimentalni Terapie a Interni Katedra Ustavu pro Doskolovani Lekaru), Prague, Director (Reditel) Dr O. SMAHEL.

"Examination in Hypercapnia."

Prague, Casopis Lekaru Ceskych, Vol 105, No 26, 24 Jun 66, pp 699 - 701

Abstract [Authors' English summary modified]: Values of partial pressure of CO_2 in arterial blood calculated on the basis of the manometric method were compared to those obtained by calculation on the basis of the titration method, and to those obtained by interpolation using the method of Astrup and Siggaard-Andersen. The manometric method and the interpolation method agree with each other much better than with the titration method. Advantages of using the Astrup and Siggaard- Andersen method are described. 2 Figures, 12 Western references. (Manuscript recived Dec 65).

1/1

CZECHOSLOVAKIA UDC 616.24-008.47-07:616.24-008.4-073.175

DAUM, S.; Research Institute of Experimental Therapy (Vyzkumny Ustav Experimentalni Terapie), Prague, Director (Reditel) Prof Dr O. SMAHEL.

"Investigation of Respiration in the Diagnosis of Dyspnea."

Prague, Casopis Lekaru Ceskych, Vol 105, No 35, 2 Sep 66, pp 943 - 948

Abstract [Author's English summary modified]: The examination of respiration in the diagnosis of dyspnea must be total so that the causes of dyspnea can be established. The examination results do not always agree with the subjective feeling. A satisfactory guide for the diagnosis of respiratory disorders is simple spirometric examination of blood gases. These methods should be available to physicians in health centers. 6 Figures, 2 Tables, 9 Western, 1 Czech reference. (Manuscript received Mar 66).

1/1

DAUME, E.Ya.

SUBMITTED: December 7, 1957
AUTHORS: Golubkov, P.V. and Talaring, Sh. Ye. SOV/109-3-3-22/23
TITLE: The Second All-Union Conference on Radioelectronics of the Ministry of Higher Education of the USSR (Vtoraya vsesoyuznaya konferentsiya MVO SSSR po radioelektronike) - News Item
PERIODICAL: Radiotekhnika i Elektronika, 1958, Vol 3, Nr 3, pp 440 - 444 (USSR)
ABSTRACT: The conference took place during September 23 - 29, 1957, at Saratovskiy gosudarstvennyy universitet imeni N.G. Chernyshevskogo (Saratov State University imeni N.G. Chernyshevskiy). Apart from the universities, the conference was attended by the representatives of some scientific research institutes of the Soviet and Ukrainian Academies of Science, various industrial establishments and the interested ministries. This arrangement stimulated the discussion and evaluation of the papers presented and permitted the determination of plans for the future research to be carried out by the universities in the field of radioelectronics.

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The problem dealing with various fluctuation phenomena in electron and gas-discharge devices

Card2/16 and with the physics and applications of gas discharges at

U.H.F. were discussed in the papers by S.A.Akhmanov, I.P. Trofimenko, G.F. Antonov and N.G. Tikhomirova, the investigated the phenomena in certain oscillatory U.H.F. systems; the problem was also discussed in the paper: "The Electron Velocity Distribution in a Disintegrating Plasma" by A.M. Yakhontskiy. "Frequency and Amplitude Fluctuations of the Oscillations of a 3-cm Klystron Oscillator" by V.N. Eikonov; "De-electronization of Gas in a 10-cm Antenna Switch" by U.V. Gorokhov and "Detuning of Cavity Resonators by Beams of Gas Discharges" by U.V. Gorokhov and I.P. Bykov. The lecture of S.A. Kornilov entitled "Parlex Klystron as a Regenerative U.H.F. Amplifier" was of great practical interest. The simplicity of the amplifier permits the application of this device in the whole range of equipment where the comparatively high level of noise is not important. The Section of Electrodynamics had six sessions, during which over 30 papers and communications were read. A considerable part of these was devoted to the theoretical and experimental investigations of the propagation of electromagnetic waves in various delay systems. The

Card3/16 paper by V.N. Bashenkov entitled "Scattering Properties of Certain Rod-type Delay Systems" gave the scattering equation for a structure consisting of a number of arbitrarily-loaded rods (stubs). The equation was employed to analyse single-stage stub systems and the author found that the theory was in agreement with the experimental results. The communication by V.I. Bespalov and M.Ya. Daume entitled "Propagation of Electromagnetic Waves in a Non-uniform Helix" gave the results of a perturbation-method investigation of the effect of radial longitudinal and radial displacements of the helix conductor on the characteristic of the delay system. The results obtained by the authors permit the evaluation of the tolerances in the helices employed in backward-wave tubes. The paper "Generalisation of the Circuit Theory Including the Helical Delay Systems" was concerned with the possibility of the application of small perturbing objects to the measurement of the coupling impedance in a wide range of delay systems. Apart from the theoretical justification of the above method of measuring the

Card4/16 coupling impedance, the paper gave some experimental results.

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SOV/141-2-2-9/22

AUTHORS: Bespalov, V.I. and Daume, E.Ya.

TITLE: Propagation of Electromagnetic Waves in a Helical Line with Small Inhomogeneities

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Radiofizika, 1959, Vol 2, Nr 2, pp 213 - 222 (USSR)

ABSTRACT: Two models of a helical line are considered. First, the helix is approximated by a helically-conductive cylinder (Figure 1). The cylinder has a radius b and its conductivity forms an angle $(\pi/2 - \varepsilon)$ with the axis of the cylinder. The position of a point on the surface of a cylinder is described by co-ordinates ξ and η which are determined as follows. It is assumed that the cylinder is wound from a strip having a width $\eta_0 = s \cos \eta$, where $s = 2\pi b \operatorname{tg} \varepsilon$, s being the pitch of the helix. The turns of the strip are closely adjacent to each other but do not overlap. The co-ordinate ξ is measured along the strip, while η is measured transversely across the strip (Figure 1). In the absence of inhomogeneities, a wave propagates in the direction z,

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which produces the following surface currents on the conducting cylinder:

$$\underline{J}(\zeta, \eta) = I(\zeta, \eta)\zeta_o \qquad (1.1) .$$

If a section of the line $0 \leqslant z \leqslant l$ contains inhomogeneities, these result in a change of the magnitude and the direction of the currents in the line. By assuming that the surface of the helically-conducting cylinder consists of insulated conducting threads, the irregularities can be described by a vector:

$$\underline{f} = f_{\eta}(\zeta, \eta)\eta_o + f_r(\zeta, \eta)\underline{r}_o \qquad (1.2)$$

which determines the magnitude of the displacement of the threads. The direction of the conductivity is determined by the vector given by Eq (1.3). The current on

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a non-homogeneous section of the equivalent conducting surface can be written as Eq (1.4). The reflection coefficient at the input to a non-homogeneous line section can be expressed by (L.A. Vaynshteyn - Ref 6):

$$\Gamma = -\frac{\int_{\Sigma'} \underline{J}'\underline{E}d\Sigma'}{2\int_{\sigma}(E_r H_\varphi + E_\varphi H_r)d\sigma} \qquad (1.5)$$

where Σ' is the surface containing the exciting currents $\underline{J}'$, E_r, E_φ, H_r and H_φ represent the field of the wave propagating along a homogeneous cylinder in the direction of $+z$, σ is the transverse cross-section of the line.

Card3/7 If it is assumed that the conditions of Eqs (1.6) are

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fulfilled, Eq (1.5) can be written as Eq (1.7), where P is the power flow through the transverse cross-section of the line. When the inhomogeneity is due to the displacement of the "threads" along the surface of the cylinder (see the conditions of Eqs (1.8)), the reflection coefficient is given by Eq (1.10); on the other hand, when the threads are displaced in the radial direction (Eqs 1.9), the reflection coefficient is given by Eq (1.11). The second model is in the form of a helix wound from a metal strip in such a way that the normal to the plane of the strip forms an angle ε with the axis of the helix (Figure 2). The period of the helix s is small in comparison with the wavelength λ in free space and the width d of the strip. It is therefore possible to assume that the field between the turns is distributed in a manner analogous to that of a corresponding two-conductor line. The magnitude of the reflection coefficient due to inhomogeneities in such a helix can be evaluated from (M. Didlaukis, H. Kaden - Ref 8):

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$$\Gamma = \frac{jh_\zeta}{Z_\zeta} \int_0^L \Delta Z_\zeta \, e^{-2jh_\zeta \xi} \, d\xi \qquad (1.13)$$

where ζ is the co-ordinate measured along the line; h_ζ, Z_ζ and L represent the propagations constant, the wave impedance and the length of an equivalent two-conductor line. Eq (1.13) can be transformed into Eq (1.15). Eqs (1.10), (1.11) and (1.15) can be employed to determine the reflection coefficient if functions $f(\zeta, \eta)$ and $f(\zeta)$ are known. The problem can be solved if it is assumed that the helix considered has a large number of inhomogeneities, i.e. $l/\tau \gg 1$, where τ denotes the length of an irregularity and l is the length of the helix. Secondly, the irregularities are uniformly distributed along the line. It is now possible

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to determine the average square value of Γ. For this purpose, the correlation function of the irregularities is taken to be in the form of Eqs (2.1). On the basis of Eqs (1.10) and (1.11), it is shown that the average square values of the reflection coefficients for the first model are given by Eqs (2.2) and (2.3). In the case of the second model, the average square value of the reflection coefficient is given by Eq (2.4), when the turns are displaced axially and by Eq (2.5) when the thickness of the conductors is irregular; a in Eq (2.5) denotes the radius of a conductor. Graphs of Eqs (2.2) and (2.3) are given in Figures 3 and 4. The functions represented by Eqs (2.4) and (2.5) are illustrated in Figures 5 and 6. The effect of the inhomogeneities on the reflection coefficient was also investigated experimentally. The results are illustrated in Figure 7, 8 and 9.

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Propagation of Electromagnetic Waves in a Helical Line with Small Inhomogeneities

The authors express their gratitude to A.V. Gaponov for his interest in this work and for reading the manuscript.
There are 9 figures and 11 references, of which 8 are Soviet, 2 German and 1 English.

ASSOCIATION: Issledovatel'skiy radiofizicheskiy institut pri Gor'kovskom universitete (Radiophysics Research Institute of Gor'kiy University)

SUBMITTED: November 17, 1958

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40435

S/056/62/043/003/053/063
B104/B102

9,2571

AUTHORS: Daume, E. Ya., Freydman, G. I.

TITLE: Doppler effect in the reflection of an electromagnetic wave from a magnetization wave in a ferrite

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 43, no. 3(9), 1962, 1102-1104

TEXT: The reflection of electromagnetic waves from magnetizing waves was studied in a coaxial cable filled with AM-1 (AM-1) ferrite (Fig. 1). Susceptibility of the ferrite was varied spatially and with time ($\mu = f(z-v_o t)$) by means of spiral conductors wound on the coaxial cable. The velocity v_o of the magnetization waves was 10^9 cm/sec, the frequency of the incident waves was 3200 Mcps, the frequency maximum of the reflected waves was at about 3400 Mcps. The coefficient of power reflection was about 10^{-4}. When the intensity of the constant magnetic field along the coaxial cable is 25-40 oe, electromagnetic waves are not reflected if the

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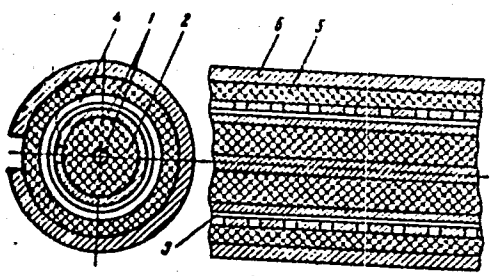
field strength of the magnetization waves is less than 200 oe. There are 3 figures.

ASSOCIATION: Radiofizicheskiy institut Gor'kovskogo gosudarstvennogo universiteta (Radiophysical Institute of the Gor'kiy State University)

SUBMITTED: June 2, 1962

Fig. 1. Section across the coaxial cable.
Legend: (1) Coaxial cable, (2) ferrite, (3) dielectric, (4) spiral, (5) dielectric, (6) metal sheath.



Card 2/2

DAUME, E.Ya.; FREYDMAN, G.I.

Doppler effect in the reflection of an electromagnetic wave by a field magnetization wave in a ferrate. Zhur. eksp. i teor. fiz. 43 no.3:1102-1104 '62. (MIRA 15:10)

1. Radiofizicheskiy institut Gor'kovskogo gosudarstvennogo universiteta.
(Doppler effect) (Electromagnetic waves) (Ferrates)

L 15719-65 EWT(1)/EEC-4/EEC(t)/EEC(b)-2/EWA(h) Peb ASD-3/ESD-3/RADC/APGC/SSD/ESD(t)/ESD(c)/AEDC(a)/BSD/SSD(b)/AFWL/ASD(a)-5/ASD(f)-2/ASD(p)-3/AFETR/RAEM(a)

ACCESSION NR: AP5000317 S/0056/64/047/005/1699/1710 B

AUTHOR: Belyantsev, A. M.; Gaponov, A. V.; Daume, E. Ya.; Freydman, G. I.

TITLE: Experimental investigation of propagation of finite amplitude electromagnetic waves in ferrite-filled waveguides 25

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 47, no. 5, 1964, 1699-1710

TOPIC TAGS: waveguide, waveguide wave propagation, ferrite filled waveguide, electromagnetic shock wave

ABSTRACT: Propagation of shock waves in a coaxial ferrite-filled waveguide composed of two sections 90 and 80 cm long was investigated. A high-resistance voltage divider connected to the junction of the sections furnished the controlling voltage to a high-speed oscillograph. The passband of the system permitted measurements of wavefront durations of 1 nsec and more. The sections of the waveguide were contained in two solenoids with a longitudinal field component up to 300 oe. The azimuthal component was formed by current flowing

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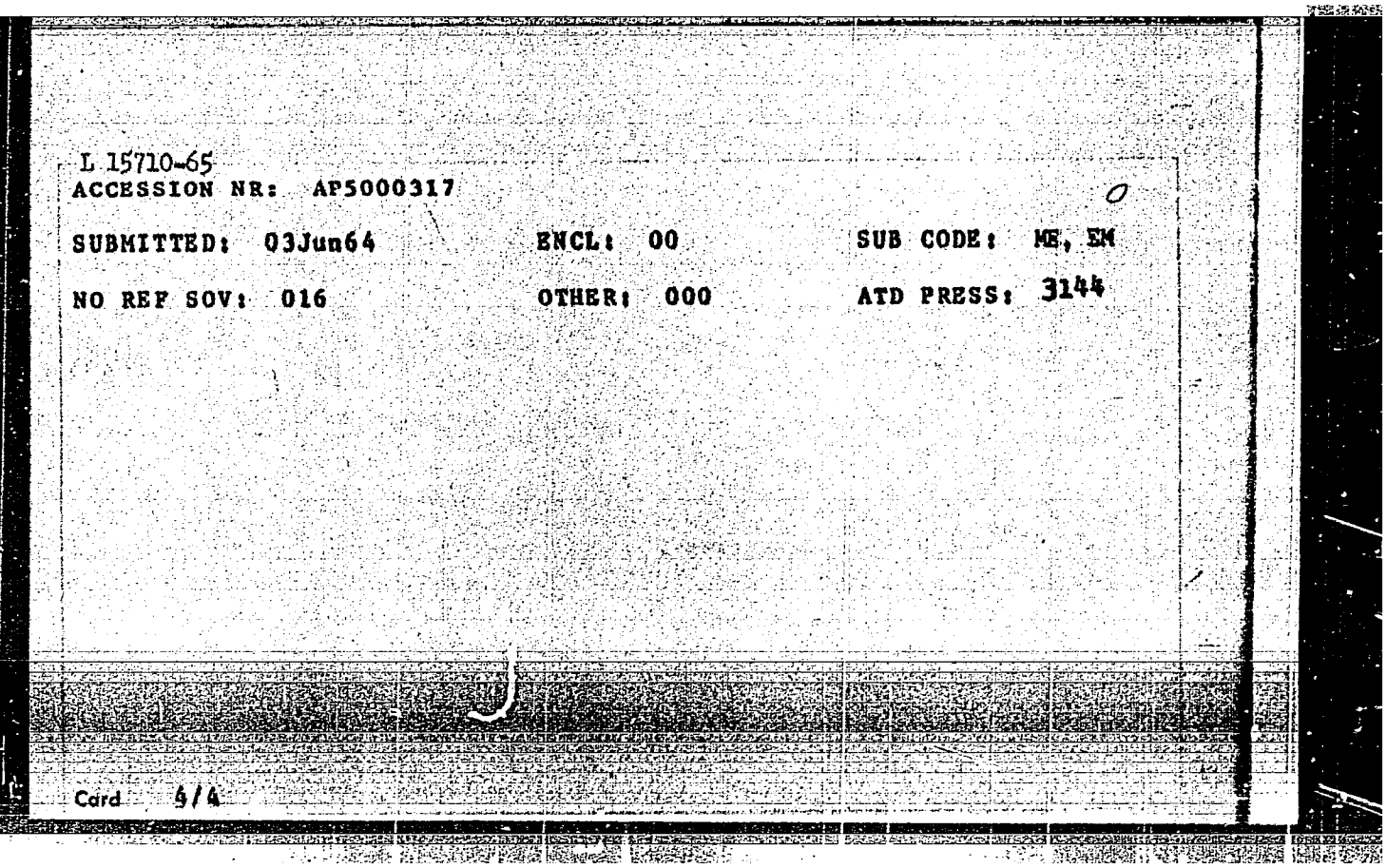
0

in the inner conductor of the coaxial waveguide. Tubes of F-1000 ferrite (with a dielectric constant between 16 and 20) with inner and outer diameters of 8 and 16 mm enclosed the inner conductor. The formation and propogation of shock waves were investigated first with two patterns of permanent ferrite magnetization; longitudinal field only and a field having both longitudinal and azimuthal components. Then, the same investigation was carried out with nonmagnetized ferrite. Furthermore, the structure of shock wave fronts was studied under various conditions of ferrite magnetization. In the case of a longitudinal field, the shock waves were found to result from the evolution of simple waves. Thus, the input pulse would tend toward increasing the rise rate at its front, and flatten the trailing edge as it propagates within the waveguide until (after a time lapse of about 200 nsec) a shock wave ensues. The amplitude dependence of the velocity of the shock wave was measured and plotted for different longitudinal components of the constant field. In the case of a permanently magnetized ferrite filling having the azimuthal field component combined with the longitudinal, disruptions developed under certain conditions at the front as well as at the trailing edge

and within a certain time interval, after which the jumps began to diminish. The phenomenon, however, was not ascribed to evolution of a simple wave; the discontinuities appeared at the very entrance to the waveguide at certain values of the current in the axial conductor of the waveguide due to an irreversible change of magnetization caused by increasing amplitudes of spin waves. The experiments with non-magnetized ferrite confirmed the earlier results obtained by Ostrovskiy (Zhurnal tekhicheskoy fiziki, v. 33, 1963, 1080) who assumed that changes in the mean azimuthal magnetization are caused by non-coherent rotation. After a certain time interval, a steepening of the wave front sets in, due to dissipation. The ensuing shock wave is structurally similar to a stationary shock wave. The shock wave front structure is discussed at length under various experimental conditions and with reference to earlier works on the problem. Orig. art. has: 9 figures.

ASSOCIATION: Radiofizicheskiy institut Gor'kovskogo gosudarstvennogo universiteta (Institute of Radiophysics, Gor'kiy State University)



L 15710-65
ACCESSION NR: AP5000317

SUBMITTED: 03Jun64 ENCL: 00 SUB CODE: ME, EM

NO REF SOV: 016 OTHER: 000 ATD PRESS: 3144

Card 4/4

L 5384-66 EWT(1)/ETC/EPF(n)-2/EWG(m)/EPA(w)-2 IJP(c) AT
ACC NR: AP5027285 SOURCE CODE: UR/0207/65/000/005/0132/0135

AUTHORS: Daumov, G. Yu. (Novosibirsk); Dudnikov, Yu. S. (Novosibirsk); Zhukov, M. F. (Novosibirsk); Sazonov, M. I. (Novosibirsk)

ORG: none

TITLE: Distribution of potential along arc of vortex type plasma generator

SOURCE: Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki, no. 5, 1965, 132-135

TOPIC TAGS: plasma jet, turbulent flow, pressure distribution, plasma generator, plasma arc

ABSTRACT: The voltage-current characteristics of a plasma arc of variable length "a" were investigated experimentally under stable-arc operation conditions. The arc was vortex-stabilized and the flow--turbulent. A special flow chamber was added to the generator to control the arc pressure independently of the arc length "a". Both the cathode and the anode were made of water-cooled copper, and the working gas was air. Voltage current (U-I) curves with the arc length as the parameter showed that U decreases with decreasing arc length and that for each length there is a minimum in U at some value I in the vicinity of 100 amps.

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L 5384-66
ACC NR: AP5027285

A voltage versus length curve shows that U depends on "a" linearly and varies only slightly with the gas main flow rate. On the basis of a functional analysis between U, I, mass flow rate G, and "a", the following empirical equation is obtained for predicting the potential distribution along the arc length

$$E = -G^{0.18}(5160 - 14.8I + 0.073I^2)\,a^{-1}$$

where $1900 \leq E$ (volts/m) ≤ 2500, I is in amps, and G in kg/sec. The weak dependence of U on the flow rate is explained by the fact that only a small portion of the gas is exposed directly to the arc. Orig. art. has: 4 formulas and 4 figures.

SUB CODE: ME/ SUBM DATE: 11Feb65/ ORIG REF: 003/ OTH REF: 005

Card 2/2

AVROV, P.Ya.; BULEKBAYEV, Z.Ye.; DAUMOV, S.G.; KRAYEV, P.I.

Gas and oil prospects for the southeastern edge of the Caspian Depression. Vest.AN Kazakh.SSR 16 no.2:3-10 F '60. (MIRA 13:6)
(Caspian Depression--Petroleum--Geology)
(Caspian Depression--Gas, Natural--Geology)

LAUMYANSKAS, G.A. [Laumenskas, H.]; YURYAVICHYUS, R.Yu. [Jurevicius, R.]; DAUNORAVICHENE, Ya.V. [Daunoravicienc, J.]; SHIMKYAVICHYUTE, G.S. [Shimkeviciute, G.]

Pollution of the lower Neman by waste waters from the pulp and paper industry. Trudy AN Lit.SSR. Ser. B no.3:121-134 '65. (MIRA 19:1)

1. Institut khimii i khimicheskoy tekhnologii AN Litovskoy SSR. Submitted February 18, 1965.

L 45959-66 EWT(1) IJP(c) AT

ACC NR: AP6015483 SOURCE CODE: UR/0181/66/008/005/1574/1576

AUTHOR: Daunov, M. I.

ORG: Institute of Physics, Dagestan Branch, AN SSSR, Makhachkala (Institut fiziki Dagestanskogo filiala AN SSSR)

TITLE: The employment of the Nernst-Ettingshausen thermomagnetic effects as an indicator of the scattering mechanism

SOURCE: Fizika tverdogo tela, v. 8, no. 5, 1966, 1574-1576

TOPIC TAGS: thermomagnetic effect, scattering mechanism, Nernst Ettingshausen effect

ABSTRACT: The author investigates the possibility of employing the N-E thermomagnetic effects in the region of natural conductivity as an indicator of the scattering mechanism. Formulas due to B. M. Askerov (Izd. AN Azerb. SSR, 1963) and I. M. Tsidil'kovskiy (Fizmatgiz, 1960) are employed for the analysis of the longitudinal $\left(\varepsilon_x = \frac{\alpha(H) - \alpha(0)}{\frac{k}{e}}\right)$ and the transverse $\left(\varepsilon_y = \frac{E_y}{\frac{k}{e}\frac{dT}{dx}}\right)$ N-E effects. The author, from measurements of R, σ, $\frac{\Delta\rho}{\rho_0}$, ε_x, ε_y, evaluates the value of b (the ratio of electron mobility to hole mobility) in HgTe: b = 5 — 15. With a rise in

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L 45959-66

ACC NR: AP6015483

temperature from 100K, b first grows, then, passing through a peak, starts to diminish; moreover, when $b' \geq 0, r' \leq 0$ even with low temperatures in impure specimens of HgTe, according to data from the literature, r < 0.5. The shift to a decrease in b with the temperature in specimens of higher purity is observed already at lower temperatures. A similar nature of b = f(T) agrees with the dominant carrier scattering at low T on ionized impurities, with medium T on acoustic phonons, and with high T on optic phonons. Orig. art. has: 4 formulas.

SUB CODE: 20/ SUBM DATE: 04Oct65/ ORIG REF: 005/ OTH REF: 004

Card 2/2 hs

L 45960-66 EWT(1)/T IJP(c) AT
ACC NR: AP6015484 SOURCE CODE: UR/0181/66/008/005/1577/1581

AUTHOR: Daunov, M. I. 47 B

ORG: Institute of Physics, Dagestan Branch, AN SSSR, Makhachkala (Institut fiziki Dagestanskogo filiala AN SSSR)

TITLE: The influence of mixed conductivity on the temperature behavior of kinetic coefficients in semiconductors

SOURCE: Fizika tverdogo tela, v. 8, no. 5, 1966, 1577-1581

TOPIC TAGS: mixed conductivity, temperature dependence, kinetic coefficient, semiconductor conductivity, Nernst effect, Ettingshausen effect, electric conductivity coefficient

ABSTRACT: The author investigates the influence of mixed conductivity on the temperature behavior of kinetic coefficients in semiconductors. It is shown that for a real case in semiconductors, when the ratio of the electron mobility to the hole mobility is greater than unity, in a p-type semiconductor the mixed conductivity determines the extrema of the kinetic coefficients and signs of dimensionless fields of the longitudinal and transverse Nernst-Ettingshausen effects. In an n-type semiconductor, the influence of mixed conductivity is less substantial and it may determine in some particular cases only the extremum of the dimensionless field of the longitudinal Nernst-Ettingshausen effect. It is noted in conclusion that the analysis

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ACC NR: AP6015484 O

performed makes it possible to perform a true and direct processing of results. Orig. art. has: 2 figures, 9 formulas, and 1 table.

SUB CODE: 20/ SUBM DATE: 05Oct65/ ORIG REF: 009/ OTH REF: 003

Card 2/2 hs

DAVIDOVSKIY, L.Ya.; DAURANOV, I.G.

Serum proteins in experimental allergic carditis. Vop.med. khim. 11 no.5:46-48 S-O '65.

(MIRA 19:1)

1. Kazakhskiy nauchno-issledovatel'skiy institut okhrany materinstva i detstva, Alma-Ata. Submitted April 16, 1964.

VORONIN, V.S., gornyy inzh.; KORSHUNOV, A.A., gornyy inzh.; DAURENBEKOV, A.K., gornyy inzh.; NAURYZBAYEV, V.A., gornyy inzh.

Testing and introduction of the use of gunite supports in soft rock at the Tekeli Mine. Gor.zhur. no.1:41-43 Ja '65. (MIRA 18:3)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut tsvetnoy metallurgii (for Voronin, Korshunov). 2. Tekeliyskiy kombinat (for Daurenbekov, Nauryzbayev).

DAUROVA, A.T., inzh. (Moskva); KARTSEV, V.L., inzh. (Moskva)

A two-stage long-range protection system using transistors for 110 to 220 kv. power transmission lines. Elektrichestvo no.2:73-78 F '63. (MIRA 16:5)
(Electric protection) (Electric power distribution)
(Electric lines--Overhead)

DAUROVA, F.K.

Localization of protective inhibition in elements of the conditioned reflex arc. Trudy Inst.vys.nerv.deiat. Ser.fiziol. 7:148-154 '62. (MIRA 16:2)

(CONDITIONED RESPONSE)

PRESNAYKOV, A.A. (Alma-Ata); DAUTOVA, L.I. (Alma-Ata); AYTKHOZHIN, E.S. (Alma-Ata)

Nature of rheotropic recovery. Izv. AN SSSR. Otd. tekh. nauk. Met. i gor. delo n.1:142-143 Ja-F '63. (MIRA 16:3)
(Zinc—Brittleness) (Metals, Effect of temperature on)

DAUROVA, T. T.
Anesthesiology

Dissertation: "Local Anesthesia of the Pelvic-Hip Joint and Its Area According to A. V. Vishnevskiy." Cand Med Sci, Acad Med Sci USSR, 7 Apr 54. (Vechernyaya Moskva,Moscow, 26 Mar 54)

SO: SUM 213, 20 Sep 1954

DAUROVA, T.T., kandidat meditsinskikh nauk

Local anesthesia of the hip joint region by A.V.Vishnevskii's method. Ortop., ravm. i protez. 17 no.2:17-20 Mr-Ap '56. (MLRA 9:12)

1. Iz 1-go khirurgicheskogo otdeleniya (zav. - prof. N.I.Krakovskiy) Instituta khirurgii im. A.V.Vishnevskogo Akademii meditsinskikh nauk SSSR (dir. - chlen-korrespondent AMN SSSR prof. A.A.Vishnevskiy)

(ANESTHESIA, LOCAL,
in hip surg. (Rus))
(ANESTHESIA, REGIONAL,
in hip surg. (Rus))
(HIP, surgery,
anesth., local & regional (Rus))

DAUROVA, T.T.

Alloplasty of the esophagus. Eksp. khir. 3 no.6:7-11 N-D '58.
(MIRA 12:1)

1. Iz Instituta khirurgii imeni A.V. Vishnevskogo (dir. - deystvitel'nyy chlen AMN SSSR prof. A.A. Vishnevskiy) AMN SSSR.
(ESOPHAGUS, stenosis
surg., alloplasty (Rus))

DAUROVA, T.T.; MAYSYUK, A.P.

Pathoanatomical changes in a newly-forming esophageal wall following replacement of a defect with polyvinyl alcohol prosthesis. Eksper. khir. 4 no.6:37-42 N-D '59. (MIRA 14:6)

1. Iz Instituta khirurgii imeni A.V.Vishnevskogo (dir. - deystvitel'nyy chlen AMN SSSR prof. A.A.Vishnevskiy) AMN SSSR.
(ESOPHAGUS--SURGERY)

DAUKOVA, T.T.; KARVONIDI, P.G.

Enzymatic function of the small intestine following gastrectomy. Lab. delo 5 no.5:13-16 S-O '59. (MIRA 12:12)

1. Iz klinicheskoy laboratorii (zav. Ye.A. Khrushcheva) Instituta khirurgii imeni A.V. Vishnevskogo AMN SSSR, Moskva.
(INTESTINES) (STOMACH--SURGERY)

DAUROVA, T. T. (Cand. of Med. Sci.)

"Advantages of Esophageal Alloplasty."

Report submitted for the 27th Congress of Surgeons of the USSR, Moscow, 23-28 May 1960.

VISHNEVSKIY, A.A.; DAUROVA, T.T.

Alloplasty of the tunica muscularis of the esophagus after resection of a diverticulum. Eksper. khir. 5 no. 5:3-6 '60. (MIRA 14:1)
(ESOPHAGUS—SURGERY)

DAUROVA, T.T.

Use of polymers in esophageal surgery. Grud.khir. 3 no.6:100-105 N-D '61. (MIRA 15:3)

1. Iz Instituta khirurgii imeni A.V. Vishnevskogo AMN SSSR. Adres avtora: Moskva, B. Serpukhovskaya, d.27, korp.5 Institut khirurgii imeni Vishnevskogo.
(ESOPHAGUS--SURGERY) (POLYMERS)

DAUROVA, T.T.; RUDERMAN, A.I.; YEVSTIGNEYEVA, T.P.

Recanalization and X-ray therapy in inoperable cancer of the esophagus. Khirurgiia no.3:74-79 '62. (MIRA 15:3)

1. Iz 3-go khirurgicheskogo otdeleniya (zav. - prof. G.D. Vilyavin) Instituta khirurgii imeni A.V. Vishnevskogo (dir. - deystvitel'nyy chlen AMN SSSR prof. A.A. Vishnevskiy) AMN SSSR i Gosudarstvennogo nauchno-issledovatel'skogo rentgeno-radiologicheskogo instituta (dir. - prof. I.G. Lagunova) Ministerstva zdravookhraneniya RSFSR.

(ESOPHAGUS--CANCER) (X RAYS--THERAPEUTIC USE)

DAUROVA, T.T.; MAYSYUK, A.P. (Moskva)

Tissue reaction to the implantation of different polymers.
Eksper. khir. i anest. 8 no.3:58-62 My-Je '63 (MIRA 17:1)

VISHNEVSKIY, A.A., prof.; DAUROVA, T.T., kand.med.nauk

Recanalization of the esophagus as a palliative operation in inoperable esophageal cancer. Khirurgiia 39 no.12:47-53 D '63. (MIRA 18:1)

1. Iz Instituta khirurgii imeni A.V.Vishnevskogo (direktor deystvitel'nyy chlen AMN SSSR prof. A.A.Vishnevskiy) AMN SSSR.

DAUROVA, T.T.; GRAFSKAYA, N.D.

Giant retroperitoneal myxoma simulating perineal hernia. Vop. onk. 11 no.1:73-75 '65. (MIRA 18:6)

1. Iz III khirurgicheskogo otdeleniya (zav. - prof. A.D.Vilyavin) Instituta khirurgii imeni Vishnevskogo AMN SSSR (dir. - deystvitel'nyy chlen AMN SSSR prof. A.A.Vishnevskiy).

VILYAVIN, G.D.; SARKISOV, D.S.; DAUROVA, T.T.

Metastasis of ovarian ciliocepithelial cyst to the pancreas; one observation. Vop. onk. 11 no.12:88-89 '65. (MIRA 19:1)

1. Iz Instituta khirurgii imeni Vishnevskogo AMN SSSR (dir. - deystvitel'nyy chlen AMN SSSR prof. A.A. Vishnevskiy).

SOV/137-58-8-16613

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 8, p 53 (USSR)

AUTHORS: Volkova, L., Dausheva, M.

TITLE: Cementation of Certain Metals from Their Carbonates by a Sodium Amalgam (Tsementatsiya nekotorykh metallov iz ikh karbonatov amal'gamoy natriya)

PERIODICAL: Byul. nauchn. stud. o-va. Kazakhsk. un-t, 1957, Nr 7, pp 14-16

ABSTRACT: Qualitative experiments were made in the displacement of a number of metals from their carbonates by an Na amalgam (A). The experiments were run as follows: 5 cc 1% Na A was shaken in a separating funnel for 5 min with suspensions of 0.5 milli-equivalents of carbonates of various metals in 5 cc of distilled water. The A was then separated from the solution. The solution was examined for content of the corresponding cation. The A was washed with water and treated successively by HCl and a solution of mercurous nitrate, the metal going into the A being separated out of solution. In terms of their ratio to the Na A, the metal carbonates may be divided into 3 groups; viz.,

Card 1/2 a) carbonates the metals of which undergo complete

Cementation of Certain Metals from Their Carbonates (cont.)

cementation with formation of A, these being the carbonates of Ag, Cu, Pb, and Zn; b) carbonates the metals of which undergo partial cementation, these being the carbonates of Ni, Co, and Mn, and c) carbonates the metals of which do not undergo cementation, these being the carbonates of Mg, Ba, Sr, and Ca.

G.S.

1. Metals--Separation 2. Sodium alloys--Chemical reactions 3. Metal carbonates--Chemical reactions

SONGINA, O.A.; DAUSHEVA, M.R.; KHODASEVICH, S.A.

Amperometric titration of manganese with permangante in the presence of pyrophosphate. Zhur.anal.khim. 17 no.8:966-971 N '62. (MIRA 15:12)

1. S.M.Kirov Kazakh State University, Alma-Ata.
(Manganese--Analysis) (Conductometric analysis)

SONGINA, O.A.; DAUSHEVA, M.R.

Electrochemical reduction of sparingly soluble mercury compounds. Elektrokhimiia 1 no.12:1464-1468 D '65. (MIRA 19:1)

1. Kazakhskiy gosudarstvennyy universitet imeni S.M.Kirova.
Submitted March 13, 1964.

DAUSHVILI, A. P.

DAUSHVILI, A. P. --"Industrial Methods of the Construction of Mountain Railroad Tunnels in Rock Formations." * Dissertations For Degrees In Science and Engineering Defended at USSR Higher Educational Institutions)(29) Tbilisi Inst of Engineers of Railroad Transport imeni V. I. Lenin, Tbilisi, 1954

SO: Knizhnaya Letopis' No 29, 16 July 1955

* For the Degree of Candidate in Technical Sciences

DAUSHVILI, A.P.

Over-all mechanization of construction of mountain railroad tunnels through rock and finishing with large reinforced concrete blocks. Soob.AN Gruz.SSR 16 no.8:627-632 '55. (MLRA 9:5)

1. Tbilisskiy institut inzhenerov zheleznodorozhnogo transporta imeni V.I. Lenina. Predstavleno deystvitel'nym chlenom Akademii K.S. Zavriyevym.

(Tunnels)

DAURSKIY, A.N.

Using a refrigerating freon unit with immediate evaporation batteries at an icing machine. Biul. tekh.-ekon. inform. Gos. nauch.-issl. inst. nauch. i tekh. inform. 17 no.4:55-57 Ap '64. (MIRA 17:6)

DAUSKURDIS, vet., gyd.

A plea for complex measures for the control of zoonoses. Sveik. apsaug. 7 no.3(75):22-25 Mr '62.

(ZOONOSES prev & control)

DAUT, J.

Hungarian Technical Abst.
Vol. 5 No. 2
1953

42. Up-to-date preparation of semi-processed pulp. — *Korszerű félcellulóz előállítás* — J. Daut. (Paper and Printing — *Papír- és Nyomdatechnika* — Vol. IV, No. 6–7, June–July 1952, pp. [illegible] [illegible] figs, 3 tabs.)

The world-wide shortage of wood and the constantly increasing need for fibrous materials for the manufacture of paper and synthetic fibre requires in the first place economy especially in the production of half stuff for paper making. Subsequent to rendering a definition of semi-processed pulp the various methods are grouped as follows: (1) the production of semi-processed pulp from wood by means of cooking followed by grinding in the stuff grinder; [illegible] the production of semi-processed pulp from wood by means of cooking followed by beating in disk crushers or in similar stuff grinders; (3) the production of semi-processed pulp from wood by continuous processes and [illegible] the production of semi-processed pulp from annual plants. The yield of semi-processed pulps in general is about 65 to 85 per cent depending upon the quality. It exceeds the yield of pulp by 35 to 100 per cent. The manufacture of semi-processed pulp is developing rapidly primarily in those countries where coniferous pulp wood is scarce. These advantages may be ascribed to: (1) the more economical exploitation of the wood as compared to pulp; (2) the possibility of utilizing foliage trees and [illegible] wood.

J. Daut

KOST, A.N.; VINOGRADOVA, Ye.V.; DAUT, Kh.; TERENT'YEV, A.P.

Alkaloids and alkaloidlike structures. Part 5: Functional derivatives in the pyridylethylindole series. Zhur.ob.khim. 32 no.6:2050-2056 Je '62. (MIRA 15:6)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova.
(Indole) (Alkaloids)

VINOGRADOVA, Ye.V.; DAUT, Kh.; KOST, A.N.; TERENT'YEV, A.P.

Synthesis on the basis of vinylpyridine. Part 4: Synthesis of pyridylethylindoles. Zhur.ob.khim. 32 no.5:1550-1556 My '62. (MIRA 15:5)

(Indole)

DAUTEN, A. V.

1250. Vozniknoveniye i razvitiye obshchestvennoy sobstvennosti kolkhozov v SSSR. L., 1954. 16s. 21sm. (Leningr. Gos. ordena Lenina in-t im. A. A. Zhdanova. In-t povysheniya kvalifikatsii prepodavateley marksizma-leninizma). 100 ekz. B. ts. - [54-52854]

SO: Knizhnaya Letopis, Vol. 1, 1955

PTA
DAUER, W.

667.35'17

1192

Dauer, W. **Modern Pigment Printing.**

„Nowoczesny druk pigmentowy". Przemysł Włókienniczy. No. 3. 1951, pp. 102—105.

The binding agents used in modern pigment printing are synthetic resins, mostly polycondensation products of phenol, urea or melamine with formaldehyde, the consistency being thickened by an emulsion of organic liquor in water. The print is fixed by exposing the fabric to the action of a temperature ca 150—160°C. In that temperature the emulsion components evaporate, while components of synthetic resin, introduced in state of initial condensation, undergo complete condensation, producing a film binding the pigment dye strongly with the fabric. In many cases no further treatment is necessary. Pigment printing also makes use in recent practice of water resistant cation-active substances, chemically related to Velon. These substances decompose in higher temperatures, while their stearinic parts remain on fibres, binding the pigment with the fabric.

DAUTER, W.; GARDA, C.

"Pigments and Lacquers", P. 277, (CHEMIK, Vol. 7, No. 10, October 1954, Katowice, Poland)

SO: Monthly List of East European Accessions (EEAL), LC, Vol. 4, No. 3, March 1955, Uncl.

DAUTI, M.

"Importance of the selection of the best tobacco seedlings"

Per Bujqesine Socialiste. Tiranë, Albania. Vol. 13, no. 1, Jan 1959

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

DAUTOV, A. G.

Bees - Diseases

Comprehensive method of fighting aginst mould diseases affecting bees.
Pchelovodstvo No. 2, 1952.

9. Monthly List of Russian Accessions, Library of Congress, May 1952 Uncl.

DAUTOV, A.G., starshiy nauchnyy sotrudnik.

Raising lambs in unheated buildings. Veterinariia 33 no.12: 61-63 D '56. (MLRA 9:12)

1. Kazanskiy Nauchno-issledovatel'skiy veterinarnyy institut.
(Lambs)

31620
S/207/61/000/006/005/025
A001/A101

26.2311

AUTHORS: Dautov, G.Yu., Zhukov, M.F., Smolyakov, V.Ya. (Novosibirsk)

TITLE: Investigation of the operation of plasmatron with air stabilization of arc

PERIODICAL: Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki, no. 6, 1961, 29 - 35

TEXT: The present investigation deals with studying the steadiness of arc burning in plasmatrons at the given characteristics of the power source and external circuit. The method employed is investigation of volt-ampere characteristics of arc burning. The principle of this method is described and theoretically analyzed. As a result of this analysis a differential equation of the second order with respect to i, which designates the magnitude of small disturbance of current I_g of the arc, is derived. The roots r_1 and r_2 of the characteristical equation for i, being the solution of the differential equation, must be negative in order that i should tend to zero. The necessary conditions for this look as follows:
$L + (R - \varphi) CR^* > 0$; $R^* + (R - \varphi) > 0$ (18),
where L is inductance, C is capacitance, R is resistance, R^* is differential arc

Card 1/2

S/207/62/000/001/001/018
B113/B104

AUTHOR: Dautov, G. Yu. (Novosibirsk)

TITLE: One-dimensional steady motion of a plasma in a channel with external magnetic transverse field and resistance

PERIODICAL: Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki, no. 1, 1962, 5-11

TEXT: The one-dimensional steady motion of a nonviscous non-heat-conducting plasma is examined for small magnetic Reynolds numbers. The plasma motion is described by

$$\rho u A = \rho_0 u_0 A_0, \quad \rho u \frac{du}{dx} = -\frac{jH}{c} - \frac{dP}{dx}$$

$$\rho u \frac{dE}{dx} = -P \frac{du}{dx} - \frac{uP}{A} \frac{dA}{dx} + \frac{j^2}{\sigma} \qquad (1.1)$$

ρ is the density, u is the velocity, and P is the plasma pressure, A is the area of the rectangular channel cross section, j is the current density, σ

Card 1/6

One-dimensional steady motion...

is obtained from (1.1), (1.5), and $P = R_1 \rho T$. If the expressions for σ, $dE/dx, R_1$ are introduced, and the equations are solved according to the derivative of pressure and temperature, one obtains $dP/dx = f(x,T,P,k)$, $dT/dx = \varphi(x,T,P,k)$ (2.2). The initial conditions are given by P and T at x=0. The increments ΔP_s and ΔT_s, when x_s is changed by Δx, are calculated by the Runge-Kutta formulas:

$$\Delta P_s = \frac{1}{6}(z_1 + 2z_2 + 2z_3 + z_4), \qquad \Delta T_s = \frac{1}{6}(k_1 + 2k_2 + 2k_3 + k_4) \tag{2.3}$$

where

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$$z_1 = \Delta x f(x_s,\ T_s,\ P_s,\ k), \quad z_2 = \Delta x f\left(x_s + \tfrac{1}{2}\Delta x,\ T_s + \tfrac{1}{2}k_1,\ P_s + \tfrac{1}{2}z_1,\ k\right)$$
$$k_1 = \Delta x \varphi(x_s,\ T_s,\ P_s,\ k), \quad k_2 = \Delta x \varphi\left(x_s + \tfrac{1}{2}\Delta x,\ T_s + \tfrac{1}{2}k_1,\ P_s + \tfrac{1}{2}z_1,\ k\right)$$
$$z_3 = \Delta x f\left(x_s + \tfrac{1}{2}\Delta x,\ T_s + \tfrac{1}{2}k_2,\ P_s + \tfrac{1}{2}z_2,\ k\right)$$
$$z_4 = \Delta x f(x_s + \Delta x,\ T_s + k_3,\ P_s + z_3,\ k) \qquad (2.4)$$
$$k_3 = \Delta x \varphi\left(x_s + \tfrac{1}{2}\Delta x,\ T_s + \tfrac{1}{2}k_2,\ P_s + \tfrac{1}{2}z_2,\ k\right)$$
$$k_4 = \Delta x \varphi(x_s + \Delta x,\ T_s + k_3,\ P_s + z_3,\ k)$$

holds. The values of P and T in the point $x_s + \Delta x$ are calculated according to $P_{s+1} = P_s + \Delta P_s$, $T_{s+1} = T_s + \Delta T_s$. An example is presented, showing how to solve equations of the one-dimensional motion of a plasma consisting of neutral Cs atoms, Cs^+ ions, and electrons. The motion of partly ionized cesium pairs in a channel of constant cross section is considered. The system of equations (2.2) then assumes the form:

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One-dimensional steady motion...

$$\frac{dT}{dX} = l\,\frac{(\rho_0 u_0 L - 1)\,B + (\rho_0 u_0 M - PL)\,F}{(\rho_0 u_0)^2 (DM + NL) - \rho_0 u_0 N - PD} \tag{3.5}$$

$$\frac{dP}{dX} = l\,\frac{\rho_0 u_0 DB - F\,(\rho_0 u_0 N + PD)}{(\rho_0 u_0)^2 (DM + NL) - \rho_0 u_0 N - PD} \tag{3.6}$$

where

$$N = (1.5RT + \Phi)\,G + 1.5R\,(1 + \alpha); \qquad M = -(1.5RT + \Phi)\,\psi$$

$$D = \frac{\rho_0 u_0 R}{P}(1 + \alpha + TG), \qquad L = \frac{\rho_0 u_0 R}{P}\left(\frac{1+\alpha}{P} + \psi\right)$$

$$G = \frac{\rho_0 u_0 R}{P}\,\frac{2.5T + 11600V_i}{T^2}, \qquad \psi = \frac{\alpha}{2\,(P + A)}, \qquad \Phi = \frac{9.64 \cdot 10^{11} V_i}{n}$$

$$B = \frac{l^2}{c}, \qquad F = -\frac{jH}{c}, \qquad X = \frac{x}{c}$$

holds. R is the gas constant for neutral cesium pairs, α is the degree of

Card 5/6

ionization, V_i is the potential of single ionization in electron volts, e is the electron charge, and m is the atomic weight. M. F. Zhukov is thanked for advice. There are 6 figures and 6 references: 4 Soviet and 2 non-Soviet. The 2 references to English-language publications read as follows: Neuringer J. L. Optimum power generation from a moving plasma. Fluid Mechanics, 1960, vol.7, p. 2. A. Sherman. Calculation of Electrical Conductivity of Ionized Gases. ARS Journal, 1960, vol. 30, N6.

SUBMITTED: December 25, 1961

4

Card 6/6

35962

26.2310

S/207/62/000/002/005/015
D237/D302

AUTHORS: Dautov, G. Yu. and Zhukov, M. F. (Novosibirsk)

TITLE: Some results of an investigation of the properties of a water-stabilized arc

PERIODICAL: Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki, no. 2, 1962, 32-36

TEXT: The work begins with an introductory paragraph on plasmatrons with a water-stabilized arc, and their drawbacks such as the short duration of their performance, disintegration of electrodes and necessity for the external resistance consuming a significant part of the input are discussed. To avoid the above-mentioned difficulties, the authors have designed a plasmatron with a radial magnetic field, and its description and performance constitutes the main part of the paper. Approximate formulas are given for determining induced magnetic flux Φ, radial component of field intensity H_r in the region of the arc, velocity of arc, V_H re surround-

Card 1/2

Some results of ...

S/207/62/000/002/005/015
D237/D302

ing medium, density ρ of the medium, and velocity V of the medium in the region of the arc. Results of experiments are presented graphically and it is shown that loss of mass from the electrodes is lower by a factor of 10 and that with currents above 500 - 600 amp. the loss of mass from the cathode begins to diminish while loss of mass from the anode diminishes, but is less influenced by the increase in current, than that from the cathode. The duration of continuous performance was about 1 hour, as compared with 10 sec for the standard plasmatron and its efficiency was found to be 30 - 40%. The authors mention the possibility of increasing the efficiency, and constructing the plasmatron without the external ballast resistance. There are 6 figures and 3 Soviet-bloc references.

SUBMITTED: December 10, 1961

Card 2/2

L 12028-63 EWT(1)/EWP(q)/EWT(m)/BDS/ES(w)-2 AFFTC/ASD/ESD-3/IJP(C)/SSD
Pab-4 JD S/207/63/000/002/002/025

66

AUTHOR: Dautov, G. Yu. (Novosibirsk)

TITLE: Cylindrical arc in argon 21

PERIODICAL: Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki, no. 2, 1963, 21-30

TEXT: The basic theory of the positive column of an electric high pressure arc 21 was developed by Elenbaas-Heller (Ref. 1: V. Finkel'nburg and G. Mekker, Elektricheskiye dugi i termicheskaya plazma [Electric arcs and thermal plasma] IL, 1961). The present paper discusses certain general properties of a cylindrical arc and derives the similarity conditions of arcs with low degree of ionization. Argon arc numerical results are calculated using a computer. The author investigates first the high temperature properties of argon and, after obtaining expressions for the plasma composition and electrical and thermal conductivity, compares on Fig. 2 the curve from Equ. (1.7) obtained using the statistical approach with that from Equations (1.1) and (1.2) based on Dalton's law of mass action. Fig. 3 shows the classicial ($\varkappa_a$), electron ($\varkappa_e$), and ionization energy

Card 1/2

Cylindrical arc...

transfer ($\varkappa_\perp$) heat conduction. Next, the author derives an equation for the temperature distribution within a positive column of a cylindrical arc (neglecting the effects due to the magnetic self-field), and Fig. 5 shows the curves for different pressures evaluated for the T_R = 1,500°K and T'(0) = 0 boundary conditions for a cylinder 1 cm in diameter. It is seen that for large currents the current-carrying part of the arc fills the cylindrical arc almost completely. Fig. 6 represents the corresponding voltampere characteristic. The author concludes by discussing the positive arc column for low degree of ionization; he develops the so-called similarity criteria and uses them for qualitative evaluations of the effects of gas type, pressure, arc radius, and electric field on the behavior of arcs. He presents also calculated curves of the temperature variation across the cross-section of arcs. The results of this paper were compared in an article by W. Neumann (Ref. 13: Ueber der radialen Temperaturverlauf im stationaren und impulsmodulierten Argon-Hochtemperaturborgen [Radial temperature distribution in stationary and pulse-modulated argon high temperature arc], Beitrage aus der Plasma Physik, 1962, B2, H2) published after the completion of the present investigation. There are 7 figures.

Card 2/6

L 53640-65 EWT(l)/EWT(m)/EPF(n)-2/EWG(m)/EWA(d)/EWP(v)/EPA(w)-2/T/EWP(t)/EWP(k)/EWP(h)/EWP(b)/EWP(l)/EWA(c) Pz-6/Po-4/Pab-10/Pf-4/Pi-4 IJP(c) JD/HW/HM/AT

ACCESSION NR: AP5013380 UR/0207/65/000/002/0097/0105

AUTHOR: Dautov, G. Yu. (Novosibirsk); Zhukov, M. F. (Novosibirsk)

TITLE: Some correlations in the investigation of electric arcs

SOURCE: Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki, no. 2, 1965, 97-105

TOPIC TAGS: plasma arc, electrode, magnetic field, electric conductivity, argon plasma, electric arc, magnetic Reynolds number, plasmatron

ABSTRACT: A three-part report is presented on general analytical and experimental studies made of the electric arc in a plasmatron. Part one is a discussion of the characteristics of a stabilized arc in a plasma arc chamber of the type shown in Fig. 1 of the Enclosure. The mechanism of arc shunting is discussed in some detail, with the sectioned cathode depicted in Fig. 1. Arc current traces recorded on two oscillograms indicate that the striking of a constant current arc follows an unsteady process, and large-scale shunting techniques create changes in the arc length and generate large-scale current and voltage pulses. Current distributions along the length of the arc show that increasing the current strength causes a decrease in the maximum and the minimum arc length. A dimensional analysis is then made of the arc characteristics for the most

Card 1/2 3

general plasma arc operation. This is subsequently simplified to a set of dimensionless combinations

$$m_e/m_a,\ m_i/m_a,\ Q_{ae}/Q_a,\ Q_k/Q_a,\ U_i/U,\ k/c_p m_e \ldots .$$

The analysis is further simplified by assuming a small magnetic Reynolds number, negligible kinetic energy relative to the arc thermal energy, ideal gas, and a zero magnetic field. This leads to the following volt-ampere characteristic

$$\lg \frac{U d}{I} = \alpha - \beta \lg \frac{I^2}{\sigma d} .$$

A final simplification is made in an argon plasma by neglecting the convective heat transfer rate compared to the conduction heat transfer rate. In part two, the motion of the arc is considered in a transverse magnetic field. The following similarity conditions are obtained

$$K = \text{idem}, \quad \frac{I}{aH} = \text{idem}$$

$$\frac{\sigma H^2}{\rho} = \text{idem}, \quad \frac{d}{a} = \text{idem} .$$

The nondimensional arc velocity is correlated with the criterion I/aH. In part three, similarity studies are made for a free atmospheric arc jet; the experimental data are correlated by the following current-voltage characteristic:

Card 2/3

L 53640-65

ACCESSION NR: AP5013380

Orig. art. has: 14 formulas, 10 figures, and 1 table. [04]

ASSOCIATION: none

SUBMITTED: 01Apr64 ENCL: 01 SUB CODE: IE, ME

NO REF SOV: 015 OTHER: 005 ATD PRESS: 4012

Card 3/3

AWT(1)/ETC(F)/EPF(n)-2/EWG(m) IJP(c) AT

ACC NR: AP6002012 SOURCE CODE: UR/0288/65/000/003/0056/0062

AUTHOR: Dautov, G. Yu.; Dudnikov, Yu. S.; Sazonov, M. I.

ORG: Institute of Theoretical and Applied Mechanics, Siberian Branch, AN SSSR, Novosibirsk (Institut teoreticheskoy i prikladnoy mekhaniki Sibirskogo otdeleniya AN SSSR)

TITLE: Investigation of a plasmatron with an interelectrode insert

SOURCE: AN SSSR. Sibirskoye otdeleniye. Izvestiya. Seriya tekhnicheskikh nauk, no. 3, 1965, 56-62

TOPIC TAGS: plasma jet, electrode, electric arc

ABSTRACT: Results are reported of an experimental investigation of a plasmatron (plasma jet) in which cold air pumped into the gap between the insert and the output electrode was used as an insulator; as the effect of a single insert was found to be inadequate, a multiple insert was tried with mica insulation. The arc current-voltage characteristics and the air-enthalpy increase curve are presented, as well as a current-voltage characteristic of the nonselfmaintaining discharge between the

Card 1/2

UDC: 533.9.07:533.9.082.7

L 13362-66

ACC NR: AP6002012

positive column and the 4th insert. It is found that: (1) The interelectrode insert permits considerable increase in the arc length, arc voltage drop, and gas temperature; it provides a method for obtaining an ascending characteristic and for eliminating arc shunting; (2) The inserts connected to the power supply through isolating switches provide an additional possibility of adjusting the arc operation "on the run," with no adjustable power supply needed; (3) Gas supply distributed along the channel may provide an additional opportunity for improving arc characteristics. Orig. art. has: 6 figures and 7 formulas.

SUB CODE: 20, 09 / SUBM DATE: 09Jan65 / ORIG REF: 004 / OTH REF: 003

Card 2/2

L 14079-66 EWT(1)/ETC(F)/EPF(n)-2/EWG(m) IJP(c) AT

ACC NR: AP6002364 SOURCE CODE: UR/0207/65/000/006/0111/0114

AUTHOR: Dautov, G. Yu. (Novosibirsk); Zhukov, M. F. (Novosibirsk)

ORG: None

TITLE: Criterial generalization of the characteristics of vortex-mode plasmatrons

SOURCE: Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki, no. 6, 1965, 111-114

TOPIC TAGS: gas discharge plasma, discharge tube, volt ampere characteristic

ABSTRACT: This article is a continuation of an earlier work on the criterial generalization of the volt-ampere and thermal characteristics of vortex-mode plasmatrons. Numerous experiments have shown that the reproducibility of the volt-ampere characteristics of the arc in a plasmatron under identical external conditions is achieved with an accuracy of ± 10%. In the experiments performed by the present authors the arc in a new arc chamber with clean surfaces had a higher intensity. A change in the condition of the surface as a result of the arc spot effect, as a rule, decreased the intensity. A comparison of the theoretical results with the experimental shows that the maximum deviation does not exceed ± 15%. This confirms the conclusion that it is possible to achieve a generaliza-

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L 14079-66
ACC NR: AP6002364

tion of volt-ampere characteristics of an arc in bicameral plasmatrons in a broad range of variations in the current, the flow rate, and the dimensions of the plasmatron. The data presented show that at the present level of knowledge on the processes in the uni- and bicameral vortex-mode plasmatrons, the method of generalization of the characteristics is an effective means for evaluation of the parameters of plasmatrons when they are being designed. Orig. art. has: 4 figures and 11 formulas.

SUB CODE: 20 / SUBM DATE: 12Jul65 / ORIG REF: 004 / OTH REF: 003

Card 2/2

DAUTOV, G. Yu.; DUDNIKOV, Yu.S.; SAZONOV, M.I.

Investigating plasmatron with an interelctrode insert. Izv. SO AN SSSR no. 10:56-62 '65 (MIRA 19:1)

1. Institut teoreticheskoy i prikladnoy mekhaniki Sibirskogo otdeleniya AN SSSR, Novosibirsk. Submitted January 9, 1965.

ACC NR: AP7002078

SOURCE CODE: UR/0030/66/000/012/0010/0012

AUTHORS: Zhukov, M. F. (Doctor of technical sciences); Dautov, G. Yu. (Candidate of technical sciences)

ORG: Institute of Theoretical and Applied Mechanics, Siberian Branch of the Academy of Sciences SSSR (Institut teoreticheskoy i prikladnoy mekhaniki, Sibirskogo otdeleniya Akademii nauk SSSR)

TITLE: Low temperature gas discharge plasma generators

SOURCE: AN SSSR. Vestnik, no. 12, 1966, 10-12

TOPIC TAGS: plasma, temperature distribution, plasma arc, plasmatron

ABSTRACT: The design and operation characteristics of a gas discharge plasma arc are described. As shown in Figure 1,

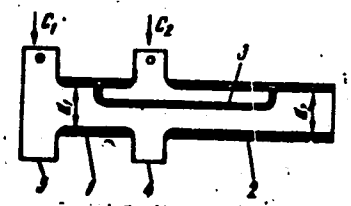

Fig. 1.

the arc chamber consists of cooled electrodes (1) and (2) with internal diameters

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ACC NR: AP7002078

d_1 and d_2 (3 is the arc struck between them). The gas enters the ring chambers (4) and (5) tangentially, through slots C_1 and C_2. The mean gas temperature at the chamber exit varies from 1000--7000K, with peak temperatures of 20 000K on the arc jet axis. Mean temperature versus arc current curves are given to show the operation characteristics of the plasmatron. It is shown that a shunting insert between the two electrodes increases the gas temperature considerably for a given arc current by reducing gross arc pulsations. The state-of-the-arc for high power plasmatron devices is discussed briefly. Orig. art. has: 2 figures.

SUB CODE: 20/ SUBM DATE: none

Card 2/2

DAUTOV, I.V., aspirant

Stresses in a flat wedge under the action of local distributed loads (applying to metal-cutting tools). Izv. vys. ucheb. zav.; mashinostr. no.6:188-190 '64.

(MIRA 17:12)

1. Kazanskiy gosudarstvennyy universitet.

ACCESSION NR: AP4042541 S/0140/64/000/004/0061/0068

AUTHOR: Dautov, M. A. (Kazan); Muratov, L. M. (Kazan)

TITLE: Asymptotic representation of solutions of a first order polynomial differential equation

SOURCE: IVUZ. Matematika, no. 4, 1964, 61-68

TOPIC TAGS: asymptotic representation, polynomial differential equation, first order equation, Riccati equation, power function, power series, asymptotic expansion

ABSTRACT: The authors extend the work of N. G. de Breyn (Asimptoticheskiye metody v analize. IIL, M., 1961) on the asymptotic behavior of solutions of the Riccati equation as $x \to \infty$. Restricting consideration to asymptotic equalities as $x \to +\infty$, they find necessary and sufficient conditions for the solutions of

$$f(x, y, y') = 0 \quad \left(f(x, y, y') = \sum_{m,n,p} a_{mnp}(x) x^m y^n (y')^p\right). \qquad (1)$$

to be asymptotically equal to power functions or to have asymptotic expansions in the form of generalized power series for sufficient large x. Here $a_{mnp}(x)$ are

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ACCESSION NR: AP4042541

continuous functions for $x>0$ having asymptotic expansions in powers of x^{-1} with free terms $a_{mnp} \neq 0$; n, p are positive integers, and m are rational numbers. Two examples are investigated. Orig. art. has: 25 formulas.

ASSOCIATION: none

SUBMITTED: 09Jan63 ENCL: 00

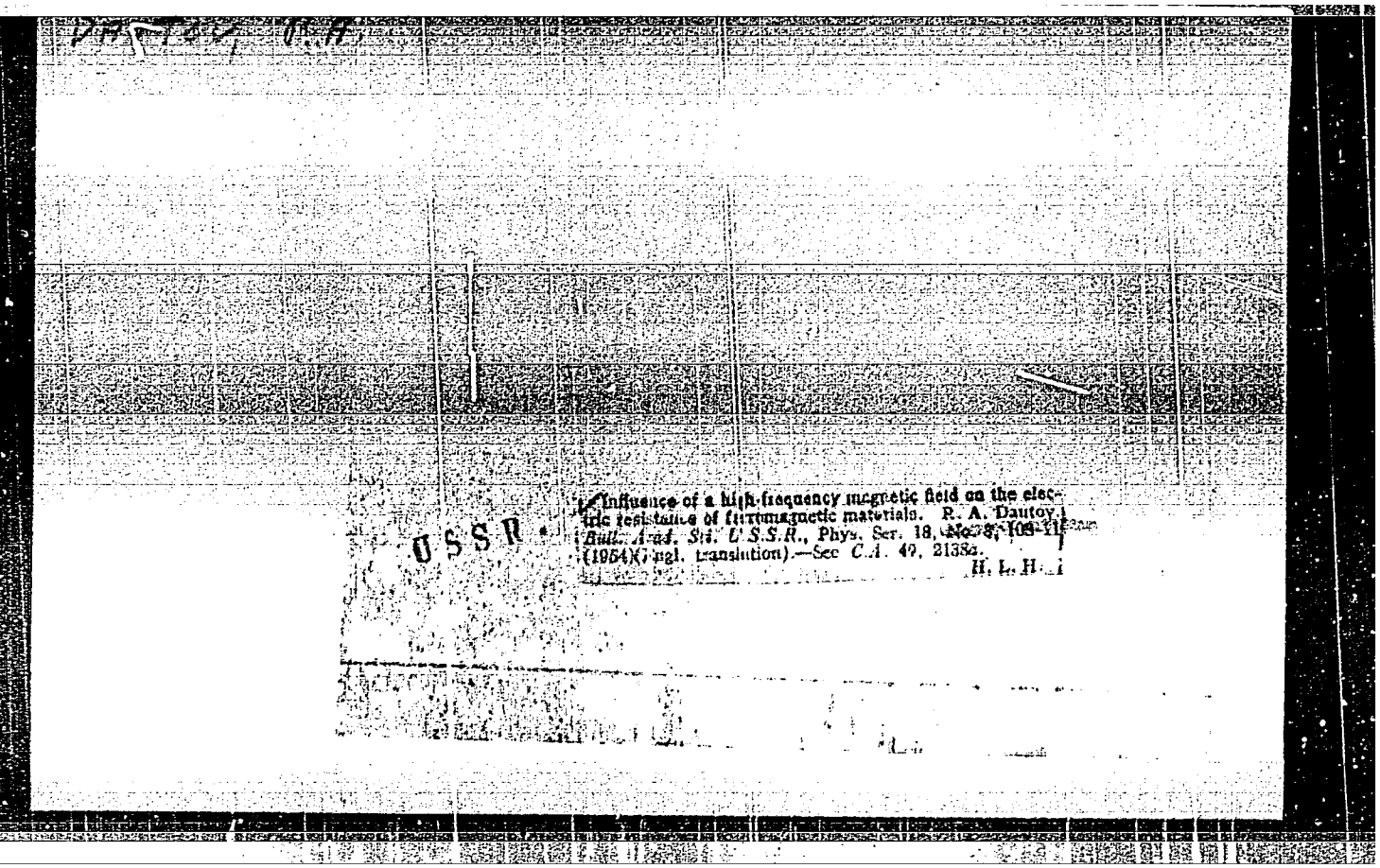
SUB CODE: MA NO REF SOV: 001 OTHER: 001

Card 2/2

DAUTOV, R.; CHEBOTAREV, L., inzhener-konstruktor

Fluid connection clutch for compressors of 6L-275 engines (Skoda).
Rech.transp. 20 no.6:34-35 Je '61. (MIRA 14:6)

1. Pervyy mekhanik teplokhoda "Akademik Tyurin" (for Dautov).
2. Podtesovskaya remontno-ekspluatatsionnaya baza (for Chebotarev).
(Marine engines)



USSR

Influence of a high-frequency magnetic field on the electric resistance of ferromagnetic materials. R. A. Dautov. *Bull. Acad. Sci. U.S.S.R., Phys. Ser.* 18, No. 3, 108-11 (1954)(Engl. translation).—See *C.A.* 49, 2138a.

H. L. H.

Dautov, R.A.

USSR/ Physics - Ferromagnetism

Card 1/1 Pub. 43 - 15/15

Authors : Dautov, R. A.

Title : Effect of a high-frequency magnetic field on the electro-resistance of ferromagnetics

Periodical : Izv. AN SSSR. Ser. fiz. 18/3, 412-416, May-Jun 1954

Abstract : Investigation was conducted to determine the relation between the lateral and longitudinal Goldhammer effects and a high-frequency magnetic field. The measurements in the presence of a high-frequency field began only after the establishment of the thermal equilibrium and were carried out at a room temperature with such degree of accuracy as during the study of the Goldhammer static phenomenon. Because of the smallness of the specific electrical conductivity of the ferrites the depth of penetration of the variable magnetic field was sufficiently great as to require the participation of a greater part of the sample. The results obtained are given in graphs. Nine references : 6 USSR; 2 USA and 1 German (1889-1953). Graphs.

Institution : State Pedagogical Institute, Kazan

Submitted : May 13, 1954

DAUTOV, R. A. Doc Cand Phys-Math Sci --(diss) "Effect of the high-frequency magnetic field on the electric resistance of ferromagnetic materials." Kazan', 1957. 7 pp 20 cm. (Min of Higher Education USSR. Kazakh Order of Labor Red Banner State Univ im V.I. Ul'yanov-Lenin), 100 copies
(KL, 21-57, 98)

AUTHOR: Dautov, R. A. SOV/126-6-6-5/25

TITLE: On a Change of Electrical Resistance of Metallic Ferromagnetics under the Action of a Radio-Frequency Magnetic Field (Ob izmenenii elektrosoprotivleniya metallicheskikh ferromagnetikov pri vozdeystvii radiochastotnym magnitnym polem)

PERIODICAL: Fizika metallov i metallovedeniye, 1958, Vol 6, Nr 6, pp 999-1005 (USSR)

ABSTRACT: Change of electrical resistance of ferromagnetics due to application of a constant magnetic field is called the Goldhammer effect. Depending on whether the applied constant magnetic field is parallel (antiparallel) or perpendicular to the electric current, the effect is called longitudinal $\left(\frac{\Delta\rho_{\parallel}}{\rho}\right)$ or transverse $\left(\frac{\Delta\rho_{\perp}}{\rho}\right)$. It was found that the change of electrical resistance $\Delta\rho/\rho$ of ferromagnetics in the Goldhammer effect is proportional to the square of the magnetization of the sample produced by the applied constant magnetic field H. Studies of the relaxation behaviour at ferromagnetic resonance revealed changes in magnetization of

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On a Change of Electrical Resistance of Metallic Ferromagnetics Under the Action of a Radio-Frequency Magnetic Field

both semiconducting and metallic ferromagnetics under the action of a radio-frequency magnetic field applied at right angles to the constant magnetic field. Since the Goldhammer effect is a function of magnetization, therefore a radio frequency magnetic field H_1 should affect electrical resistance to flow of direct current. In an earlier paper (Ref.3) the author already reported changes in the DC electrical resistance of ferromagnetics under the action of a radio frequency magnetic field at right angles to a constant magnetic field in samples of dynamo (~1% Si) and transformer (~4% Si) steel. The present paper reports results of further experimental work on molybdenum permalloy (~3.8% Mo) and nickel, as well as transformer steel. The technique and apparatus were described earlier (Ref.3). Isothermal conditions were obtained by immersing each sample in distilled kerosene. A vessel containing the sample and kerosene was placed in the coil of an oscillator which produced 6-7 oersted at 5×10^7 c/s.

On a Change of Electrical Resistance of Metallic Ferromagnetics Under the Action of a Radio-Frequency Magnetic Field

Measurements were made at 21.5°C and this temperature was controlled to within 0.05°C. Isothermal conditions were necessary to show that the observed change of electrical resistance of a ferromagnetic is not due to high-frequency heating by the field H_1 . Experimental data were obtained for the Goldhammer effect both in the presence and in the absence of a high-frequency magnetic field H_1 . This was done in order to be able to separate out the effect due to the field H_1 alone. The results are shown in Figs.1-6 in the form of curves which give $\Delta\rho_{\parallel}/\rho$ and $\Delta\rho_{\perp}/\rho$ as a function of the constant magnetic field H , varied between 0 and 2000 oersted. Curves 1 in Figs.1-6 represent the static Goldhammer effect, i.e. when only the constant magnetic field H was applied. Curves 2 were obtained with the radio-frequency field H_1 and the constant field H applied simultaneously. These two magnetic fields were mutually perpendicular and their directions lay in the plane of the samples which were in the form of rectangular plates. Curves

 2 for the longitudinal effect $(\Delta\rho_{\parallel}/\rho)$ were obtained with

On a Change of Electrical Resistance of Metallic Ferromagnetics Under the Action of a Radio-Frequency Magnetic Field

the radio-frequency field at right angles to the direct current through the sample, and for the transverse effect $(\Delta\rho_t/\rho)_{rad}$ were obtained with the constant field at right angles and the radio-frequency field parallel to the current through the sample. Curves 3 were constructed by calculating the differences between the ordinates of Curves 2 and Curves 1; they are given in Figs.1-6 with their ordinates displaced upwards by values equal to their maximum negative value. The results for transformer steel (~4% Si) are given in Figs.1 and 2. The sample used was 3.2 x 0.2 x 0.011 cm in size and its initial resistance was 0.107 ohms. The results for molybdenum permalloy (78.5% Ni + 3.8% Mo + 16% Fe, sample thickness 30μ) are shown in Figs.3 and 4. Figs.5 and 6 show the results obtained for nickel. It was found that the action of a radio frequency magnetic field alone increases the D.C. electrical resistance of a metallic ferromagnetic. When a radio-frequency magnetic field is

present in addition to a constant magnetic field, both the longitudinal and transverse Goldhammer effects (Curves 2 in Figs.1-4) differ considerably from the static Goldhammer effect. The effect of the radio-frequency magnetic field on the D.C. electrical resistance was found to depend on the intensity of the constant magnetic field, and on a fixed frequency (5×10^7 c/s) of the alternating field. Its effect decreases with increase of the constant field intensity, approaching 0 at high constant fields. This is observed both in the longitudinal and the transverse Goldhammer effects. The author gives a qualitative explanation of the effect of radio-frequency magnetic fields. The connection of the observed effect with ferromagnetic resonance was studied. It was found that saturation in ferromagnetic resonance can be observed with difficulty when the time of spin-lattice relaxation is small. Similar behaviour is observed in the Goldhammer effect in the presence of a radio-frequency magnetic field. When the spin-lattice relaxation time is small, the radio frequency field has no time to "heat" the spin system and consequently to alter considerably the component of magnetization parallel to the constant magnetic field. In nickel the 5×10^7 c/s

On a Change of Electrical Resistance of Metallic Ferromagnetics Under the Action of a Radio-Frequency Magnetic Field

magnetic field of 6-7 oersted intensity does not affect the static Goldhammer effect. There are 6 figures and 14 references, 7 of which are Soviet and 7 English.

ASSOCIATION: Kazanskiy gosudarstvennyy pedagogicheskiy institut (Kazan' State Pedagogical Institute)

SUBMITTED: February 25, 1957.

Card 6/6

24 (0)

AUTHORS: Korepanov, V. D., Dautov, R. A., Fadeyev, V. M.

SOV/56-37-1-52/64

TITLE: Measurement of the Transversal Proton Relaxation Time in Aqueous Solutions of Paramagnetic Salts by Means of the Spin Echo Method (Izmereniye vremeni poperechnoy protonnoy relaksatsii v vodnykh rastvorakh paramagnitnykh soley metodom spinovogo ekho)

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1959, Vol 37, Nr 1, pp 308 - 309 (USSR)

ABSTRACT: By means of the spin echo method it is possible to determine the absolute values of the longitudinal and transversal relaxation times T_1 and T_2 experimentally, especially in liquids of low viscosity. The authors of the present "Letter to the Editor" give a report about T_2-measurements by means of an experimental arrangement which is not described. The measurements were carried out at a frequency of 12.2 megacycles in a constant magnetic field, the r. f. magnetic field (amplitude $\sim$3.7 Oe) was applied to the sample in form of two successive short square pulses (16 and 32 μsec), warranting a nutation of the magnetic

Card 1/2

Measurement of the Transversal Proton Relaxation Time in Aqueous Solutions of Paramagnetic Salts by Means of the Spin Echo Method

SOV/56-37-1-52/64

polarization of the water protons to 90 and 180° respectively. The delay between the pulses could be varied between 0.3 and 2 μsec. In the case of the experimentally obtained times of the order of $T_2 \sim 10^{-3}$ sec, self-diffusion of water molecules in the highly inhomogeneous field was neglected. The results obtained by the T_2-measurements of the protons of water for a $Fe(NO_3)_3$-solution in dependence on its pH value are shown by a diagram. With increasing pH value, the curve shows an exponential ascent (pH = 2.5, $T_2 > 3$ μsec). The results are briefly discussed. The authors finally thank A. A. Popel' and A. I. Rivkind for discussions. There are 1 figure and 4 references, 1 of which is Soviet.

ASSOCIATION: Kazanskiy gosudarstvennyy universitet (Kazan' State University)

SUBMITTED: March 25, 1959

Card 2/2

L 64699-65 EWT(l)/EWT(m)/T/EWP(t)/EWP(b)/EWA(c) DIAAP/IJP(c) JD/JG/JG

ACCESSION NR: AR5012275 UR/0058/65/000/003/D052/D052

SOURCE: Ref. zh. Fizika, Abs. 3D398

AUTHOR: Dautov, N. A.; Korepanov, V. D.; Chernitsyn, A. I.

TITLE: Effect of temperature on relaxation of F^{19} nuclei in a synthetic CaF_2 single crystal

CITED SOURCE: Sb. Itog. nauchn. konferentsiya Kazansk. un-ta za 1962 g. Kazan', Kazansk. un-t, 1963, 14-15

TOPIC TAGS: calcium fluoride, single crystal, crystal impurity, gadolinium, relaxation process, low temperature effect

TRANSLATION: Relaxation of F^{19} nuclei is experimentally studied in a CaF_2 single crystal with trivalent gadolinium (Gd^{3+}) impurity (concentration of the order of 10^{-3}). Measurements were made by the pulse method at a frequency of 13.5 Mc from room temperature to 0.317°K. A. Kokin.

SUB CODE: GS, NP ENCL: 00

Card 1/1

L 17216-63 EWT(1)/EWT(m)/BDS AFFTC/ASD

ACCESSION NR: AP3005299 S/0056/63/045/002/0385/0386

AUTHORS: Korepanov, V. D.; Chernitsyn, A. I.; Dautov, R. A. 59, 55

TITLE: Spin echo in local field

SOURCE: Zhur. eksper. i teoret. fiz., v. 45, no. 2, 1963, 385-386

TOPIC TAGS: spin echo, local field, paramagnetism, ferromagnetism, low temperature

ABSTRACT: Spin echo of F^{19} nuclei was observed in the inhomogeneous field of the paramagnetic ions Gd^{3+}, present in the form of an impurity with approximate concentration 0.01% in the single-crystal CaF_2 under study. The effect was absent at room and liquid-nitrogen temperatures and was easily observable at 4.2°K. An echo signal due to internal inhomogeneities is normally not observed, except in ferromagnets where the local field is produced by electrons. The amplitude of the echo signal is much smaller than that of free pre-

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L 17216-63
ACCESSION NR: AP3005299

cession, and the width, characterizing the local field, decreases from 3-40 G at 0.3°K to 20-30 G at 4.2°K. No pronounced anisotropy of the width was observed. "The authors are grateful to U. Kh. Kopvillem for pointing out the possibility of the investigated phenomenon. They are also grateful to A. D. Shvets for constructing the cryostat, to L. D. Livanova for growing the single crystal, and to S. A. Al'tshuler for discussions and for interest in the work." Orig. art. has 1 figure.

ASSOCIATION: Kazanskiy gosudarstvenny*y universitet (Kazan' State University)

SUBMITTED: 08May63 DATE ACQ: 06Sep63 ENCL: 00

SUB CODE: PH NO REF SOV: 000 OTHER: 002

Card 2/2