PA - 3080

The Investigation of Heat Transfer in a Coke Layer.

the equation for the heat transfer in the coke layer was obtained according to the method of the smallest squares. The equation is as follows: $N_{Nu} = 0.29\ N^{0.88}$, $N_{Re} = 80 - 1200$. The experiments further showed that the heat transfer coefficient between coke and gas is practically the same for heating and cooling. Finally, it was established that the evaluation of an equivalent diameter of a piece (as of a determining dimension) can be worked out on the basis of the sieve-shaped composition according to the formula

$\frac{100}{d} = \sum \frac{\Delta g_i}{d_i}$ (d is the equivalent diameter for a broad fraction, Δg_i is the weight content of the fraction in %, d_i is the average diameter of the piece for a narrow fraction). (2 Illustrations, 2 Tables and 9 Citations from Slav Publications)

ASSOCIATION: Not given
PRESENTED BY:
SUBMITTED: 11.7.1956
AVAILABLE: Library of Congress

Card 2/2

AUTHORS: Karavayev, N. M. and Stel'makh, G. P. 68-58-6-7/21

TITLE: On Calculating Thermal Conditions of Plants for Dry Quenching of Coke (K raschetu teplovogo rezhima ustanovok sukhogo tusheniya koksa)

PERIODICAL: Koks i Khimiya, 1958, Nr 6, pp 22-26 (USSR)

ABSTRACT: Methods of calculating heat exchange conditions (between coke and gas) in plants of continuous and intermittent action for dry quenching of coke are discussed.
There are 2 tables, 2 figures and 10 references, 8 of which are Soviet, 1 English and 1 German.

ASSOCIATION: MIKhM.

1. Coke--Processing 2. Mathematics--Applications

Card 1/1

STEL'MAKH, G.P.

Motion of a particle with variable mass in a suspended flow. Inzh.-fiz.zhur. no.10:69-74 O '58. (MIRA 11:11)

1. Energeticheskiy institut AN SSSR, g. Moskva.
(Fluid dynamics)

STEL'MAKH, G.P.

Approximate computation of the velocity of a particle in a state of suspension. Inzh.-fiz.zhur. no.10:72-75 O '59. (MIRA 13:2)

1. Energeticheskiy institut AN SSSR im. G.M.Krzhizhanovskogo (Dynamics of a particle)

88271

S/170/61/004/001/011/020
B019/B056

11.9100

AUTHORS: Stel'makh, G. P., Solyakov, V. K.

TITLE: The Heating of Loose Material by a Solid Heat Carrier

PERIODICAL: Inzhenerno-fizicheskiy zhurnal, 1961, Vol. 4, No. 1, pp. 71-75

TEXT: The authors developed an analytical method for calculating the heating temperature of a cold disperse medium when mixed with a burning disperse heat carrier in consideration of the development of a gas phase and in the case of thermal decomposition. The heat exchange during mixing of cold with hot material is described by the following system of equations: The heat balance equation: $-G_1C_1dT_1 + q_2dG_2 = G_2C_2dT_2$ (1)

Cooling of the heat carrier: $-G_1C_1dT_1 = \alpha_1S_1G_1(T_1-T_2)d\tau$ (2)

The heating of the cold material: $G_2C_2dT_2 = \alpha_2S_2G_2(T_1-T_2)d\tau + q_2dG$ (3)

G_1 here denotes the constant mass of the heat carrier; $G_2 = 1 - g_2$, where g_2 is the liberated quantity of gas. T_1 and T_2 are the temperatures of the

Card 1/3

88271

The Heating of Loose Material by a Solid Heat Carrier

S/170/61/004/001/011/020
B019/B056

heat carrier and of the cold material respectively. In order to be able to integrate the system (1) to (3), the functions $G_2(T_2,\tau)$ or $g_2(T_2,\tau)$, the specific heats $C_2(T_2,\tau)$ and $C_1(T_1)$, and the thermal effect $q_2(T_2)$ must be known, and likewise the dependence of the heat exchange coefficients on the intensity of the gas formation $\alpha_1 = \alpha_1(dg_2/d\tau)$, $\alpha_2 = \alpha_2(dg_2/d\tau)$. Confining oneself to linear temperature dependence of the gas generation, the following relations are obtained:

$$\frac{1 + A_1 - A_2T_2 - A_3T_2^2}{T^*_{1-o} - T_2 - A_1T_2 + \frac{A_2}{2}T_2^2 + \frac{A_3}{3}T_2^3}\,dT_2$$

$$= \left\{\frac{\alpha_1 S_1}{C_1} + \frac{\alpha_2 S_2(1 - a(T_2 - T_{2-o}))\,(T_1 - T_2)}{(1 - a(T_2 - T_{2-o}))\,(C_o + \beta(T_2 - T_{2-o})) + aq_2}\right\} d\tau$$

where $A_1 = (C_o + aq_2)/G_1C_1$, $A_2 = (aC_o - \beta)/G_1C_1$, $A_3 = a\beta/G_1C_1$, and

Card 2/3

88271

The Heating of Loose Material by a Solid Heat Carrier

S/170/61/004/001/011/020
B019/B056

$T^*_{1-o} = T_{1-o} + T_{2-o} + A_1T_{2-o} - A_2T^2_{2-o}/2 - A_3T^3_{2-o}/3$. T_{1-o} and T_{2-o} are the initial temperatures of the media. The integration of the above expression for two special cases is discussed, in which an exponential law is assumed for the generation of gas. A. V. Dykov, O. A. Tsukhanova, and R. D. Salamandra are mentioned in this paper. There are 10 Soviet references.

SUBMITTED: June 23, 1960

Card 3/3

SOLYAKOV, V.K.; STEL'MAKH, G.P.

Calculating the heating of a noninert fine-grained material by a solid heat-transfer agent. Energotekh. ispol'. topl. no.2: 146-152 '62. (MIRA 16:5)

(Granular materials) (Heat--Transmission)

STEL'MAKH, G.P.

Investigation of the heat transfer of a gas jet in a cylindrical chamber. Inzh.-fiz.zhur. 6 no.10:93-95 '63. (MIRA 16:11)

STEL'MAKH, G.P.; PODMAGURSKAYA, M.A.

Calculation of the cooling of a gas stream in a cylindrical apparatus. Khim. prom. 41 no.10:775-778 O '65. (MIRA 18:11)

L 29854-66 EWT(1)/ETC(f) WW

ACC NR: AP6012681 SOURCE CODE: UR/0170/66/010/004/0508/0512

69

B

AUTHOR: Stel'makh, G. P.; Chesnokov, N. A.; Sakhiyev, A. S.

ORG: none

TITLE: Characteristics of heat transfer in the channel of a sectional electric arc gas heater

SOURCE: Inzhenerno-fizicheskiy zhurnal, v. 10, no. 4, 1966, 508-512

TOPIC TAGS: heat transfer, electric arc, argon, heating

ABSTRACT: The experimental apparatus, shown in the article, has a tungsten cathode with a diameter of 10 mm, auxiliary and main anodes, and an intermediate section cooled with water. The ratio of the length of the channel to its diameter is equal to 8. The heater operates on direct current and its power is designed for 100 kilowatts; the working gas is argon. In the tests, the ranges of the parameters were between the following limits: argon flow rate, 1-3.7 grams/sec; pressure, 4×10^3-200×10^3 newtons/m^2; power, 25-50 kilowatts; current strength, 300-700 amp; voltage, 70-120 volts; and, temperature of gas at outlet from channel, 10,000-13,000°K. Initial data and experimental data are shown in tabular form. On the basis of the experimental results the

UDC: 536.242

Card 1/2

L 29854-66

ACC NR: AP6012681

following empirical expression was obtained:

$$St = 0,7\ Kn^{0,25}, \qquad (2)$$

$$300 < Re < 1500;\ 0,002 < Kn < 0,06;\ 0,1 < M < 1,0.$$

This expression can be used for a qualitative evaluation of the effect of a decrease in pressure on the heat transfer rate in electric arc gas heaters with sectional channels, and for an approximate quantitative evaluation of heat transfer in similar electric arc heaters with a change of pressure in the system. Orig. art. has: 2 formulas, 2 figures and 1 table.

SUB CODE: 13,20/ SUBM DATE: 07Oct65/ ORIG REF: 008/ OTH REF: 001

Card 2/2

ACC NR: AT7002905 SOURCE CODE: UR/0000/66/000/000/0070/0084

AUTHOR: Sakhiyev, A. S.; Stel'makh, G. P.; Chesnokov, N. A.; Bassel', A. B.

ORG: none

TITLE: Calculation of the particle evaporation process in a high temperature gas stream under non-adiabatic conditions

SOURCE: AN UkrSSR. Fizika goreniya (Combustion physics). Kiev, Izd-vo Naukova dumka, 1966, 70-84

TOPIC TAGS: plasma jet, metal powder, combustion, solid propellant, metal combustion, POWDER METAL PRODUCTION, NONADIABATIC PROCESS

ABSTRACT: Methods of producing ultrafine metal powders by injecting coarse powder into plasma jets have recently become of considerable interest. The heating, melting, and evaporation processes of the particles and important for the design of reactors. In the present study, an analysis was made of the melting and evaporation processes of metal particles in high-temperature plasma jets, and formulas were derived for calculating the time and path length required for melting and evaporation. Formulas for calculating the particle velocity during evaporation were also derived. Empirical and theoretical relationships are given for the temperature field in a cylindrical reactor into which an argon jet discharges. Orig. art. has: 40 formulas and 1 figure. [PV]

SUB CODE: 21,11/SUBM DATE: 12Sep66/ ORIG REF: 004/ OTH REF: 008

UDC: none

Card 1/1

STEL'MAKH, G.S., inzh.; KHUDYAKOV, V.Ye., inzh.

Cassette formwork without bolts. Transp. stroi. 15 no.6: 51-52 Je '65. (MIRA 18:12)

STELMAKH, I.

Dormitory for moving-picture operators. Kinomekhanik no.4:11 Ap '53. (MLRA 6:6)

(Moving-picture industry--Employees)

S/073/60/026/003/009/011/XX
B023/B060

AUTHORS: Dashkevich, B. N. and Stel'makh, I. P.

TITLE: Dehydration of Sulfuric Acid, Glycerin, and Ethanol by Adsorption

PERIODICAL: Ukrainskiy khimicheskiy zhurnal, 1960, Vol. 26, No. 3, pp. 381-382

TEXT: The authors wanted to use waste aluminum sulfate for the removal of water from certain compounds. They obtained the waste aluminum sulfate from Transcarpathian clay of the Onokskiy kar'yer (Onoki Quarry). The authors started their investigation by applying their still undescribed method. They treated the clay with 20% sulfuric acid and thence obtained a waste aluminum sulfate which, following the "turpentine test", was the most active. Nonetheless, the waste aluminum sulfate obtained by the usual method gives quite similar results. According to a percentual analysis, the waste aluminum sulfate produced by the authors contains SiO_2: 81.21, Al_2O_3: 8.015, $FeO+Fe_2O_3$: 1.96, CaO: 0.68, MgO: 0.53. The sulfuric acid

Card 1/3

Dehydration of Sulfuric Acid, Glycerin, and Ethanol by Adsorption

S/073/60/026/003/009/011/XX
B023/B060

concentration was 76%. The investigation was conducted in a glass cylinder at low temperature. In the weight ratio of calcined waste aluminum sulfate versus sulfuric acid = 1:5, the concentration of sulfuric acid rose by 8% and attained 82%. A further study revealed that in a 1:2 ratio the sulfuric acid concentration rose by 18.85% and within 48 h attained 92.85%. Once the sulfuric acid liberated from the waste aluminum sulfate was again subjected to the action of a new portion of waste aluminum sulfate, its concentration rose by 1%, i.e., it attained 93.8%. It was noted that in dehydration of sulfuric acid performed with waste aluminum sulfate no impurity resulted; the sulfuric acid was found to be free of admixtures. 2-3% dehydrated sulfuric acid was still found in the filtered waste aluminum sulfate with this dehydration method. Filtration was performed in vacuum with a glass filter. It was finally noted that the washed and calcined waste aluminum sulfate is very well suited for the dehydration of sulfuric acid. The calcination of waste aluminum sulfate requires no high temperatures, 150°C being sufficient. The dehydration of glycerin and ethanol was performed in a similar manner. Results are given in the table. There are 1 table and 1 Soviet reference.

ASSOCIATION: Uzhgorodskiy gosudarstvennyy universitet (Uzhgorod State University)

Card 2/3

DASHKEVICH, B.N.; STEL'MAKH, I.P.

Dehydration of sulfuric acid, glycerin, and ethanol by adsorption. Zhur.prikl.khim. 33 no.7:381-382 Jl '60. (MIRA 13:7)

1. Uzhgorodskiy gosudarstvennyy universitet.
(Dehydration(Chemistry)) (Aluminum sulfate)

DASHKEVICH, B.N.; STEL'MAKH, I.P.

Catalytic activity of waste aluminum sulfate obtained from clays by means of strong acids. Zhur. prikl. khim. 33 no.8:1897-1899 Ag '60. (MIRA 13:9)

1. Kafedra neorganicheskoy i analiticheskoy khimii Uzhgorodskogo gosudarstvennogo universiteta.
(Aluminum sulfate)

STEL'MAKH, I.T.

New medical magazine. Fel'd. i akush. no.8:60-61 Ag '55.
(MLRA 8:10)

1. Zaveduyushchiy meditsinskim punktom Okhonovskogo sel'soveta Grodnenskoy oblasti.
(WHITE RUSSIA--MEDICINE--PERIODICALS)

STEL'MAKH, I.T., fel'dsher (Kovchitsy Gomel'skoy oblasti)

Skillful approach to the patient is an important factor in therapeutics. Fel'd. i akush. 21 no.5:37-39 My '56. (MLRA 9:8)
(MEDICINE--PRACTICE)

STEL'MAKH, I.T., fel'dsher (Kovchitsy Gomel'skoy oblasti)

A handbook which requires revision ("Some first-aid in injuries and acute surgical diseases." by V.N.Khodkov. Reviewed by I.T.Stel'makh) Fel'd. i akush. 21 no.11:58-59 N '56. (MLRA 9:12)
(FIRST AID IN ILLNESS AND INJURY)
(KHODKOV, V.N.)

STEL'MAKH, I.T., fel'dsher (Kovchitsy Gomel'skoy oblasti)

Furacillin in the treatment of minor injuries. Fel'd. i akush. 22 no.5:38 My '57. (MLRA 10:6)
(FURALDEHYDE) (WOUNDS--TREATMENT)

STEL'MAKH, I.T.

Urgent needs of rural public health institutions. Zdrav. Belor. 5 no.2:72-73 F '59. (MIRA 12:7)

1. Iz Kovchitskogo fel'dshersko-akusherskogo punkta Gomel'skoy oblasti.

(WHITE RUSSIA--PUBLIC HEALTH, RURAL)

STEL'MAKH, I.T.

Proposals for improving dental care. Zdrav.Bel. 7 no.11:76 N '61. (MIRA 15:11)

(WHITE RUSSIA--DENTAL CARE)

1. ZELMANOV, L.

2. USSR (600)

4. Collective Farms

7. Work practice of a collective farm inspection committee, Kolkh. proizv. 13, no. 2, 1953.

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

STEL'MAKH, L. N.

STEL'MAKH, L. N.: "On the establishment of the orientation reaction and the dynamics of external inhibition in the ontogenesis of dogs", Leningrad, 1955. Acad Sci USSR. Inst of Physiology imeni I. P. Pavlov. (Dissertations for the Degree of Candidate of Biological Science)

SO: Knizhnaya letopis', No. 52, 24 December, 1955. Moscow.

STEL'MAKH, L.N.

Orientation reaction in dogs with different types of nervous system. Trudy Inst.fiziol. 5:232-238 '56. (MLRA 10:1)

1. Laboratoriya sravnitel'nogo ontogeneza vysshey nervnoy deyatel'-nosti. Zaveduyushchiy - V.A.Troshikhin.
(ORIENTATION) (TEMPERAMENT)

STEL'MAKH, L.N.

Peculiarities of orientation reactions to tactile and sound stimuli in dogs in ontogenesis [with summary in English]. Zhur.vys.nerv. deiat. 7 no.3:410-415 My-Je '57. (MIRA 10:10)

1. Laboratoriya sravnitel'nogo ontogeneza vysshey nervnoy deyatel'nosti Instituta fiziologii imeni I.P.Pavlova AN SSSR.
(REFLEX,
orientation, on tactile & sound stimuli in dogs, age factor (Rus))
(ACTING, effects,
on orientation reflex to tactile & sound stimuli in dogs (Rus))

T-12

USSR/Human and Animal Physiology (Normal and Pathological). Nervous System. Higher Nervous Activity. Behavior.

Abs Jour : Ref Zhur - Biol., No 11, 1958, 51291

Author : Stel'makh, L.N.
Inst : -
Title : The Speed with Which Orientation Reactions to Tactile and Sound Stimuli Become Extinct in Dogs of Various Ages.

Orig Pub : Fiziol. zh. SSSR, 1957, 43, No 5, 393-399.

Abstract : In 47 puppies of various ages the disappearance (D) of orientation reactions to sound stimuli lasting for 5 seconds, and to tactile stimuli lasting for 10 seconds was investigated. In $1\frac{1}{2}$ month old puppies, D speed of reactions to tactile stimuli reached the normal adult dog level. Before this time, two periods of disinhibition activity of extinct reactions was observed in 90 percent of the animals, namely, from the 1st to the 5th-6th day, and from the 14th-18th to the 30-45th day (after seeing

Card 1/2

EXCERPTA MEDICA Sec 2 Vol 12/2 Physiology Feb 59

871. DYNAMICS OF EXTERNAL INHIBITION IN ONTOGENESIS OF DOGS (Russian text) - Stelmakh L. N., Lab. of Comp. Ontogenesis of Higher Nervous Activity, Pavlov Inst. of Physiol., USSR Acad. of Scis, Leningrad - ZH. VYSSH. NERV. DEYAT. 1958, 8/2 (226-233) Graphs 3 Tables 1

A study was made of the age peculiarities of external inhibition in 28 puppies during the first 6 months of life. A conditioned food reflex to a tone was elaborated in the puppies, while a metronome, a bell and a rattle were used as extra stimuli. The duration of disturbances of the conditioned reflex in the days following the effect of extinctive inhibition varies in different age periods; during the first 20-25 days the extra stimuli have no inhibitive effect on the conditioned reflex either during the test or on the following days; beginning with the 25th and up to the 40-45th day the conditioned reflex is disturbed during a series of successive experiments; at the age of 2 to 3 months, as a rule, no disturbances are observed; in the period of 6 to 7 months, the conditioned reflex is again disturbed for a long time. External inhibition begins to diminish on the 42nd to the 45th day, while beginning with the 4th month it again starts increasing.

MIRZAKARIMOVA, M.G., STEL'MAKH, L.N., TROSHIKHIN, V.A.

Controlled modifications of passive defense and searching reflexes in ontogenesis [with summary in English]. Zhur.vys.nerv.deiat. 8 no.5:751-757 S-O '58 (MIRA 12:1)

1. Laboratoriya sravnitel'nogo ontogeneza vysshey nervnoy deyatel'nosti Instituta fiziologii im. I.P. Pavlova AN SSSR.

(REFLEX,
passive defense & searching reflexes, eff. of conditioning in young dogs (Rus))

(REFLEX, CONDITIONED
eff. on passive defense & searching reflexes in young dogs (Rus))

KLYAVINA, M.P., KOBAKOVA, Ye.M., S[redacted] TROSHIKHIN, V.A.

The speed of formation of conditioned reflexes in dogs in ontogenesis/ [with summary in English]. Zhur.vys.nevr. deiat. 8 no.6:929-936 N-D '58 (MIRA 12:1)

1. Laboratory of Comparative Ontogenesis of the Higher Nervous Activity, Pavlov Institute of Physiology, USSR Academy of Sciences, Koltushi.
(REFLEX, CONDITIONED,
rate of form. in young dogs, age factor (Rus))
(AGING, effects,
on conditioned reflex form, rate in young dogs (Rus))

STEL'MAKH, M.F.

AUTHOR: REYNOV, N.M., STEL'MAKH, M.F. PA - 2596

TITLE: Temperature Dependence of Arbitrary Magnetization in Ferrites Co-Zn at Low Temperatures. (Temperaturnaya zavisimost' samoproizvol'noy namagnichennosti v Co-Zn-ferritakh pri nizkikh temperaturakh, Russian).

PERIODICAL: Radiotekhnika i Elektronika, 1957, Vol 2, Nr 3, pp 342 - 344 (U.S.S.R.)
Received: 5 / 1957 Reviewed: 6 / 1957

ABSTRACT: Lecture delivered at the All-Union Conference for Semiconductors in November 1955 at Leningrad. The theory developed by Vonsovskiy and Agafonova makes it appear possible that a second type of ferromagnetic semiconductors, the "Exiton" ferromagnetica, which have two Curie points, exists. In the present work the experimental investigation of this assumption was extended to the domain of helium temperatures. Mixed Co-Zn ferrites were chosen as objects of investigation for the reason that a certain anomaly was observed with respect to their magnetic properties. The dependence on temperature of spontaneous magnetization of the Co-Zn ferrite scale with a content of ZnO of from 0 up to 0,9 within the domain of temperatures of from Curie point up to 1,3° K was investigated. The result showed that the decrease of the magnetic saturation moment in the case of a temperature drop of down to 1,3° K to be expected according to the theory by Vonsovskiy and Agafonova could not be

Card 1/2

PA - 2596

Temperature Dependence of Arbitrary Magnetization in Ferrites Co-Zn at Low Temperatures.

observed. Therefore, it may be assumed that the upper limit for the excitation energy of the exitons in these ferrites amounts to $\Delta E \leqslant 10^{-16}$ erg.
(3 illustrations and 3 citations from Slav publications)

ASSOCIATION:
Leningrad Physical-Technical Institute of the Academy of Science of the U.S.S.R.
PRESENTED BY:
SUBMITTED:
AVAILABLE: Library of Congress.

Card 2/2

STEL'MAKH, M.F.

AUTHOR: Stel'makh, M.F. 109-4-12/20

TITLE: Interaction of an Electron Beam with the Spatial Harmonic Field. (O vzaimodeystvii elektronnogo potoka s polem prostranstvennykh garmonik)

PERIODICAL: Radiotekhnika i Elektronika, 1957, Vol.2, No.4, pp. 470 - 483 (USSR)

AESTRACT: Note: The material contained in this paper was presented at the International Congress on High-frequency Devices, Paris, 1956.

The basic equations of Loshakov (see the preceding article in the present issue of the journal) are employed to derive the propagation constant of a backward wave tube, in which only the TM waves are taken into account. It is shown that if the propagation constant of the k-th harmonic in the absence of an electron beam in the tube is:

$$\beta_{ok} = \beta_{oo} + \frac{2\pi k}{D}$$

and in the presence of an electron beam it is modified to:

$$\beta_k = \beta_{ok} + \delta\beta_{oo} \qquad (14)$$

Card 1/5

Interaction of an Electron Beam with the Spatial Harmonic Field.

then the expression for δ is in the form:

$$\delta\left[(\varphi - \delta)^2 - M\right] \pm \frac{1}{2} MK_c = 0 \qquad (18)$$

where:

$$\varphi = \frac{\eta - 1}{\chi_k} \; ; \quad M = M_o\eta^3 \; ; \quad K_c = \frac{\omega\epsilon_o \int \left| B_{okz} \right|^2 ds}{2\beta_{oo}P} \qquad (19)$$

in which:

$$\frac{k_o}{\beta_{ok}} = \frac{v_{ok}}{u_o} = \eta \; , \quad \frac{\beta_{oo}}{\beta_{ok}} = \chi_k \qquad (15)$$

$$q = M_o\eta^3\beta_{oo}^2 \qquad (16)$$

$$M_o = \frac{e}{me} \cdot \frac{i_o}{\omega^3} \cdot \frac{\beta_{ok}^2}{\beta_{oo}} \qquad (17)$$

Card 2/5

Interaction of an Electron Beam with the Spatial Harmonic Field.

where:

D = period of the backward-wave structure,
$\frac{e}{m}$ = charge-to-mass ratio for an electron,
i_o = d.c. electron current density,
u_o = average electron velocity
v_{ok} = phase velocity of a harmonic,
ε = permittivity of the medium,
ω = angular frequency,
P = average power flowing through the tube.

Coefficient K_c in equation (18) is referred to the line-to-electron beam coupling coefficient and for a hairpin-type tube it is shown to be a function of the wave number, width of the resonator slots, pitch of the system (d), distance from the resonators to the smooth conducting surface, width of the ribbon-type beam and distance from the centre of the beam to the surface of the resonators. K_c is calculated for harmonics $k = 0$, -1 and $+1$ and equation (18) is solved for δ. The

Interaction of an Electron Beam with the Spatial Harmonic Field.

resulting functions β_k/β_{ok} are plotted against η for values of η ranging from 0.9 to 1.075 (see Fig.1). Amplification coefficient of the system (backward-wave tube of length L) is defined as:

$$K_a = \left|E_{2z}(L)\right| / \left|E_{2z}(0)\right| \qquad (21)$$

An expression for K_a is found in terms of δ_1, δ_2, δ_3 (for three waves), β_{oo} and L. The expression (eq.(33)) is used to find the condition of oscillation, i.e. the values of φ, M and K_c at which K_a is infinite. The resulting values of M and K_c as a function of $\theta = \varphi\beta_{oo}L$ are shown graphically (Figs. 3 and 4); the curves can be used to determine the voltage and current corresponding to a given oscillation frequency. It is therefore possible, for a given tube, to determine its current-voltage excitation curve, i.e. a curve whose points give the currents and voltage necessary to produce oscillation. Such curves are plotted (see Fig.5) for three different tubes. The condition of excitation of the second-order oscillations is also

Interaction of an Electron Beam with the Spatial Harmonic Field.

investigated and it is found that these oscillations require [illegible] and voltages.

There are 5 figures, 1 table and 3 references, of which 1 is Slavic.

SUBMITTED: May 30, 1956.

AVAILABLE: Library of Congress.

AUTHOR: Stel'makh, M. F. 108-13-8-5/12

TITLE: On the Theory of a Double Block of Slot Resonators (K teorii sdvoyennogo bloka shchelevykh rezonatorov)

PERIODICAL: Radiotekhnika, 1958, Vol. 13, Nr 8, pp. 30 - 36 (USSR)

ABSTRACT: The author shows that by means of longitudinal dislocation of a block, as compared to the other, a field structure between the blocks for the odd harmonics of the antisymmetric waves may be obtained which is more useful from the viewpoint of the interaction with the electron flow. The results obtained may be used in the elaboration of valves with traveling and backfeed wave. The formulae for the field component in the space of interaction (i. e. between the blocks) are derived. The dispersion equation and the formula for the coupling factor between the line investigated and the electron beam are obtained. The problem is solved according to the method given (Ref 3). The losses in the lines are neglected. It is assumed that the system is infinite in the direction of the y-axis, and that the field along the axis does not change. In the space of interaction only the propagation of the electric waves of the

Card 1/3

On the Theory of a Double Block of Slot Resonators 108-13-8-5/12

TM-type with a propagation velocity smaller than c is investigated. The solution of the dispersion equation (17) in its general form is complicated. Therefore only special cases are investigated, viz., dislocated and not dislocated blocks. The formula (24) for the coupling factor is written down and then the formulae for it in some interesting cases are given: 1) Not dislocated blocks, antisymmetric form of the waves. 2) Not dislocated blocks, symmetric form of the waves. 3) Dislocated blocks, asymmetric form of the blocks, interaction with odd harmonics. Conclusions: 1) The use of double blocks not dislocated makes it possible to double the lateral dimensions of the space of interaction as compared to the single block. 2) A dislocation of the double blocks by half a step makes it possible in the case of antisymmetric waves to obtain a field structure of the odd harmonics more useful for the interaction with the electron beam without considerably changing the dispersion properties of the system. 3) A block dislocation can lead to a change of the dispersion character of all even harmonics of symmetric type.- S.D.Gvozdover and L.N.Loshakov participated in the work.

Card 2/3

On the Theory of a Double Block of Slot Resonators 108-13-8-5/12

There are 4 figures and 5 references, 4 of which are Soviet.

SUBMITTED: June 8, 1957

1. Cavity resonators--Theory 2. Mathematics

Card 3/3

21(8) SOV/56-35-5-42/56

AUTHORS: Kogan, A. V., Kul'kov, V. D., Nikitin, L. P., Reynov, N. M., Sokolov, I. A., Stel'makh, M. F.

TITLE: Measurement of the β-γ-Correlation of Orientated Nuclei (Izmereniye β-γ-korrelyatsii oriyentirovannykh yader)

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1958, Vol 35, Nr 5, pp 1295-1296 (USSR)

ABSTRACT: Reference is first made to some earlier papers dealing with this subject. When investigating correlation, the authors constructed a device for the orientation of nuclei and took several measures for the purpose of extending the duration of measurements and improving their statistical accuracy. The main source of heat supply is thermal radiation, which passes through a light pipe, which is used for transmitting the flashes of light produced in a plastic scintillator during the recording of β-particles. The β-radiation asymmetry of Co^{60}-nuclei was measured. These cobalt nuclei were introduced into a thin superficial layer of a cesium-magnesium-nitrate crystal. The authors carried out their measurements

Card 1/2

SOV/56-35-5-42/56

Measurement of the β-γ-Correlation of Orientated Nuclei

of the β-γ-angular correlation on orientated Co^{60}-nuclei. The provisional data obtained by these measurements are not in contradiction to theoretical calculations which were carried out on the basis of the conservation of combined parity. Further, the investigation of β-γ-angular correlation for Mn^{52} and V^{48} is planned. The authors thank A. I. Alikhanov, Academician, and Professor S. Ya. Nikitin for placing the Co^{58} at their disposal (this element is, by the way, less well suited for measurements of the here described kind); they further express their gratitude to A. Z. Dolginov for many useful discussions, and to O. V. Larionov for the chemical separation of Co^{58}. There are 2 figures and 6 references, 1 of which is Soviet.

ASSOCIATION: Leningradskiy fiziko—tekhnicheskiy institut Akademii nauk SSSR (Leningrad Physico-Technical Institute of the Academy of Sciences, USSR)

SUBMITTED: July 9, 1958

Card 2/2

SOV/109-4-6-10/27

AUTHORS: Stel'makh, M.F. and Ol'derogge, Ye.B.

TITLE: Propagation of Electromagnetic Waves in Corrugated Systems with Annular Slots (Rasprostraneniye elektromagnitnykh voln v diafragmirovannykh zamedlyayushchikh sistemakh s kol'tsevymi shchelyami)

PERIODICAL: Radiotekhnika i elektronika, 1959, Vol 4, Nr 6, pp 980 - 987 (USSR)

ABSTRACT: The systems considered are shown diagrammatically in Figures 1a and 1б. It is assumed that in general the inner periodic structure can be displaced (along the axis z) with regard to the outer structure by a distance l . It is further assumed that losses in the conductors can be neglected and that all the time functions are sinusoidal. The system can be analysed by using the method of the "partial regions" (V.M. Lopukhin - Ref 6). It is assumed that in the regions I and III (Figures 1) only radial TEM-waves can propagate, while in the region II a TM-wave exists whose dependence on the co-ordinate z is in the form $\exp(-j\beta_m z)$. The fields in the region I are therefore given by Eqs (1), (2). In the region II, the fields

Card1/4

are expressed by Eqs (3), (4) and (5). For the region III of the corrugated waveguide (Figure 1b) the fields are expressed by Eqs (6) and (7), while for the coaxial corrugated line (Figure 1a) the fields are expressed by Eqs (8) and (9). The boundary conditions for a slot denoted by the number q can be expressed by Eqs (10)-(13). The boundary conditions are used to evaluate the integration constants in the field equations. The constants are defined by Eqs (14)-(21). The dispersion equation of the systems is in the form of Eq (26), where the various parameters are defined by Eqs (27)-(31); the parameter α for the waveguide is given by Eq (32), while for the coaxial line it is defined by Eq (33). The solution of Eq (26) can be found graphically by finding the intersection points of the left-hand side and the right-hand side parts of the equation. The coupling coefficient between the n-th spatial harmonic of the electron beam is defined by Eq (34) where E_{zn} is the longitudinal component of the

SOV/109-4-6-10/27

Propagation of Electromagnetic Waves in Corrugated Systems with Annular Slots

electric field of the n-th harmonic and P is the power flow through the system (without the beam). The final expression for the coupling coefficient is in the form of Eq (39). The theoretical results are employed to evaluate a number of curves illustrating the performance of the corrugated systems. The results are shown in Figures 2-8. Figure 2 shows the dispersion curves for the first background harmonic. Figure 3 illustrates the dependence of the first backward harmonic on the wavelength in planar and coaxial systems. The dependence of the coupling coefficients and the density of the starting currents on the parameter $\theta = D\beta/2\pi$ is illustrated in Figure 4; the solid curves give the coupling coefficient while the dashed curves illustrate the current densities. Further dispersion curves are given in Figure 5, while Figure 6 illustrates the coupling coefficient for anti-symmetrical waves. The distribution of the electric field in the annular slots is illustrated in Figures 7 and 8. From the analysis, it is concluded that the symmetrical

Card3/4

SOV/109-4-6-10/27

Propagation of Electromagnetic Waves in Corrugated Systems with Annular Slots

waves can propagate in a coaxial corrugated line only within a narrow band; the anti-symmetrical waves can propagate over a wide band. Only one symmetrical wave type can exist in a corrugated waveguide. The displacement of the two periodic structures (the inner and the outer) with respect to each other has no significant effect on the shape of the dispersion curves in both the corrugated systems. There are 8 figures and 9 references, 6 of which are Soviet and 3 English; one of the Soviet references is translated from English.

SUBMITTED: March 7, 1958

Card 4/4

82598

S/056/60/039/01/06/029
B006/B070

24.2200

AUTHORS: Kogan, A. V., Kul'kov, V. D., Nikitin, L. P., Reynov, N. M., Sokolov, T. A., Stel'makh, M. F.

TITLE: The Polarization of Sc^{46} Nuclei in Iron

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960, Vol. 39, No. 1 (7), pp. 47-52

TEXT: B. N. Samoylov, V. V. Sklyarevskiy and Ye. P. Stepanov (Refs. 8-10) succeeded in polarizing the nuclei of a number of weakly magnetic elements alloyed with ferromagnetics. They discovered the possibility of orienting the nuclei of many elements including scandium. In the present paper, the first results found by the authors on the orientation of Sc^{46} introduced into iron are published. Fig. 1 shows a schematic cross section of the apparatus employed for the purpose. Its description is given in the introduction. To check the working of the apparatus, experiments were first made on the orientation of Co^{60} in iron (≈ 0.03% Co) which are described in detail. Fig. 2 shows the asymmetry of the gamma

Card 1/3

radiation of Co^{60} as a function of temperature. The asymmetry is characterized by $\varepsilon = [I(\pi/2)-I(0)]/I(\pi/2)$. Next, the experiments carried out on scandium are described. The neutron irradiated scandium was introduced as a metal into pure iron (Sc concentration ≤ 0.5%). A large number of asymmetry measurements of the gamma radiation from Sc^{46} were made in the temperature range of from 0.03 to 0.015°K. At the lowest temperatures ε = 2.5%. The sign of the asymmetry agreed with the known dipole character of the cascade gamma transitions in Ti^{46}. Fig. 3 shows the asymmetry of gamma radiation for temperatures of the cooling salt between 0.025-0.03°K. ε was also measured for other temperatures. At 0.04-0.05°K, ε was 1%, at ~1.2°K, however, it was 1.8%, showing that the temperature dependence of the asymmetry of gamma radiation for small values of 1/T cannot be determined with sufficient accuracy. The magnetic moment of Sc^{46} was not measured. Still, it can be estimated with sufficient accuracy to be 3.5 nuclear magnetons, from which the effective magnetic field on Sc^{46} nucleus in iron for 1/T = 25 is found to be $H_{eff} \approx 10^5$ oersteds. The

Card 2/3

possible errors in this determination are then discussed. They are related to the errors in the determination of nuclear magnetic moments, ε, and T, and the error resulting from imperfect domain orientation. Taking these into account H_{eff} lies within the limits $3.0\cdot10^5 \leq H_{eff} \leq 4.0\cdot10^5$ oe for Co^{60} and $0.70\cdot10^5 \leq H_{eff} \leq 1.30\cdot10^5$ oe for Sc^{46}. Finally, the possible investigations of $\beta\gamma$-correlation for oriented Sc^{46} nuclei are very briefly discussed. The authors thank Professor N. P. Sazhin for making available metallic scandium, and Professor A. Z. Dolginov for the derivation of the asymmetry formula. G. R. Khutsishvili and L. N. Shestopalov of Fiziko-tekhnicheskiy institut AN SSSR (Physicotechnical Institute of the AS USSR) are mentioned. There are 3 figures and 21 references: 7 Soviet, 8 American, 1 Canadian, 3 Dutch, and 2 British.

ASSOCIATION: Leningradskiy fiziko-tekhnicheskiy institut Akademii nauk SSSR (Leningrad Physicotechnical Institute of the Academy of Sciences of the USSR)

SUBMITTED: February 20, 1960

Card 3/3

STEL'MAKH, M. F.

KOGAN, A.V.; KUL'KOV, V.D.; NIKITIN, L.P.; REYNOV, N.M.; SOKOLOV, I.A.
STEL'MAKH, M.F.

Polarization of some radioactive isotopes in alloys containing iron. Zhur. eksp. i teor. fiz. 40 no.1:109-113 Ja '61. (MIRA 14:6)

(Iron alloys) (Magnetic fields)

S/056/62/043/003/015/063
B102/B104

AUTHORS: Kogan, A. V., Kul'kov, V. D., Nikitin, L. P., Reynov, N. M., Stel'makh, M. F., Shott, M.

TITLE: Asymmetry in β-radiation from some nuclei polarized in an iron-containing alloy

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 43, no. 3(9), 1962, 828-830

TEXT: The authors measured the β-emission asymmetry of Re^{186}, Ir^{192} and In^{114} nuclei polarized at 0.1-0.03°K in an iron alloy, using an apparatus described in ZhTF, 29, 1039, 1959 or ZhETF, 35, 295, 1958. The values of $\mu_n H_{eff}$ (μ_n-nuclear magnetic moment, H_{eff}- effective field acting on the nucleus) were determined from the asymmetry given as

$$\varepsilon_\beta(T) = [W(0^\circ) - W(\pi)]/[W(0^\circ) + W(\pi)] = A(v/c)f_1,$$

when, for allowed β-transitions, $W(\vartheta) = 1 + A(v/c)f_1\cos\vartheta$. $W(0^\circ)$ is the β-radiation recording probability if the magnetic field is applied in the

Card 1/3

direction of the detector, $W(\pi)$ is the same if $\vec{H}$ has the opposite direction; A is a factor depending only on the spins I_1 and I_o ($I_1 \neq I_o$) of final and initial states, f_1 - nuclear polarization coefficient, ϑ - angle between the direction of nuclear polarization and that of particle emission. For Re and Ir the quantity $10^{18} \mu_n H_{eff}$ was determined from the slope of the straight line $\varepsilon_\beta(1/T)$ giving 8 ± 1 for Re and 4 ± 0.5 for Ir. These values do not agree with the results of γ-anisotropy measurements (2.5 ± 0.5 and 12 ± 1.5); i.e. the relation $\varepsilon_\beta(T) = A(v/c)f_1$ cannot be used. Since for these nuclei $A < 0$ and $\mu_n > 0$ it follows that H_{eff} will be negative. For Ir^{144} also the nuclear spin relaxation time τ_n in the field H_{eff} was determined. Up to $\sim 0.1^oK$ $\tau_n \ll 70$ sec. $\mu_n \leq 1.7 \pm 0.4$ nuclear magnetons and H_{eff} is also negative. There are 1 figure and 1 table.

ASSOCIATION: Fiziko-tekhnicheskiy institut im. A. F. Ioffe Akademii nauk SSSR (Physicotechnical Institute imeni A. F. Ioffe of the Academy of Sciences USSR). Institute of Nuclear Research of the Academy of Sciences Czechoslovak SSR (M. Shott)

Asymmetry in β-radiation from some...

S/056/62/043/003/015/063
B102/B104

SUBMITTED: April 13, 1962

Card 3/3

L 15530-63 EWP(q)/EWT(m)/BDS AFFTC/ASD JD

ACCESSION NR: AP3005233 S/0056/63/045/002/0001/0007 64 59

AUTHOR: Kogan, A.V.; Kul'kov, V. D.; Nikitin, L. P.; Reynov, N. M.; Stel'makh, M. F.

TITLE: Measurement of the nuclear specific heats 19 of iridium 27 and rhenium 27 in iron alloys

SOURCE: Zhur, ekspr. i teor. fiz. v. 45, no. 2, 1963, 1-7.

TOPIC TAGS: Nuclear specific heat, iridium, rhenium, magnetic moment, effective magnetic field, Re, Ir

ABSTRACT: A method for measuring very small nuclear specific heats and for estimating nuclear relaxation times in alloys is described. Such measurements are of interest because they can be used to determine the effective magnetic field and the magnetic moment of radioactive isotopes. The specific heats of the alloys were measured by comparison with the specific heat of a cooling mixture consisting of 50% saturated aqueous solution of criummagnetsium nitrate and 50% glycerin by volume, which in turn was determined in control experiments by comparison with the known specific heats of metallic cobalt and Fe-Co alloys with different concen-

Card 1/12

L 15530-63
ACCESSION NR: AP3005233

5

trations. The nuclear specific heats of Re-Fe and Ir-Fe alloys of various concentrations were measured. The effective magnetic fields acting on the nuclei of the alloying metals were found to be $(6.7 \pm 0.7) \times 10^5$ Oe for Re and $(1.35 \pm 0.3) \times 10^6$ for Ir. The magnetic moment of Ir-192 was found to be $(1.8 {}^{+0.6}_{-0.5})$ nuclear magnetons. magnetons. The possible errors of the procedure are estimated. The authors wish to thank Yu. M. Burdukov, A. A. Fogel, T. A. Sidorova, and Z. A. Guts for assistance in preparing the samples. Orig. art. has: 3 figures, 4 formulas, and 2 tables.

ASSOCIATION: Fizichesko-tekhnicheskiy institut im. A. F. Ioffe Akademii nauk SSSR (Physicotechnical Inst. Academy of Sciences SSSR)

SUBMITTED: 13Dec62 DATE ACQ: 06Sep63 ENCL: 02

SUB CODE: PH NO REF SOV: 005 OTHER: 006

Card 2/2

SUBMITTED: 31May48 ENCL: 01 SUB CODE: EC

NO REF SOV: 000 OTHER: 000 ATD Press 4084

Card 1/2

L 65150-65

ACCESSION NR: AP5021563

ENCLOSURE: 01

Fig. 1. Microwave generator

1 - Cathode tube; 2 - resonator; 3 - electron beam; 4 - slots.

Card 2/2

STEL'MAKH, N.I., gornyy tekhnik; GUMENYUK, G.Ye., gornyy tekhnik; ~~TIKHENKO~~, L.G., gornyy inzh.

Rapid development of blocks. Met. i gornorud. prom. no.1: 75-77 Ja-F '62. (MIRA 16:6)

(Mining engineering)

TIKHENKO, L.G., gornyy inzh.; STEL'MAKH, N.N., gornyy tekhnik; GUMENOK, G. Ye., gornyy tekhnik; VOLOSHIN, A.M., gornyy inzh.; BEREZOVSKIY, A.P., gornyy inzh.; LYUTYY A.L., gornyy inzh.; BUGAY, V.A., gornyy tekhnik-marksheyder

"Improving underground work" by IA. D. Grossman and E. M. Kozakov. Reviewed by L. G. Tikhenko and others. Gor. zhur. no.3:3-7 Mr '61. (MIRA 14:3)

1. Rudoupravleniye im. Rozy Lyuksemburg, Krivoy Rog (for Tikhenko, Stel'makh, Gumenok). 2. Shakhta "Kommunar-Probeda', Krivoy Rog (for Voloshin, Berezovskiy, Lyutyy). 3. Shakhta "Novaya" rudoupravleniya im. Rozy Lyuksemburg (for Bugay).

(Mining industry and finance)
(Grossman, IA. D.) (Kozakov, E. M.)

[illegible], [illegible]

"Calculation and Measurement of Stresses in the Blades of Ship Screw Propellers." Cand Tech Sci, Leningrad Inst of Engineers of Water Transport, Leningrad, 1953. Dissertation (Referativnyy Zhurnal--Mekhanika Moscow, Feb 54)

SO: SUM 1[illegible], 19 Aug 1954

STEL'MAKH, N. Ya., kand. tekhn. nauk, dotsent

Stress condition of screw shafts. Trudy LIVT no. 15:24-30 '61.
(MIRA 14:10)

(Shafting) (Strains and stresses)

PROKOPTSEV, N.G.; STEL'MAKH, O.L.

Setting-up a Vasil'ev pipette for a complet analysis of the mechanical properties of soils (outfit of the Black Sea Experimental Research Station). Okeanologiia 3 no.2:313-315 '63. (MIRA 16:4)

1. Chernomorskaya eksperimental'naya nauchno-issledovatel'skaya stantsiya Instituta okeanologii AN SSSR.
(Pipettes) (Soil mechanics)

L 36048-66 EWT(1) GW

ACC NR: AP6020990 (N) SOURCE CODE: UR/0213/66/006/003/0529/0530

AUTHOR: Stel'makh, O. L.

ORG: Black Sea Experimental Scientific Research Station, Institute of Oceanology, AN SSSR (Chernomorskaya eksperimental'naya nauchno-issledovatel'skaya stantsiya Instituta okeanologii AN SSSR)

TITLE: Container for lowering liquid dyestuff to any specified depth in the sea

SOURCE: Okeanologiya, v. 6, no. 3, 1966, 529-530

TOPIC TAGS: oceanographic instrument, dye chemical, ocean turbulence, oceanic diffusion, OCEAN DYNAMICS, DYESTUFF

ABSTRACT: The Black Sea Experimental Scientific Research Station of the Institute of Oceanology of the Academy of Sciences USSR has designed and built a 10-liter container for lowering liquid dyestuff into the sea to any specified depth. The container is used in studies of the turbulent mixing of ocean and sea-water masses by the luminescent-tracer method. The container, described in great detail in the original article, consists basically of a hollow cylinder with 2 hinged caps interconnected by a system of rods and levers, and is fitted with a pressure-equalization device. The container is connected to a cable

Card 1/2 UDC: 551.46.073

L 36048-66

ACC NR: AP6020990

by 2 clamps; it is lowered to the desired depth and actuated by a weight sliding down the cable hitting a trigger system which opens both the hinged caps. The container is then raised, and a column of dyestuff remains at the required depth. Orig. art. has: 1 figure. [LB]

SUB CODE: 08/ SUBM DATE: 07Sep65

Card 2/2

KAL'YU, P.I.; LOGINOVA, Ye.A.; IL'IN, S.Ye.; MATSKO, B.M.; STEL'MAKH, O.N.; BRODSKIY, M.S., red.; ROMANOVA, Z.A., tekhn.red.

[Morbidity in the rural population; from data on visits to therapeutic and prophylactic institutions in ten rural districts] Zabolevaemost' sel'skogo naseleniia; po materialam obrashchaemosti v lechebno-profilakticheskie uchrezhdeniia desiati sel'skikh raionov. Pod red. P.I.Kil'iu. Moskva, Gos.izd-vo med.lit-ry Medgiz, 1960. 236 p. (MIRA 14:2)
(PUBLIC HEALTH, RURAL--STATISTICS)

KAL'YU, P.I.; LOGINOVA, Ye.A.; MATSKO, B.M.; IL'IN, S.Ye.; STEL'MAKH, O.N.

Medical visits of the rural population related to diseases of the respiratory organs. Klin.med. 38 no.10:54-59 O '60. (MIRA 13:11)

1. Iz Instituta organizatsii zdravookhraneniya i istorii meditsiny imeni N.A. Semashko (dir. - Ye.D. Ashurkov).
(RESPIRATORY ORGANS—DISEASES) (PUBLIC HEALTH, RURAL)

STEL'MAKH, O.N.

Morbidity (as revealed by data on patients' visits) in a rural district. Zdrav. Ros. Feder. 5 no.1:8-13 Ja '61. (MIRA 14:1)

1. Iz otdela organizatsii zdravookhraneniya Moskovskogo nauchno-issledovatel'skogo instituta sanitarii i gigiyeny imeni F.F.Erismana (dir. A.P. Shitskova).
(CHERVEN DISTRICT (MINSK PROVINCE)--DISEASES--REPORTING)

KAL'YU, P.I.; LOGINOVA, Ye.A.; IL'IN, S.Ye.; MATSKO, B.M.; STEL'MAKH, O.N.

Incidence of circulatory diseases among the rural population as revealed by visits to therapeutic institutions. Zdrav. Ros. Feder. 5 no. 4:22-28 Ap '61. (MIRA 14:4)

1. Iz Instituta organizatsii zdravookhraneniya i istorii meditsiny imeni N.A. Semashko.
(CARDIOVASCULAR SYSTEM—DISEASES)

STEL'MAKH, S. I.

Predel vynoslivosti svarnykh soedinenii. Vestn. Mash., 1950, no. 6, p. 5-9.

Fatigue limit of welded joints.

DLC: TN4V4

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

STEL'MAKH, S.I. (Moskva)

Calculating shallow shells with rectangular supporting edges. Inzh. zhur. 1 no.4:115-122 '61. (MIRA 15:4)
(Elastic plates and shells)

ACC NR: AT7007033 (A) SOURCE CODE: UR/0000/66/000/000/0286/0296

AUTHOR: Stel'makh, S. I. (Moscow)

ORG: None

TITLE: Shell modeling in experiment and design

SOURCE: Stroitel'naya mekhanika (Structural mechanics). Moscow, Stroyizdat, 1966, 286-296

TOPIC TAGS: shell design, dimension analysis, model scaling

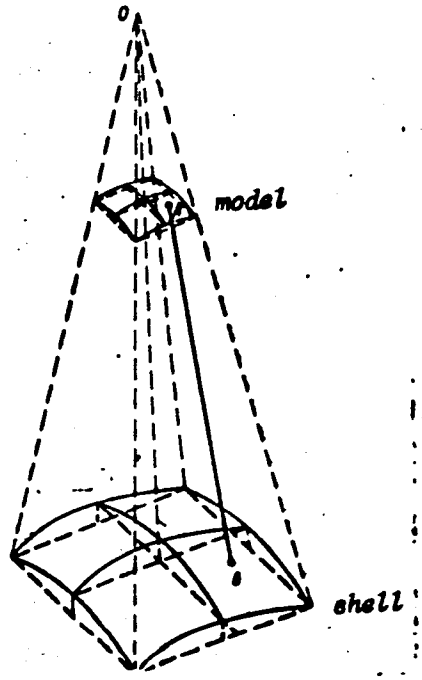
ABSTRACT: The author considers the following two problems: 1) shell modeling for experimental purposes and 2) construction of models for alternative shell designs. These problems are solved for shells with relatively flat surfaces using the methods of dimensional analysis and functional expressions of the form

where λ, β and ν are dimensionless parameters for the length, rise and flexibility of the shell and $K_{N,M,S}$ and $K_{U,V,W}$ are dimensionless static and kinematic factors which approximate the inner forces and displacements of the shell with a given degree of

Card 1/3

ACC NR: AT7007033

accuracy. An infinite set of geometrically similar shells is represented by a pyramid (see figure) whose edges are the locus for the proportional variation in the general dimensions of each shell. Identity between an experimental or theoretical shell and its model with respect to the stressed and deformed state is expressed by equations which satisfy conditions of identical strength and rigidity for one or several corresponding points A in the model and B in the shell. The formulas derived in this paper may be used for determining the working capacity of one or several shells of a given type from elastic tests of a single model. The static geometric characteristics and material of the model and the shells need not be the same. These expressions may also be used for shell design from the standpoint of geometry and economy, i. e. efficient use of the mechanical properties of a given material, and for a comparative evaluation of the carrying capacity of a given shell design in the elastic state as a function of its



Card 2/3

ACC NR: AT7007033

static geometric characteristics and the physical and mechanical properties of the material. Numerical expamples are given illustrating application of the proposed method to solution of problems in each of these classes. Orig. art. has: 2 figures, 4 tables, 24 formulas.

SUB CODE: 20/ SUBM DATE: None/ ORIG. REF: 003

Card 3/3

STEL'MAKH, S.S.; TSEKHMISTRENKO, Yu.V.

Obtaining an effective Hamiltonian of direct electron-electron interaction in adiabatic approximation. Ukr.fiz.zhur. 4 no.6: 806-808 N-D '59. (MIRA 14:10)

1. Kiyevskiy gosudarstvennyy universitet im. T.G.Shevchenko i Institut fiziki AN USSR.
(Electrons--Scattering)

S/021/61/000/012/009/011
D251/D305

AUTHORS: Nazarchuk, M. M., and Stel'makh, S. S.

TITLE: On the connection between surface friction and heat-exchange

PERIODICAL: Akademiya nauk Ukrayins'koyi RSR. Dopovidi, no. 12, 1961, 1590-1593

TEXT: The authors state the result obtained by E. A. Sidorov (Ref. 1: ZhTF, 27, 560, 1957) for the relationship between the thermal and dynamical characteristics for a laminar flow of incompressible liquid

$$St = \frac{1}{2}\frac{c_f}{Pr}\left(\frac{\partial \bar{t}}{\partial \bar{u}}\right)_{y=0} \qquad (2)$$

where $\bar{u} = u/U$, $\bar{t} = t/t_\infty = \frac{T - T_W}{T_\infty - T_W}$, where $St = \alpha/\rho w c_p$ is Stanton's criterion, c_f is the local coefficient of friction, T, T_W, T_∞ are

Card 1/4

the temperatures of the liquid, the wall and the free stream respectively, $U = u|_{y=\infty}$. [Abstractor's note: Some symbols not explained.] This relationship may be adapted for a flow of gas, with

$$t = \frac{\Theta - T_W}{T_\infty - T_W}$$

where Θ is the temperature of retardation and $T_\infty = \Theta|_{y=\infty}$. These formulae are applied to the case of temperature inconstancy on the wall. The ratio between the variable temperature of the wall and T_W and the initial temperature of the wall T_{Wo} is shown to be

$$\frac{T_W}{T_{Wo}} = \frac{Ac^n\left(1 + \frac{p}{p_o}\,\frac{x}{Re_m Lc}\right)^n + 1}{Ac^n + 1}$$

where A, C are positive constancts, L is a characterized linear dimension, and

$$\frac{p}{p_o} = \left(1 - \frac{U}{U_m}\right)^{\frac{1}{k-1}}; \; U_m$$

$$Re_m = \frac{U_m L}{v_\infty}$$

Simplification in the case

$$\frac{p}{p_o} \quad \frac{x}{Re_m Lc} \ll 1$$

leads to the conclusion that in the case of laminar flow of gas, a small inconstancy in the wall temperature may have a considerable

On the connection between ... S/021/61/000/012/009/011
D251/D305

effect on the ratio local heat loss : coefficient of friction. There are 2 Soviet-bloc references.

ASSOCIATION: Instytut teploenergetyky AN URSR (Institute of Heat and Power Engineering AS UkrSSR)

PRESENTED: by I. T. Shvets', Academician AS UkrSSR

SUBMITTED: May 24, 1961

Card 4/4

STEL'MAKH, S., inzh.

Natural cycle and conservation of energy. Znan. ta pratsia no.1: 7-9 Ja '62. (MIRA 15:1)

(Force and energy)

STEL'MAKH, S., nauchnyy sotrudnik

Degeneration of the magnet. Znan. ta pratsia no.6:11-12 Je '62. (MIRA 16:7)

1. Institut teploenergetiki AN UkrSSR.
(Magnetism)

STEL'MAKH, S.; ROZHEN, O.

Atomic garden. Znan.ta pratsia no.9:15-16 S '62. (MIRA 15:11)
(Plants, Effect of radioactivity on)

STEL'MAKH, S., inzh.

In pursuit of the boundary layer. Znan. ta pratsia no.11:5-7 N '62. (MIRA 16:1)

(Heat--Transmission)

STEL'MAKH, S., mladshiy nauchnyy sotrudnik

Sound and the sea. Nauka i zhyttia 12 no.10:40-41 O '62. (MIRA 16:1)

1. Institut teploenergetiki AN UkrSSR.
(Underwater acoustics) (Sound production by animals)

STEL'MAKH, S., inzh.

On the border. Znan. ta pratsia no.1:6-7 Ja '63. (MIRA 16:3)
(Life (Biology))

STEL'MAKH, V.

Machine supervises production. Nauka i zhyttia 12 no.4:36 Ap '62. (MIRA 15:8)
(Slavyansk--Carbonated beverages) (Automatic control)

STEL'MAKHOV, V. ENG.

Butter

Accelerating the churning process. Mol. prom. 13, No. 8, 1952.

Monthly List of Russian Accessions, Library of Congress, November 1952.
Unclassified.

KONONENKO, V. G., kand. tekhn. nauk; SMOLOVIK, V. V., inzh.; STEL'MAKH, V. A., inzh.; BOZHKO, V. P., inzh.

Explosion briquetting of steel shavings. Mashinostroenie no.5:19-21 S-O '62. (MIRA 16:1)

1. Khar'kovskiy aviatsionnyy institut.

(Briquets)

L 34820-66 EWT(1)/EWT(m)/T/EWP(t)/ETI IJP(c) JD/GG/AT

ACC NR: AP6021921 SOURCE CODE: UR/0250/66/010/006/0374/0376

73
B

AUTHOR: Sevchenko, A. N.; Stel'makh, V. F.; Tkachev, V. D.

ORG: Belorussian State University im. V. I. Lenin (Belorusskiy gosudarstvennyy universitet)

TITLE: Photoelectric properties of gallium arsenide containing structure defects due to radiation

SOURCE: AN BSSR. Doklady, v. 10, no. 6, 374-376

TOPIC TAGS: gallium arsenide, radiation effect, photoresistance, photoconductivity, resistivity, photoelectric property, fast neutron, neutron irradiation

ABSTRACT: The energy spectrum of local levels in n- and p-type gallium arsenide single crystals irradiated with fast neutrons was investigated by studying the structure of photoconductivity spectra beyond the absorption edge. Spectral dependencies of photoconductivity were recorded at temperatures of 300 and 80K using samples with a resistivity up to 10^{12} ohm. The specific resistivity of the irradiated samples was found to depend markedly on the density of neutron beams: at fluxes of 10^{14} neutrons/cm^2 the resistivity increased slowly; at higher densities it increased rapidly, showing a tendency toward saturation at 10^{17} neutrons/cm^2. It was concluded that the irradiation of gallium arsenide produces a great number of stable combinations of point defects and residual chemical impurities. Orig. art. has: 2 figures. [ZL]

SUB CODE: 20/ SUBM DATE: 09Mar66/ ORIG REF: 002/ OTH REF: 002/ ATD PRESS: 5731

Card 1/1

STEL'MAKHOVA, K.O.

Organization of the environment for the correct development of children in an infants' home. Ped., akush. i gin. 19 no.4:27-29 '57. (MIRA 13:1)

1. Dom rebenka No.2 Dnepropetrovska (glavnyy vrach - K.O. Stel'makhova).

(INFANTS--CARE AND HYGIENE)

STEL'MAKHOVICH, A.P.

Development of the petroleum and gas industries in the R.S.F.S.R. in the first two years of the seven-year plan. Geol. nefti i gaza 5 no.10:6-11 O '61. (MIRA 14:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy geologorazvedochnyy neftyanoy institut.
(Petroleum geology) (Gas, Natural--Geology)

STEL'MAKHOVICH, A.P.

Some results of oil and gas prospecting in the R.S.F.S.R. from 1959 to 1961. Razved. i okh. nedr 28 no.9:27 S '62. (MIRA 15:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy geologo-razvedochnyy neftyanoy institut.

(Petroleum geology)
(Gas, Natural—Geology)

VANIN, Aleksandr Ivanovich; PRAVDIN, L.F., professor, retsenzent; RUDNITSKIY, I.N., prepodavatel' tekhnikuma, retsenzent; STEL'MAKHOVICH, M.L., redaktor; KARASIK, N.P., tekhnicheskiy redaktor

[A guide to trees and shrubs] Opredelitel' derev'ev i kustarnikov. Moskva, Goslesbumizdat, 1956. 211 p. (MLRA 9:10)
(Trees) (Shrubs)

CHUGUNOVA, Zinaida Yefimovna; STEL'MAKHOVICH, M.L., red.; NERONOVA, M.D., red.izd-va; NAZAROVA, A.S., tekhn.red.

[Landscaping settlements in permafrost districts; practices in central and southern Yakutia] Ozelenenie naselennykh mest v raionakh vechnoi merzloty; iz opyta raboty v TSentral'noi i IUzhnoi IAkutii. Moskva, Izd-vo M-va kommun.khoz.RSFSR, 1960. 73 p. (MIRA 13:7)

(Yakutia--Landscape gardening)

VANIN, Aleksandr Ivanovich; PRAVDIN, L.F., prof., retsenzent; RUDNITSKIY, I.N., prepodavatel', retsenzent; STEL'MAKHOVICH, M.L., red.; ARNOL'DOVA, K.S., red.izd-va; BACHURINA, A.M., tekhn.red.

[Dendrology] Dendrologiia. Moskva, Goslesbumizdat, 1960. 248 p. (MIRA 14:1)

1. Institut lesa Akademii nauk SSSR (for Pravdin). 2. Chuguyevo-Babchanskiy lesnoy tekhnikum (for Rudnitskiy).
(Trees)

GROZDOV, Boris Vladimirovich; POVARNITSYN, V.A., prof., retsenzent; STEL'MAKHOVICH, M.L., red.; FUKS, Ye.A., red.izd-va; PARAKHINA, N.L., tekhn.red.

[Dendrology] Dendrologiia. Izd.2., perer. Moskva, Goslesbumizdat, 1960. 354 p. (MIRA 14:4)

1. Ukrainskaya akademiya sel'skokhozyaystvennykh nauk (for Povarnitsyn).

(Trees)

GANENKO, Ivan Gavrilovich ; STEL'MAKHOVICH, M.L., red.; NERONOVA, M.D., red. izd-va; LELYUKHIN, A.A., tekhn. red.

[Dwarf elm in the landscaping of towns and workers' settlements] Il'm melkolistnyi v ozelenenii gorodov i rabochikh poselkov. Izd.2. Moskva, Izd-vo M-va kommun. khoz. RSFSR, 1961. 17 p. (Landscape gardening) (Elm) (MIRA 15:3)

KOTELOVA, Natal'ya Vladimirovna, dots.; STEL'MAKHOVICH, Mariya Leont'yevna, dots. Prinimala uchastiye CHEPURINA, N.Ye., arkhit.; KAZAKOVA, Ye.D., red.; DEYEVA, V.M., tekhn. red.; SOKOLOVA, N.N., tekhn. red.

[Poplars and their use in landscaping]Topolia i ikh ispol'zovanie v zelenykh nasazhdeniiakh. Moskva, Sel'khozizdat, 1963. 124 p. (MIRA 16:7)

1. Kafedra selektsii i dendrologii Moskovskogo lesotekhnicheskogo instituta (for Kotelova, Stel'makhovich).
(Poplar) (Landscape gardening)

[illegible], M. [illegible]

Automatic control

Measuring instruments with recording equipment for automatical control. Prib. i Instr. 23 No. 4, 1952.

9. Monthly List of Russian Accessions, Library of Congress, November 1953, Uncl.
2

SATEL', Eduard Adamovich, prof., doktor tekhn.nauk, red.; LETENKO, Viktor Aleksandrovich, kand.ekon.nauk; BRYANSKIY, Georgiy Anatoliyevich, kand.ekon.nauk; SAMPORSKIY, Georgiy Ivanovich, kand.ekon.nauk; ORLOV, N.A., prof., retsenzent; FRUMIN, I.L., inzh.-ekon., retsenzent; STEL'MAKHOVICH, N.A., kand.tekhn. nauk, retsenzent; BELYAYEV, A.V., inzh.-ekon., retsenzent; SOCHINSKIY, A.R., inzh., red.; SALYANSKIY, A.A., red.izd-va; EL'KIND, V.D., tekhn.red.

[Principles of the technology of production and labor organization] Osnovy tekhnicheskoi podgotovki proizvodstva i organizatsiia truda. Pod red. E.A.Satelia. Moskva, Gos.nauchno-tekhn. izd-vo mashinostroit.lit-ry, 1959. 330 p. (MIRA 12:10)
(Machinery industry)

STEL'MAKHOVICH, V.

Repair work on tank farms. Neftianik 7 no.1:13 Ja. '62. (MIRA 15:2)

(Tanks—Maintenance and repair)

STEL'MAKHOVSKIY, A. F.

Stel'makhovskiy, A. F. "On the effect of mineral fertilizers on the yield and fat content of spring rape", Trudy Zhitomirsk. s. -kh. in-ta, Vol. III, 1949, p. 57-59.

S O: U-4630, 16 Sept. 53, (Letopis 'Zhurnal 'nykh Statey, No. 23, 1949).