

"APPROVED FOR RELEASE: 07/19/2001

CIA-RDP86-00513R000519820012-3

APPROVED FOR RELEASE: 07/19/2001

CIA-RDP86-00513R000519820012-3"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R000519820012-3

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R000519820012-3"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R000519820012-3

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R000519820012-3"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R000519820012-3

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R000519820012-3"

KACZKOWSKI, Z.

Kaczkowski, Zbigniew. The conjugate directions in an anisotropic body. Arch. Mech. Stos. 7 (1955), 52-86.
(Polish. Russian and English summaries)

1 - P/W

The author considers a homogeneous anisotropic elastic body and determines the 21 material constants a_{ik} of the stress-strain relations with respect to a rectangular oblique system of coordinates and the corresponding material constants a_{ik} with respect to a Cartesian orthogonal system of coordinates. The relations obtained in this way between a_{ik} and a_{ik} contain also the nine cosines of the angles that determine the orientation of the oblique coordinate system with respect to the orthogonal one. The author then states that, since there are six mutually independent cosines out of the nine mentioned above, it is possible by a suitable choice of the oblique coordinate system to make six of the material constants a_{ik} vanish, so that the corresponding stress-strain relations will contain only 15 of them. If the structure of the body is such that it has with respect to the primary orthogonal system of coordinates only 15 constants, then according to the above statement the number of the independent material constants in the stress-strain relations can be reduced to nine. Such bodies the author calls paratropic and the directions of the corresponding oblique system of coordinates are conjugate elastic directions for a paratropic body. T. P. Andelic.

[Handwritten signature]

English and Russian. Analysis to deter-
mine free vibration and buckling of an iso-
tropic square plate resting on an elastic

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R000519820012-3

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R000519820012-3"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R000519820012-3

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R000519820012-3"

"APPROVED FOR RELEASE: 07/19/2001

CIA-RDP86-00513R000519820012-3

11/11

APPROVED FOR RELEASE: 07/19/2001

CIA-RDP86-00513R000519820012-3"

K A S K A I S K I Y

The influence of an elastic foundation is also taken into

67169

9.2120

18(7)
AUTHOR:

POL/19-8-2-8/14
Smoliński, A., Kaczkowski, Z., and Żbikowski, M.

TITLE:

The Influence of Plastic Deformation^{2b} on the Time Decrease of Permeability in Transformer Steel \

PERIODICAL:

Archiwum elektrotechniki, 1959, Vol 8, Nr 2, pp 333-339 (POL)

ABSTRACT:

The paper gives the results of measurements of the influence of plastic deformations on the time decrease of permeability in hot rolled transformer steel. Measurements were performed on samples rolled in a mill and on samples stretched on a tensile testing machine. It was found that plastic deformation have a definite influence on time decrease of permeability, which depends not only on the value of the deformations but also on their type. Measurements showed a drop of time decrease of permeability at large elongations while it reached maximum value at small elongations, with samples where deformation was achieved by rolling. Where plastic deformations were achieved by elongation, it was found that they

Card 1/3

X

67169

POL/19-8-2-8/14

The Influence of Plastic Deformation on the Time Decrease of Permeability in Transformer Steel

influence time decrease of permeability in a somewhat different manner, leading to periodic changes from higher to lower values than the initial value (without deformation). It was also found that increase in reluctance varies basically in the same way as the time decrease in permeability. It must be stressed, however, that the increase in reluctance depends both on the extent of time decrease in permeability and on the value of permeability as finally established. This last value is significantly influenced in turn by the tensions produced by plastic deformation. Where small elongations are obtained by rolling, we have the phenomenon of increased permeability in the established state, connected with positive magnetic-striction. This phenomenon reappears periodically where samples are deformed by elongation (Figs 4 and 6). Tables 1, 2 and 3 give an analysis of time dependencies involved, according to Rathenau. His results show that

Card 2/3

67169

The Influence of Plastic Deformation on the Time Decrease of
Permeability in Transformer Steel

POL/19-8-2-8/14

the constants of relaxation increase and decrease similarly to the entire time decrease in permeability. On the basis of these considerations, the authors conclude that under certain conditions plastic deformations weaken and under other conditions promote the time decrease of permeability. This, according to the authors, is undoubtedly due to the lengthening or shortening of the paths of diffusion of impurities in the crystal lattice of the material under investigation, depending on the degree and type of deformation to which that lattice is subjected. There are 5 graphs, 3 tables and 11 references, 5 of which are Polish, 4 American and 2 German.

ASSOCIATION:

Instytut podstawowych problemów techniki, Polskiej akademii nauk, zakład elektroniki (Institute of Basic Technical Problems of the Polish Academy of Sciences, Institute of Electronics)

January 5, 1959

III

X III

SUBMITTED:
Card 3/3

POL/22-59-10/11-6/12

AUTHORS: Kaczkowski, Zbigniew, and Kobus, St.

TITLE: News From Poland and Abroad

PERIODICAL: Przegląd Telekomunikacyjny, 1959, No. 10/11, pp. 310 - 318

TEXT: 1. The Polish Academy of Science's Scientific Conference on Ferrites in Warsaw was organized by the Telecommunications Committee of the 4th Section of the Polish Academy of Sciences on May 11 - 15, 1959, in the Palace of Culture and Science, with the cooperation of the Institute of Basic Technical Problems of PAN. Chairman was Professor Adam Smoliński. The agenda comprised problems of chemistry, physics, technology, instrumentation and the application of ferrites. Eighty-five reports were read in 8 sections directed by Professor Szczepan Szczeniowski; Docent Władysław Rutkowski, Doctor; Aleksander Bragiński, Graduate Engineer; Arkadiusz Góral, Graduate Engineer; and Professor Ludwik Kozłowski; Docent Stanisław Kielan, Graduate Engineer; and Professor Adam Smoleński, Doctor. The conference was attended by over 180 participants and about 100 observers, representing 15 chairs and institutes of 6 technical universities, 10 scientific institutes of the Polish Academy of Science over 10 industrial scientific institutes and over 30 production institutes. The

Card 1/5

POL/22-59-10/11-6/12

News From Poland and Abroad

conference was opened by the Vice-president of the Polish Academy of Sciences, Professor Doctor Janusz Groszkowski. Reports on physical, chemical and technological research on ferrites were read by: S. Szczeniowski, K.S. Kudlarski, W. Rutkowski, L. Kozłowski, A. Bragiński, A. Góral, R. Sroczyński, J. Hołownia, J. Grabowski, R. Suwałski, A. Smoliński, W. Jaworski, Z. Maciejewski and L. Badian. Reports on magnetostriction in ferrites were read by Z. Kaczkowski and A. Smoliński; on neutronographic examinations by B. Buras; on microwave ferrite amplifiers by M. Chmielewski. In the General Section reports were discussed by A. Smoliński, A. Bragiński, and F. Foniok on the history, technology and application of ferrites. In the Physical Section: general reports by S. Szczeniowski and B. Buras; on ferrite monocrystals by R. Zappa and J. Kruszewska; properties of barium-ferrites by R. Gontarz; inelastic dispersion of thermic neutron in magnetites by K. Blinowski; relaxation phenomena in Ni-Zn-ferrite by L. Nowicki; on critical grain size in barium ferrite by R. Sroczyński; and on the construction of magnetic scales by J. Masiulanis. In the Chemical Section (crystallography and technology of ferrites) reports were read by W. Rutkowski, K. Skudlarski, R. Krzyszowska, S. Śrótko, J. Masiulanis and J. Majsner. Soft magnetic ferrites were discussed in two sections. In the Technological Section (A. Bragiński, Graduate Engineer in charge): technology of Ni-Zn-ferrites by R. Zappa; chemical and technological problems of Mn- and Mn-Zn-ferrites by A. Bra-

Card 2/5

News From Poland and Abroad

POL/22-59-10/11-6/12

fiers). The section on ferrites with rectangular hysteresis loops heard the opening report by Professor Doctor Engineer A. Smoliński. Other reports were read by: A. Bragiński (effect of oxygen, alloying with zinc, hardening, and microstructure on magnetic properties); R. Wadas (effect of Zn ions on the rectangularity of the hysteresis loop of Mn-Mg ferrites); A. Stawoczyk, H. Lachowicz (3 instruments for measuring the rectangularity of "memory" cores in computers); W. Jaworski, L. Lukaszewicz, Z. Maciejewski (application in computers). During the conference the participants visited the Institute of Magnetic Materials. In Poland, work on semiconducting ferrites started 7 years ago and their production only 3 years ago, but in a short time they have gained a very important position in all branches of industry. The conference will result in over 80 publications and a special issue (No. 20) of the Zeszyty Problemowe Nauki Polskiej. Concurrently with the conference an exhibition of Polish-made ferrites was shown (later transferred to the Technical Museum in the Place of Culture and Science in Warsaw). 2. A discussion was held on June 12, on the occasion of the 40th anniversary of the Polish Electricians Association. The opening report was read by the former chairman, M. Szymonowicz. Wiesław Fijałkowski was elected chairman of the meeting. An activities report was read by the secretary St. Kobus, followed by a discussion (speakers were J. Mozejko, E. Urbanowicz, Wysocki, B. Jakubowski, S. Ignatowicz, E. Walentek, J. Knysz,

Card 4/5

News From Poland and Abroad

POL/22-59-10/11-6/12

J. Podbielski, S. Darecki, L. Husarski, W. Flajtkowski, J. Srebrzyński, C. Markowski, M. Zarembiński, and M. Szymonowicz). Marian Szymonowicz was unanimously elected chairman of the Section for the coming year. The Projects Committee (headed by J. Możejko) adopted a number of suggestions: modernization of industry in the telecommunications field, unification of pay-scale for engineers and technicians, special pay incentives for graduate engineers, scholarships for telecommunications students, setting up of a telecommunications academy, higher training standards in telecommunications high schools, organization of new courses, setting up of design offices in factories, change of present pay-scale according to which qualified "white collar workers" are paid less than qualified laborers. Finally a facsimile outfit was demonstrated.

Card 5/5

28262

P/006/80/008/004/010/010
D265/D303

24.4200

AUTHORS: Kacner, Artur and Kączkowski, Zbigniew

TITLE: Application of tabulated functions for calculating deflections and static magnitudes in orthotropic plate strips and semi-strips

PERIODICAL: Rozprawy inżynierskie, v. 8, no. 4, 1960, 871-897

TEXT: The authors refer to the solutions of deflections for isotropic plate strips presented in the form of tabulated functions (Ref. 6: Rozpr. inżyn., v. 1, no. 7 (1959) p. 39) and show in this paper that these solutions can be applied for the case of simply supported orthotropic plate strips and semi-strips, for which the fundamental boundary conditions are observed at the transverse edge for 3 cases of concentrated loadings: concentrated load only, moment M_x and moment M_y in the direction of the principal axes of elasticity. The equation for the deflected surface in the case of an unloaded orthotropic plate strip is given in the form of

Card 1/3

Application of tabulated...

28262
P/006/60/008/004/010/010
D265/D303

of Mechanical Continual Media, IPPT, PAS)

SUBMITTED: May 28, 1960

X

Card 3/3

KACZKOWSKI, Z.

Effect of shear distortions and the torsion resistance upon the vibrational frequency of anisotropic plates. Bul Ac Pol tech 8 no.7: 343-349 '60. (EPAI 10:3)

1. Anstalt fuer Mechanik Kontinuierlicher Medien, Institut fuer Grundprobleme der Technik, Polnische Akademie der Wissenschaften Presented by W.Nowacki

(Elasticity) (Plates) (Shear (Mechanics))
(Torsion) (Vibration)

23313

P/019/60/009/004/004/006
A224/A126

24.2200 1121, 1137, 1144

AUTHOR: Kaczkowski, Z.

TITLE: Magnetomechanical coupling coefficient of Polish-made magnetostrictive alloys of "Alfer" type

PERIODICAL: Archiwum elektrotechniki, v. 9, no. 4, 1960, 722 - 725

TEXT: Measurement results of magnetomechanical coupling coefficient (k) of "Alfer" type alloys are given. The specimens of "Alfer" type alloys were worked out by a team headed by Professor Doctor Kornel Wesołowski and Docent Doctor Bohdan Ciszewski at the Katedra Metaloznawstwa Politechniki Warszawskiej (Department of Metallurgy of the Warszawa Polytechnic). Magnetic properties of these alloys are treated in a separate paper (Ref. 6: Kaczkowski Z., Hunter C.: Niektóre własności magnetyczne polskich stopów magnetostrykcyjnych tyru "Alfer", Arch. Elektrot., 1960). The specimens had a toroidal shape, 35 mm external diameter, 25 mm - internal diameter, and were about 0.45 mm thick. They were placed in plexiglass holders of such dimensions as to assure free vibration of the specimens. A magnetizing winding of 75 turns and a measuring winding of 50 turns were wound on the holders. The measurements of the k coefficient were carried out as a func-

Card 1/3

23313

P/019/60/009/004/004/006 ✓
A224/A126

Magnetomechanical coupling coefficient ...

tion of the intensity of the biasing field H_0 for a range up to 30 Oe at the amplitude of alternating field strength $\bar{H} = 50 \text{ mOe}$. Figure 2 shows curves of $k = f(H_0)$ for alloys containing 12.42, 12.64, 12.8 and 13.1% aluminum. The alloy containing 12.64% aluminum was made in two varieties. The measurements were carried out in the range from 0.5 to 30 Oe. In all tests, the value of the measured coefficient k amounted to 30 Oe. In conclusion, the author states that the "Alfer" alloys can successfully compete with nickel and permalloys used for magnetostrictive transducers, because of the resistivity three times higher at similar magnetic properties. Moreover, the Al-Fe alloys do not contain critical raw materials. The author thanks Professor, Doctor of Engineering Adam Smoliński, Professor Doctor Kornel Wesolowski, and Master of Engineering Roman Suwalski for their assistance. There are 3 figures and 9 references: 5 Soviet-bloc and 4 non-Soviet-bloc. The reference to the most recent English-language publication reads as follows: H. W. Katz: Solid state magnetic and dielectric devices, J. Wiley New York, 1959.

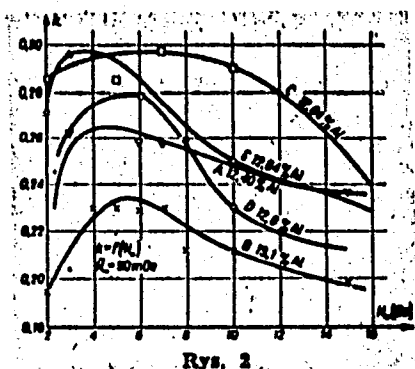
SUBMITTED: February 8, 1960

Card 2/3

23313
P/019/60/009/004/004/006
A224/A126

Magnetomechanical coupling coefficient ...

Figure 2: Curves of $k = f(H_c)$ for various alloys



Card 3/3

24.2200

1121, 1137, 1144

23314

P/019/60/009/004/005/006

A224/A126

AUTHORS: Kaczkowski, Z. , and Hunter, Cz.

TITLE: Some magnetic properties of Polish-made magnetostrictive alloys of "Alfer" type

PERIODICAL: Archiwum elektrotechniki, v. 9, no. 4, 1960, 725 - 729

TEXT: Static and dynamic magnetic properties of alfer-type magnetostrictive alloys are given. The alloys, containing from 12.42 to 13.1% aluminum, were worked out by the Katedra Metaloznawstwa Politechniki Warszawskiej (Department of Metallurgy of the Warszawa Polytechnic). The magnetostrictive properties of these alloys are similar to those of other Al-Fe alloys described in foreign literature, and they will be described in a separate work. The specimens had a toroidal shape, 35 mm external diameter, 25 mm internal diameter, and were about 0.45 mm thick. Ten specimens were placed in a plexiglass holder of such dimensions as to ascertain free vibration of the specimens. A magnetizing winding of 75 turns and a measuring winding of 50 turns were wound on the holders. The static measurements were carried out with a ballistic method and the dynamic measurements with the use of a differential bridge. The static magnetic proper-

Card 1/3

23314

P/019/60/009/004/005/006
A224/A126

Some magnetic properties of Polish-made ...

ties obtained are compiled in Table 1. In conclusion, the authors state that the alloys investigated can be used for cores in ultrasonic transducers. The best suited ones are alfer alloys containing from 12.5 to 13% aluminum. These materials can also be used as magnetic materials, especially at higher frequencies in all cases where the arising magnetostriction is not harmful. The authors thank Professor Doctor K. Wesołowski and Professor, Doctor of Engineering A. Smoliński for assistance in this work. There are 4 figures, 1 table, and 4 references: 2 Soviet-bloc and 2 non-Soviet-bloc. The references to the English-language publications read as follows: Davis C. M., Ferebee S. F.: Dynamic magnetostrictive properties of alfenol, The Journal of the Acoustical Society of America, 28 Nr. 2, ss. 286 - 90, 1956. Davis C. M., Ferebee S. F.: Effect of composition and processing on the activity of some magnetostrictive materials, Journal of Applied Physics, supl. to v. 30, Nr. 4 (April), ss. 1135 - 1155, 1959.

SUBMITTED: March 4th, 1960

Card 2/3

23314

P/019/60/009/004/005/006
A224/A126

Some magnetic properties of Polish-made ...

Table 1: Static magnetic properties of magnetostrictive Al-Fe alloys

Al content in %			12.42	12.6	12.6	12.8	13.1
Specimens			A	C	E	D	B
	Symbol	Unit	1	2	3	4	5
Magnetic induction at 100 oe	B_{100}	kGs	15.0	14.7	13.2	13.4	15.2
Magnetic induction at 30 oe	B_{30}	kGs	12.8	13.3	11.8	12.0	13.6
Remanent induction	B_r	kGs	6.2	5.5	4.5	4.6	3.0
Coercive force	H_c	Oe	0.42	0.28	0.40	0.22	0.19

Card 3/3

24.4200

1103 1327

26620
P/033/60/012/004/006/007
D242/D301

AUTHOR: Kaczkowski, Zbigniew (Warsaw)

TITLE: The influence of the shear forces and the rotary inertia on the vibration of an anisotropic plate

PERIODICAL: Archiwum mechaniki stosowanej, v. 12, no. 4, 1960, 531 - 552

TEXT: According to S. Timoshenko (Ref. 1: Vibration problems in engineering seconded Toronto-New York-London, 1937), for beams, the deflection of the plate is represented by the two functions w_M and w_T . The first expresses the deflection of the plate if normals to the middle surface remain normal after bending; the second expresses the deflection if the normals remain parallel to the original direction.

$$w = w_M + w_T \quad (1.1)$$

The usual strain equations and the equations of stress as shown

Card 1/8

26620

P/033/60/012/004/006/007

D242/D301

The influence of the shear ...

by S.G. Lekhnitskiy (Ref. 15: Anizotropnyye plastinki, Izd. 2, Moskva, 1957) are combined to give either

$$\frac{\partial \sigma_x}{\partial x} + \frac{\partial \tau_{xy}}{\partial y} + \frac{\partial \tau_{xz}}{\partial z} = 0, \quad \frac{\partial \tau_{xy}}{\partial x} + \frac{\partial \sigma_y}{\partial y} + \frac{\partial \tau_{yz}}{\partial z} = 0, \quad (1.7)$$

or $\tau_{yz} = \tau_{zx} = 0$. The author justifies the difference by comparison with the contradiction met in the classical theory of thin plates. He says that his assumptions of two functions for the displacement is near that of Hencky, the main difference being the use of w_M and w_T as against three functions u , v , and w . Stating the equilibrium conditions for applied moments and torques and using the moment - deflection equations of (Ref. 15: Op.cit.) two differential equations are deduced:

$$\begin{cases} (L_M - L_I) w_M - (L_N - L_T) w_T = 0, \\ (L_P - L_N) w_M + (L_P - L_T) w_T = q. \end{cases} \quad (2.9)$$

Card 2/8

The influence of the shear ...

26620
P/033/60/012/004/006/007
D242/D301

$$\begin{aligned}
 L_M &= D_{11} \frac{\partial^4}{\partial x^4} + 4D_{12} \frac{\partial^4}{\partial x^3 \partial y} + 2(D_{13} + 2D_{22}) \frac{\partial^4}{\partial x^2 \partial y^2} + \\
 &\quad + 4D_{23} \frac{\partial^4}{\partial x \partial y^3} + D_{33} \frac{\partial^4}{\partial y^4}, \\
 L_T &= H_{11} \frac{\partial^2}{\partial x^2} + 2H_{12} \frac{\partial^2}{\partial x \partial y} + H_{22} \frac{\partial^2}{\partial y^2}, \\
 L_N &= n_x \frac{\partial^2}{\partial x^2} + 2n_{xy} \frac{\partial^2}{\partial x \partial y} + n_y \frac{\partial^2}{\partial y^2}, \\
 L_P &= K + \mu \frac{\partial^2}{\partial t^2}, \\
 L_J &= \mu v^2 \frac{\partial^2}{\partial t^2}, \quad \left(v^2 = \frac{\partial^2}{\partial x^2} + \frac{\partial^2}{\partial y^2} \right).
 \end{aligned} \tag{2.8}$$

and q is the normal, arbitrary and time variable load, μ is the

Card 3/8

26620
 P/033/60/012/004/006/007
 D242/D301

The influence of the shear ...

mass per unit area of the plate, n_x, n_y, n_z are the corresponding load component of the shear forces, $D_{ik} = B_{ik} h^3/12$ (B_{ik} are the constants in $\sigma_x = B_{11} \epsilon_x + B_{12} \epsilon_y + B_{16} \gamma_{xy}$ etc., h is the plate thickness, $H_{ik} = B_{ik} 5/6 h$ ($i, k = 4, 5$) and K is the coefficient of the Winklerian Foundation. The substitution used is

$$w_M = (L_N - L_T)\bar{\Phi}, \quad w_T = (L_M - L_J)\bar{\Phi}, \quad (2.10)$$

where

$$[(L_M - L_J)(L_P - L_T) + (L_N - L_T)(L_P - L_N)]\bar{\Phi} = q. \quad (2.11)$$

The function $\bar{\Phi}$ can satisfy three of the boundary conditions

$$\begin{cases} w = w_0, & \frac{\partial w_M}{\partial n} = \varphi_0, & \frac{\partial w_M}{\partial s} = \varphi_0, \\ t_n = T_0, & m_n = M_0, & m_{ns} = S_0. \end{cases} \quad (2.12)$$

Card 4/8

26620
P/033/60/012/004/006/007
D242/D301

The influence of the shear...

on each edge. Confining further considerations to the case of harmonic vibration with angular frequency ω , the differential equation for $\bar{\Phi}$ is

$$[(L_M - \bar{L}_J)(\bar{L}_P - L_T) + (L_N - L_T)(\bar{L}_P - L_N)] \bar{\Phi} = \bar{q} \quad (2.15)$$

where
$$\bar{L}_P = K - \mu\omega^2, \quad \bar{L}_J = -\mu\omega^2 r^2 \nabla^2 \quad (2.16)$$

and $\bar{\Phi}(x, y, t) = \bar{\Phi}(x, y) \sin(\omega t + \lambda)$. This equation for $\bar{\Phi}$ is deemed too difficult to discuss in its general form and it is assumed that the material of the plate is orthotropic, that there is no load n_{xy} , that the plate is rectangular (sides $a \times b$), and that the edge conditions are

$$\bar{w} = 0, \quad \frac{\partial \bar{w}_M}{\partial s} = 0, \quad \bar{m}_n = 0. \quad (3.2)$$

The amplitude of the load \bar{q} and the function $\bar{\Phi}$ are expanded in a

Card 5/8

26620
P/033/60/012/004/006/007
D242/D301

The influence of the shear ...

double fourrier series with coefficients . Putting $s_{mn} = 0$ the eigen frequency

$$\omega = \sqrt{\frac{1}{\mu} \sqrt{A + \sqrt{A^2 - B}}} \quad (3.14)$$

is obtained. For load n_x, n_y greater than the critical, the expression under the root is real and positive. Under the action of the critical loads the free vibration of the plate is zero, hence the critical values of n_x, n_y are found from

$$-S_{N.cr} = -(n_x a_m^2 + n_y \beta_n^2)_{cr} = \frac{1}{2} [\sqrt{(4S_M + S_T + K)(S_T + K)} - (S_T - K)] \quad (3.15)$$

For a square plate side length a , for which $n_x = n_y = K = 0$, and $m = n = 1$ it is shown that

Card 6/8

The influence of the shear ...

26620
P/033/60/012/004/006/007
D242/D301

$$\omega_{MTJ}^- = \frac{\pi^2}{a^3} \sqrt{\frac{D}{\mu}} \sqrt{a^3 (A' - \sqrt{A'^2 - B'})}, \quad (5.7)$$

$$\omega_{MTJ}^+ = \frac{\pi^2}{a^3} \sqrt{\frac{D}{\mu}} \sqrt{a^3 (A' + \sqrt{A'^2 - B'})}. \quad (5.8)$$

where $A' = (17 - 5\nu) + 30(1 - \nu)a^2, \quad B' = 240(1 - \nu), \quad (5.6)$

A curve of ω against h/a is drawn which show that the best approximation to ω_{MTJ}^- is that by the function ω_{MT}^- . It follows that the rejection of the influence of the rotary inertia, the distortions due to shear being taken into consideration, does not cause any significant error and considerably facilitates computation. There are 3 figures and 18 references: 6 Soviet-bloc and 12 non-Soviet-bloc. The 4 most recent references to the English-language publications read as follows: J. Mossakowski, Rowania teorii Reissnera dla

Card 7/8

The influence of the shear ...

26620

P/033/60/012/004/006/007
D242/D301

plyt ortotropowych (Equations of Reissner's theory of orthotropic plates), Ksiega Jubileuszowa W. Wierzbickiego, PWN Warszawa 1959, 145 - 155; T.R. Kane, R.D. Mindlin, High frequency extensional vibrations of plates, J. appl. Mech., 23, 1956, 277-283; D.C. Gaziz, R.D. Mindlin, Influence of width on velocities of long waves on plates, J. appl. Mech., 24, 1957, 541-546; Z. Kaczkowski, Orthotropic rectangular thin plates with arbitrary boundary conditions, Arch. Mech. stos., 4, 10, 1958, 525 - 549.

ASSOCIATION: Department of Mechanics of continuous Media, IBTP
Polish Academy of Sciences

SUBMITTED: April 26, 1960

Card 8/8

KACZKOWSKI, Zbigniew

Magneto-mechanical phenomena in magnetostrictive materials. Przegl
elektroniki 2 no.3:256-278 J1 '61.

1. Zaklad Elektroniki, Instytut Podstawowych Problemow Techniki,
Polska Akademia Nauk, Warszawa,

KACZKOWSKI, Zbigniew

Magnetostrictive ferritos used in electromechanical filters.
Przełł elektroniki 2 no.5/6:397-407 '61.

1. Zakład Elektroniki Instytutu Podstawowych Problemow Techniki
Polskiej Akademii Nauk.

KACZKOWSKI, Zbigniew; MARKOWSKI, Janusz; WOLSKI, Andrzej

Magnetostrictive elasticity meters. Przegl elektroniki 2 no.5/6:
414-415 '61.

1. Instytut Podstawowych Problemow Techniki Polskiej Akademii
Nauk i Katedra Podstaw Telekomunikacji Politechniki Warszawskiej.

KACZKOWSKI, Zbigniew

SURNAME, Given Names

Country: POLAND

Academic Degrees: / not given /

Affiliation: / not given /

Source: Warsaw, Rozprawy Elektrotechniczne, Vol,VII, No 2, 1961, pp 245-275

Data: " Magnetostrictive Equations and their Coefficients"

670 901643

P/053/62/000/009/003/003
D271/D308

9.2.1965

AUTHOR: Kaczkowski, Zbigniew

TITLE: Hysteresis of magnetomechanical constants of magnetostrictive ferrite, type E1

PERIODICAL: Przegląd elektroniki, no. 9, 1962, 550-564

TEXT: Results are reported of an extensive experimental study of magnetostrictive constants of ferrite E1 developed in Poland. This is a Ni-Co-Mn ferrite with a fairly high magnetostrictive coupling coefficient. The dependence of magnetostrictive constants on magnetizing field was studied on toroidal samples, at 20°C. As samples were heated when subjected to strong fields, measurements were made in function of field strength and temperature, with various initial temperatures, and final results were then computed. Definitions, formulas and units are tabulated for all measured constants, in the rationalized MKS and CGS-M systems. Graphs are shown for: virgin curve and hysteresis loop of dynamic permeability, with constant strain and stress, hysteresis loops of resonant and anti-

Card 1/2

KACZKOWSKI, Zbigniew

Remarks on the designing of solenoids. Przegl elektroniki 9 no.1:
12-25 Ja '62.

1. Zaklad Elektroniki IPPT PAN.

KACZKOWSKI, Zbigniew

A method for simultaneous measuring of the static magnetic and magnetostrictive properties. Przegł elektroniki 3 no.7: 409-418 J1 '62.

1. Zakład Elektroniki, Instytut Podstawowych Problemow Techniki, Polska Akademia Nauk, Warszawa.

KACZKOWSKI, Zbigniew

Hysteresis of magneto-mechanical coefficients of magnetostrictive
EI ferrites. Przegl elektroniki 3 no.9:550-564, 8 '62.

1. Instytut Podstawowych Problemow Techniki, Polska Akademia
Nauk, Warszawa.

KACZKOWSKI, Zbigniew; ZYBURTOWICZ, Mikołaj jr.

Solving of plane grid work with bent bars. Archiw inz lad 8
no.3:283-310 '62.

1. Katedra Mechaniki Budowli, Politechnika, Warszawa.

KACZKOWSKI, Z.

Effect of heat treatment on the Q-factor of Ni-span C type alloys.
Bul Ac Pol tech 10 no.1:[51]-[55] '62.

1. Department of Electronics, Institute of Fundamental Technical Problems, Polish Academy of Sciences, Warsaw, and Forschungsinstitut für Metallische Spezialwerkstoffe, Dresden, Deutsche Akademie der Wissenschaften. Presented by J.Groszkowski.

37086

P/019/62/011/001/004/010
D265/D302

24,2200

AUTHOR: Kaczkowski, Z.

TITLE: Temperature relations of mechanical resonance frequency and mechanical quality factor for some magnetic alloys of Polish manufacture

PERIODICAL: Archiwum elektrotechniki, v. 11, no. 1, 1962, 153-169

TEXT: Results are presented of investigations carried out on samples of permalloy, elinvars and Ni Span C magnetic alloys prepared at the Instytut metali nieżelaznych (Institute of Non-Ferrous Metals) at Gliwice on their suitability for application as resonators in electro-mechanical filters. Measurements of the damping coefficient (θ) and the resonance frequency (f_r) in the range of 600 c/s to 25 kc/s were carried out in the Special Metallic Materials Research Institute of the German Academy of Sciences at Dresden. Laboratory equipment known under the name of Elastomat type 1012 made by the Dr. Förster Institute Reutlingen was employed where the samples under test in the form of thin strips were placed between the

Card 1/3

Card 2/3 the discussion is illustrated by

Temperature relations of mechanical ... P/019/62/011/001/004/010
D265/D302

graphs. It was found that the Q-factor depended on alloying constituents of the samples and their heat treatment. The temperature coefficient of resonance frequency was found to have attained twice the zero value after appropriate heat treatment. The maximum mechanical quality factor value amounted up to 39000 in vacuum and 22000 in air. There are 18 figures, 2 tables and 16 references: 14 Soviet-bloc and 2 non-Soviet-bloc. The references to the English-language publications read as follows: C.M. Van der Burgt, Electronic Technology, 1960, v. 37, no. 9, pp. 330-341; C.M. Van der Burgt, Philips Research Reports, v. 12, 2, pp. 97-122, 1957.

ASSOCIATION: Zakład magnetyków, IPPT-PAN (Institute of Magnetic Engineers - IPPT-PAS)

SUBMITTED: May 11, 1961

Card 3/3

KACZKOWSKI, Z.

Hysteresis loops for magnetomechanical coupling coefficient
of certain magnetostrictive ferrites. Archiw elektrotech
11 no.2:373-378 '62.

1. Zakład Magnetyków, Instytut Podstawowych Problemów Techniki,
Polska Akademia Nauk, Warszawa.

KACZKOWSKI, Z.

Temperature relations of the coefficient of magnetomechanical coupling for the E 128 ferrite. Archiw elektrotech 11 no.2: 379-381 '62.

1. Zakład Magnetyków, Instytut Podstawowych Problemów Techniki, Polska Akademia Nauk, Warszawa.

42091

P/019/62/011/003/008/008
D289/D308

24.2200

AUTHOR: Kaczkowski, Z.

TITLE: A simplified measuring set for determining mechanical resonance frequency and magnetomechanic coupling coefficient k of magnetostrictive materials

PERIODICAL: Archiwum elektrotechniki, v. 11, no. 3, 1962, 635-639

TEXT: A toroidal specimen has the following resonant frequency,

$$f_r = \frac{1}{2\pi r} \sqrt{\frac{E}{\delta}} \quad \text{c/s} \quad (1) \quad \checkmark$$

where r is the mean radius of specimen; E the Young's Modulus, the density. The ratio of magnetic energy to mechanical is given by

$$k^2 = \frac{\mu_\sigma - \mu_\epsilon}{\mu_\sigma} = \frac{E_B - E_H}{E_B} \quad (2)$$

where μ_σ , μ_ϵ are reversible permeabilities at constant mechanical
Card 1/2

A simplified measuring set ...

P/019/62/011/003/008/008
D289/D308

pressures and at constant deformation respectively; E_B , E_H are Young's moduli at constant B and constant H respectively. A simple measuring set for determination of k is described. The measuring set consists of a high stability ultrasonic generator, wave meter, voltmeter, milliammeter, resistor and the specimen. The specimen has a bias magnetisation by d.c. from an accumulator through resistor and choke. The accuracy obtained with the instrument was 1-5% for an average specimen. The anti-resonance frequency without compensation is smaller than the true frequency by 1% for $\mu = 50$, or by 2.5% for $\mu = 20$ and up to 5% for $\mu = 10$. The measurement of the resonance curve may be limited to two points (f_r and the anti-resonance frequency f_a); the accuracy is then 2-5%. The use of the set without a choke introduces an additional error of the order of 0.1-5% for frequency and up to 3% for k : it is not suitable for determination of Q . There are 4 figures.

ASSOCIATION: Zakład magnetyków, IPPT PAN (Department of Magnetics IPPT PAS)

SUBMITTED: February 15, 1962
Card 2/2

KACZKOWSKI, Zbigniew

Vibration of a beam under a moving load. Proceed vibr probl
4 no. 4:357-373 '63.

1. Technical University, Warsaw.

KACZKOWSKI, Zbigniew

System for the determination of the k coefficient of magnetomechanical coupling and the resonance frequency of magnetostrictive samples. Przegl elektronik 4 no. 5/6: 267-276 My-Je '63.

1. Zaklad Magnetykow, Instytut Podstawowych Problemow Techniki, Polska Akademia Nauk, Warszawa.

KACZKOWSKI, Z.

The influence of the polarizing field on the value of magnetomechanical coupling coefficient at remanence in magnetostrictive ferrite E.l. Bul Ac Pol tech II no.1: 41-44 '63.

1. Department of Magnetism, Institute of Fundamental Technical Problems, Polish Academy of Sciences, Warsaw.
Presented by A.Smolinski.

KACZKOWSKI, Z.

Dependence of the mechanical resonance frequency on magnetic polarization and temperature in Ni-ferrite with Mn and Co admixtures. Bul Ac Pol tech ll no.8:443-448 '63.

1. Department of Magnetism. Institute of Fundamental Technical Problems, Polish Academy of Sciences, Warsaw. Presented by A.K. Smolinski.

L 18931-63

EWI(1)/BDS/EKD-2/ES(s)-2

AFFTC/ASD/IJP(C)/SSD

Pt-4

P/0053/63/000/004/0225/0227

ACCESSION NR: AP3003182

65
62

AUTHOR: Kaczkowski, Zbigniew

TITLE: The effect of the polarizing field on the value of the magnetomechanical coupling coefficient at remanence in magnetostrictive ferrite E1.

SOURCE: Przegląd elektroniki, no. 4, 1963, 225-227

TOPIC TAGS: magnetomechanical coupling coefficient, magnetostrictive ferrite E1

ABSTRACT: In order to analyze the effect of the polarizing field on the value of the magnetomechanical coupling coefficient at remanence k_r , measurements were made on a toroidal sample of magnetostrictive ferrite E1 with a resonance frequency of about 100 kilocycles per second at a room temperature of 20 + or -0.2C when the amplitude was $H = 2$ mOe. The method used was previously described by Z. Kaczkowski (Uproszczony układ pomiarowy do wyznaczania czestotliwosci rezonansu mechanicznego i wspolczynnika sprezenia magnetomechanicznego k materialow magnetostrykcyjnych, Archiwum Elektrotechniki, vol. II, no. 3, 635-639, 1962). The results are summarized in Figures 1,2, and 3 of Enclosure 1,2 and 3. It is concluded that saturation above 30-40 Oe does not cause a true increase in the value of the magnetomechanical coefficient, or in the broadening of its hysteresis loops. English

Card 1/82

L 18931-63

ACCESSION NR: AP3003182

3
text of this communication was published in Biuletyn Wydzialu IV PAN (Bulletin of Division IV of PANO, No 2, 1963. "The author wishes to thank Prof. Dr. Eng. Janusz Grosskowiak and Prof. Dr. Eng. Adam Smolinski for reviewing this work and for their valuable suggestions." Orig. art. has: 3 figures.

ASSOCIATION: Zaklad Elektroniki IPPT PAN (Institute of Electronics, IPPT PAN)

SUBMITTED: 00

DATE ACQ: 12Jul63

ENCL: 03

SUB CODE: EE, GE

NO REF SOV: 00

OTHER: 004

Card

2/02

SMOLINSKI, A.; KACZKOWSKI, Z.; SMIALKOWSKI, T.

Influence of the tuning and tracing rate on the recording fidelity of filter characteristics taken up by a Neuman type recording device. Archiw elektrotech 12 no. 4: 772-779 '63.

1. Zaklad Magnetykow, Instytut Podstawowych Problemow Techniki, Polska Akademia Nauk, Warszawa, i Katedra Magnetykow i Dielektrykow, Politechnika, Warszawa.

P/0053/64/000/002/0096/0101

ACCESSION NR: AP4022670

AUTHOR: Kaczkowski, Zbigniew

TITLE: Relationship between mechanical resonance frequency, magnetic polarization and temperature in Ni-ferrite with Mn and Co impurities

SOURCE: Przegląd elektroniki, no.2, 1964, 96-101

TOPIC TAGS: ferromagnetism, magnetostriction, nickel ferrite, magnetic polarization, mechanical resonance frequency, resonance frequency, magnetostrictive ferrite

ABSTRACT: Curves are given for the relationship between mechanical resonance frequency, temperature (in a range from -70 to $+150^{\circ}\text{C}$) and magnetic field strength (up to 50 oersteds) for a nickel ferrite with cobalt and manganese admixtures. There is a shift in the resonance frequency minimums in the higher temperature range with an increase in the strength of the polarizing field. "The author expresses sincere thanks to Dr. of Engineering A. Smolinski and Dr. of Engineering R. Wadas for revision of this work and valuable advice." Orig. art. has: 4 figures.

ASSOCIATION: Zakład Magnetyków IPPT PAN (Department of Magnetism, IPPT PAN)

Card 1/1

KACZKOWSKI, Z.

A multilayer laboratory solenoid. Archiw elektrotech 13 no.1:
171-173 '64.

1. Department of Magnetism, Institute of Basic Technical Problems,
Polish Academy of Sciences, Warsaw.

KACZKOWSKI, Zbigniew

Dependence of the elasticity modulus on the magnetic polarization and temperature (ΔE effect) in Ni ferrites with admixtures of manganese and cobalt. Przegl elektroniki 5 no.8:391-405 Ag '64.

1. Department of Magnetics, Institute of Basic Technical Problems, Polish Academy of Sciences, Warsaw.

"APPROVED FOR RELEASE: 07/19/2001

CIA-RDP86-00513R000519820012-3

APPROVED FOR RELEASE: 07/19/2001

CIA-RDP86-00513R000519820012-3"

ing negative magnetostriction effects is discussed. The variation in the direction

L 31768-85

coefficient is equal to zero in the
saturation, and when the hysteresis loop changes sign twice in one cycle. The
experimental results have shown that the initial curves of the modulus E_n are
curves with a shape similar to a magnetization curve.

It is noted that in the case of a completely elastic material

EFFECT AS DEMONSTRATED BY THE
tion of the crystal anisotropy constant. In resonance, the value of the modulus
is higher than in the case of a demagnetized sample. The $E_H \approx f(H)$ character-
of the modulus (negative ΔE effect) and the sign

ABSTRACT: The paper describes the FBI solution response to the

"APPROVED FOR RELEASE: 07/19/2001

CIA-RDP86-00513R000519820012-3

APPROVED FOR RELEASE: 07/19/2001

CIA-RDP86-00513R000519820012-3"

reaches 1500 volts (about 12 A/m), ... In the latter cases the

... as well as for ...

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R000519820012-3

ASSOCIATION: Zaklad Magnetykow IPPT PAN (MAGNETIC RECORDING)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R000519820012-3"

I 24631-66 EWA(d)/EWP(t) IJP(c) JD/HW

KCC NR: AP6011814

SOURCE CODE: PO/0019/66/015/001/0003/0028

AUTHOR: Kaczkowski, Z.

20
17
B

ORG: Department of Magnetism, IPPT PAN (Zaklad Magnetykow IPPT PAN)

TITLE: Extrema of magnetomechanical coefficients of nickel ferrites with Co and Mn admixtures

27 18

SOURCE: ²⁷ Archiwum elektrotechniki, v. 15, no. 1, 1966, 3-28

TOPIC TAGS: magnetomechanic coefficient, nickel ferrite, piezomagnetic coefficient.

ABSTRACT: This work deals with the magnetomechanical coefficients k, d, h, g, and e, which were determined on the basis of relations between coefficients appearing in sets of magnetostriction equations for an Ni-Co-Mn ferrite over a temperature range of -70C to + 150C; the constant field strength reached 50 Oe, and the amplitude of the alternating field reached 2m Oe. The authors states that the next paper will contain a discussion on the remaining piezomagnetic coefficients, which, together with the above mentioned magnetomechanical coefficients, will represent a full set of coefficients for the magnetostriction equations. The magnetomechanical coefficients have been determined by methods and measuring diagrams described in earlier papers

Card 1/2

L 24631-66

ACC NR: AP6011814

3

(Kaczkowski, Z.: Gislerezis magnitomechanicznych paramietrow magnitostrikcjonnoego ferrita E1, Akusticzeskij Zurnal, t. 9, w. 1, 37-46, 1963; Uklad do wyznaczenia wspolczynnika sprzezenia magneto-mechanicznego k i czestotliwosci rezonansowej w zakresis od -70 do + 150°C, Prz. Elektron., r. 4, nr 5-6, 267-276, 1963; Uproszczony uklad pomiarowy do wyznaczenia czestotliwosci rezonansu mechanicznego i wspolczynnika sprzezenia magnetomechanicznego k materialow magnetostrykcyjnych, Arch. Elektrot., t. XI, z. 2, 635-639, 1962.)

The ferrites examined were characterized by their high value of magnetomechanical coupling in remanence ($K_r > 0.3_w$ at $t = 20C$). The phenomenon of the temperature extremes shifting with the reversal of polarization has been revealed, and the appearance of the several extremal points has been observed in the characteristics d, h, g, and e as a consequence of changes in their magnetic and mechanical properties. A full set of piezomagnetic coefficients has been defined experimentally for the first time by determining the primary curves at room and other temperatures ranging from -70 to + 150C. The author expresses his gratitude to Prof. Dr. Leszek Filipczynski, Prof. Dr. Maciej Nalecz, and Prof. Dr. Adam Smolinski for valuable comments. Orig. art. has: 13 figures, 37 formulas, and 2 tables.

[Based on author's abstract] [AM]

SUB CODE: 12, 20/ SUBM DATE: 26oct64/ ORIG REF: 015/ OTH REF:029/

Card 2/2 *pla*

L 36209-66 EWP(e)/EWP(t)/ETI IJP(c) JD

ACC NR: AP6018029

SOURCE CODE: PO/0019/65/014/003/0689/0692

5/1
8

AUTHOR: Kaczkowski, Z.

ORG: Institute of Magnetic Materials IPPT PAN (Zaklad Magnetykow IPPT PAN):

TITLE: Some parameters of ferrite and Permalloy recording heads

SOURCE: Archiwum elektrotechniki, v. 14, no. 3, 1965, 689-692

TOPIC TAGS: magnetic recording, Permalloy, magnetic permeability, frequency characteristic, magnetic coercive force

ABSTRACT: Magnetic and electrical data are given for various types of ferrite recording heads with Permalloy contact faces and gaps of 3 and 5 μ . These data are compared with those for a conventional Permalloy head with an 8 μ gap. Primary magnetization curves are given as well as the remanence and coercivity as functions of the maximum saturating field strength. Relationships are also given for the frequency response of permeability (head inductance), the tangent of the dielectric loss angle and the figure of merit for the head. It is found that the static parameters of ferrite and Permalloy heads are approximately identical in spite of the higher permeability of Permalloy. This is probably due to the stresses resulting from mechanical treatment of the magnetic head. Dielectric losses are considerably lower in ferrite heads with Permalloy facing than in conventional Permalloy heads. The figure of merit is more than twice as high for heads with facings than for conventional heads. Orig. art. has: 4 figures, 4 formulas.

SUB CODE: 09/ SUBM DATE: 25Nov64/ ORIG REF: 003/ OTH REF: 000

Card 1/1 *llb*

UDC: 621.395.625.3:621.318.13

L 36210-66 EWP(t)/ETI IJP(c) JD

ACC NR: AP6018030

SOURCE CODE: PO/0019/65/014/003/0692/0695

AUTHOR: Kaczowski, Z.ORG: Institute of Magnetic Materials, IPPT PAN (Zaklad Manetykow IPPT PAN)TITLE: Frequency and amplitude characteristics for the inductance of ferrite and Permalloy recording headsSOURCE: Archiwum elektrotechniki, v. 14, no. 3, 1965, 692-695

TOPIC TAGS: magnetic recording, Permalloy, ferrite, frequency characteristic

ABSTRACT: The author studies inductance as a function of the intensity of the magnetizing field in ferrite recording heads with Permalloy facings and gaps of 3 and 5 μ (UGF3 and UGF5) as well as in Permalloy heads with an 8 μ gap at frequencies of 80, 200, 1000, 5000 and 15000 cps. The current through the entire coil was measured for the lowest frequency, while the characteristics were determined for only the lower half of the winding on all other frequencies. The readings were taken in fields of up to 10 oersteds at a temperature of 20°C. It was found the ferrite cores show constant permeability which is reduced slightly by the application of metal facings. Higher inductance is observed at the ends of the band which is due to the proximity of electric resonance rather than to an increase in permeability. Orig. art. has: 5 figures.

SUB CODE: 09/ SUBM DATE: 12Feb65/ ORIG REF: 002 OTH REF: 000

Card 1/1

UDC: 621.395.625.3:621.318.13:621.317.334

KACZMAR, W.

2956
Dworzak E KACZMAR, W. Cast-Iron with Aluminium Addition

2/2 Dworzak, E.

16 per cent aluminium will after it has been annealed for 24 hours at a temperature of 1000°C be comparatively negligible. Cast-iron containing 0.5 per cent Similar grades of cast-iron annealed at a temperature of 1150°C reveal an average elongation of 1.8%. The cast-iron to which aluminium was added contained an average of 17 S. This property accounts for the 1.8% increment in length. Cast-iron containing aluminium is highly resistant to fire; the film of oxides on its surface is thin and adheres well to the material. On the other hand, the layer of ferric oxides formed on the surface of cast iron containing chromium was thick; it cracked, and broke away from the material. Cast-iron with a high chromium content can, for work in temperatures below 900°C, be used as a fire-resisting material, while cast-iron containing aluminium can be used for work in temperatures of up to 1150°C. Aluminium is less expensive than chromium. Moreover, since the specific gravity of cast-iron containing 25% aluminium amounts to roughly 5.8 g/cm³, the weight of various castings made from such iron to work in high temperatures will be appreciably reduced. Cast-iron containing more than 16 per cent aluminium is non-magnetic.

4

1653. KACZMARCZYK A. and PORVIT Z. Zakt. Mikrobiol., Lek. A.M., Kraków.
*Klebsiella Friedländeri w biegunkach niemowląt. Klebsiella pneumoniae in infantile diarrhoeas PEDIAT.POL. 1955, 30/3 (255-270) Tables 5

From faeces and nasopharyngeal secretions of 66 cases, 186 mucous strains were isolated and out of them 117 were marked from the serological and biochemical point of view as Kl.pneumoniae. Seventy-four strains were virulent for white mice and presented kinship to digestive tract. The appearance of the virulent bacilli was met in the most serious clinical course and the highest death rate and pathological changes in the dead infants. A higher death rate was noted in infants up to the 3rd month of life than in infants over 3 months old. The administration of antibiotics (streptomycin, chloramphenicol, chlortetracycline) proved to be non-efficacious.

From authors' summary (XX, 7, 4)

P/044/62/000/001/002/002
D001/D101

AUTHOR: Kaczmarczyk, A., Master of Engineering

TITLE: New solutions in gyro instruments

PERIODICAL: Wojskowy przegląd lotniczy, no. 1, 1962, 28-42

TEXT: The purpose of the article was to inform readers about the latest development in gyro instruments. Progress in aviation and rocket engineering calls for better navigation instruments. One line of development are better bearings and suspensions for conventional gyroscopes, another line concerns entirely new principles in gyroscope engineering. New principles make use of cryogenics, nuclear and molecular spin and other phenomena. The author describes in broad outlines the following types of gyro instruments: differential and integral floating gyroscopes, floating gyroscopes with three degrees of freedom, gas bearing gyroscopes, magnetic suspension gyroscopes, cryogenic gyroscopes, vibration gyroscopes ("gyrotrons"), electronic gyroscopes and molecular gyroscopes. The latter

Card 1/2

New solutions in gyro

P/044/62/000/001/002/002
D001/D101

type of instrument is still in the developmental and research stage. There are 5 figures, 1 table and 15 references: 12 Soviet-bloc and 3 non-Soviet-bloc. [Abstracter's note: Six of the twelve Soviet-bloc references are based on Western sources]. The references to the English language publications read as follows: Aerospace Engineering nr. 1, 1959, "Achieving extremely Accurate Nonfloated Gyros" - A. Lane, M. Klemens, E. Zeigler; Air Force nr. 10, 1960 "New Honeywell Gas Bearing Gyro Greatly Improves Reliability Performance" - an advertising note. C

Card 2/2

STRZEMINSKI, Janusz, mgr inż.; KACZMARCZYK, Adam, mgr inż.

Mechanization of the production of tamping for filling blast holes. Wiad gorn 14 no.4:115-117 Ap '63.

BARTKOWSKI, Stanislaw; KACZMARCZYK, Alicja

Influence of dental splints used in jaw fractures on the tissue of the periodontium. Czas. stomat. 18 no. 12:1431-1433 D ' 65.

1. z Kliniki Chirurgii Stomatologicznej AM w Krakowie (Kierownik: doc. dr. T. Pawela) i z Zakładu Dentystryki Zachowawczej AM w Krakowie (Kierownik: doc. dr. J. Wodniecki).

KACZMARCZYK, Andrzej, mgr. inż.

Methods of measuring mass flow. Pomiary 8 no.5:230-239
My '62.

1. Instytut Mechaniki Precyzyjnej, Warszawa.

KACZMARCZYK, Henryk; KUDLA, Teodor; WARONSKI, Wlodzimierz

Effect of gynecological surgery on the alkaline reserve level
of the blood. Ginek. pol. 34 no.3:353-356 '63.

1. Z I Kliniki Poloznictwa i Chorob Kobietych Sl. AM w Zabrze
Kierownik: prof. dr med. W. Starzewski [deceased].

(GYNECOLOGY) (SURGERY, OPERATIVE)
(ACID-BASE EQUILIBRIUM)
(BLOOD CHEMICAL ANALYSIS)

KACEMARZ, YK, Jerzy

Analog methods of electro-optics. Rozpr elektrotech 10 no.1/2:
103-125 '64

1. Department of Electronic Instruments, Technical University,
Warsaw.

KACZMARCZYK, Jerzy

Resistance network for the imitation of an axially symmetric electric field. Przegł. elektroniki 3 no.6:330-334 Je '62.

1. Katedra Radiotechniki, Politechnika, Warszawa.

JELONEK, Zbigniew; KACZMARCZYK, Jerzy

Directional luminous intensity standards as used to test
radiation detectors. Przegl elektroniki 4 no. 5/6: 338-342
My-Je '63.

1. Katedra Radiotechniki, Politechnika, Warszawa.

KACZMARCZYK, J.

A new approach to the theory of resistance-network analogs for investigation of axially symmetric fields. Bul Ac Pol Tech 12 no.9:691-694 '64.

1. Department of Electronic Instruments of the Warsaw Technical University. Submitted July 10, 1964.

KACZMARCZYK, J.

Attempt to present analytically the dependence of tungsten emissivity on temperature and wavelength. *Archiwum elektrotech* 12 no.2:357-362 '63.

1. Katedra Radiotechniki, Politechnika, Warszawa.

ZWIERZ, Jan; KACZMARCZYK, Marian

Atypical localization of the outlet of the common bile duct in the duodenal papillia. Pol. prześl. chir. 34 no.7:713-715 '62.

1. Z Oddziału Chirurgicznej Szpitala Pow. im. Biernackiego w Opocznie
Ordynator: dr J. Zwierz.

(COMMON BILE DUCT)

GOLECKI, Jozef; KACZMARCZYK, Stanislaw

Action of the horizontal forces caused by the movement of
the crab upon the steel structure of an industrial workshop.
Problemy proj hut maszyn 10 no.9:257-261 S '62.

1. Akademia Gorniczo-Hutnicza, Krakow.

KACZMARCZYK, S.; OSTAFIN, S.

Therapy by means of occupation and the capacity of adaptation
of schizophrenics. Neurol neurochir psych 12 no.5:743-749 8-0
'62.

1. Państwowy Szpital i Ośrodek Resocjalizacji dla Nerwowo i
Psychicznie Chorych, Branice. Dyrektor: Z. Jackowiak.

[Handwritten mark]

KACZMARCZYK, S.; OSTAFIN, S.

Occupational therapy and the adaptive capacity of schizophrenics.
Neurol. neurochir. psychiat. pol. 12 no.5:743-749 '62.

1. Z Państwowego Szpitala i Ośrodka Resocjalizacji dla Nerwowo i
Psychicznie Chorych w Branicach Dyrektor: Z. Jackowiak.
(SCHIZOPHRENIC PSYCHOLOGY) (OCCUPATIONAL THERAPY)

GOLECKI, Jozef, doc. dr inz.; ~~XXXX~~ MARCZYK, Stanislaw, mgr inz.

Horizontal forces originating from the motion of the crane and their effect on the steel structure of a factory hall. Ins i bud 19 no.12:465-467 B '62.

1. Katedra Maszyn Hutniczych, Zaklad Stalowych Konstrukcji Urzadzen i Maszyn, Akademia Gorniczo-Hutnicza, Krakow.

GOLECKI, Jozef, dr inz.; KACZMARCZYK, Stanislaw, mgr inz.

Effects of vertical forces released by the movement of the
traveling crane on the steel structure of metallurgical plants.
Huta Lenina Prace no.12:88-96 '62.

KACZMARCZYK, T.

Alumni of the aero clubs are flying jets. p. 4.

SKRZYDIATA POLSKA. (Ligo Lotnicza) Warszawa, Poland. Vol. 11, no. 32, Aug. 1955.

Monthly List of East European accession (EEAI), LC. Vol. 8, No. 9 September, 1959. Uncl.

HANDZEL-KOWALCZYK, Barbara KACZMAREK, Antoni

Studies on preventing the growing of horns on calves. Roczniki
wyd szkola rol Poznan 17:135-144 '63.

i. Department of Specific Animal Breeding, College of Agriculture,
Poznan.

KACZMAREK, Antoni (Poznan)

Studies on blood corpuscle antigens in domestic animals.
Wzrostkiat no.11:257-259 11'63.

GELBER, Jerzy; KACZMAREK, Danuta; MAJ, Janina; NOWOTKO, Urszula

Blood coagulation disorders in infectious hepatitis in children.
Prezegl. epidem. 16 no.2:159-166 '62.

1. Z I Kliniki Pediatrycznej PAM w Szczecinie Kierownik: doc. dr.
J. Starkiewiczowa i z Oddziału Dziecięcego Woj. Szpitala Zakaznego
w Szczecinie Dyrektor: dr M. Habela.

(HEPATITIS INFECTIOUS blood) (BLOOD COAGULATION)

KACZMAREK, E.

Equations for the reduced distribution functions of a mixture of particles. Acta physica Pol 23 no.4:439-442 Ap '63.

1. Institute of Basic Technical Problems, Polish Academy of Sciences, Warsaw, ul. Sempolowskiej 3.

"APPROVED FOR RELEASE: 07/19/2001

CIA-RDP86-00513R000519820012-3

APPROVED FOR RELEASE: 07/19/2001

CIA-RDP86-00513R000519820012-3"

"APPROVED FOR RELEASE: 07/19/2001

CIA-RDP86-00513R000519820012-3

APPROVED FOR RELEASE: 07/19/2001

CIA-RDP86-00513R000519820012-3"

ACC NR: AP6034787

SOURCE CODE: PO/0045/66/030/002/0267/0275

AUTHOR: Kaczmarek, E.

ORG: Institute of Physics, Polish Academy of Sciences, Warsaw (Instytut fizyki PAN)

TITLE: Two-center acceptor states in germanium and silicon. I. The general theory

SOURCE: Acta physica polonica, v. 30, no. 2, 1966, 267-275

TOPIC TAGS: germanium, silicon, acceptor, donor, acceptor ground state, one center acceptor state, two center acceptor state, semiconductor hopping model, crystal ion energy level, semiconductor spin orbit splitting

ABSTRACT: Energy levels and wave functions of a hole in the field of two acceptor ions and the nearest ionized donor in p-type germanium and silicon were considered, in the range of separations between acceptor ions for which the semiconductor hopping model is valid. The wave functions of these states were obtained in the form of linear combinations of wave functions of an acceptor ground state as given by Schechter in the approximation of infinite spin-orbit splitting.

Card 1/2