Selective Characteristics ....

of geometrical parameters of a disc-loaded waveguide. This formula is:

$$f = f_{\frac{\pi}{2}} - \frac{f_{\pi} - f_0}{2}\cos\theta + \frac{f_{\pi} + f_0 - 2f_{\frac{\pi}{2}}}{2}\cos^2\theta, \qquad (1)$$

where $\theta = kD/\beta$ is the phase shift in an element or cell of the waveguide,
β is the phase velocity of the wave in light velocity units,
k is the wave number,
D is the period of the waveguide, and
$f_0, f_{\pi/2}, f_{\pi}$ are the oscillation frequencies of the 0, $\pi/2$ and π modes, respectively.

The frequencies f_0, $f_{\pi/2}$ and f_{π} can be best determined from the parametric curves which are considered in this paper. It was shown by W. Walkinskaw (Ref. 2) that the scattering

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Selective Characteristics ....

equation for the oscillations of the $\pi/2$-mode can be represented in a parametric form as:

$$\frac{1}{1-\zeta}\cdot\frac{1}{ka}\frac{F_1(ka)}{F_0(ka)} = \sum_{m=-\infty}^{+\infty}\frac{1}{\gamma_m a}\cdot\frac{I_1(\gamma_m a)}{I_0(\gamma_m a)}\cdot I_0\left(\frac{\gamma_m d}{2}\right)\frac{\sin\frac{\gamma_m d}{2}}{\frac{\gamma_m d}{2}}, \qquad (2)$$

where:

$$F_1(ka) = I(ka)\,N_0(kb) - N_1(ka)\,I_0(kb);$$
$$F_0(ka) = I_0(ka)\,N_0(kb) - N_0(ka)\,I_0(kb); \qquad (2a)$$

where a is the radius of the aperture in the discs of the waveguide,
b is the internal radius of the waveguide,
ζD is the thickness of a disc,
I_n is a Bessel function of the n-th order of the first kind,
N_n is a Bessel function of the n-th order of the second kind, and:

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E192/E382

Selective Characteristics ....

$$\gamma_m = \gamma_0 + \frac{2\pi m}{D}; \quad \gamma_0 = \frac{k}{\beta}; \quad \varkappa_m^2 = k^2 - \gamma_m^2. \qquad (2b)$$

Since for the $\pi/2$-mode $D = \beta\lambda/4$ and $\gamma_m = k/\beta(1 + 4m)$, Eq. (2) can be written as:

$$\frac{F_1(ka)}{F_0(ka)} = \sum_{m=-\infty}^{+\infty} \frac{\beta}{\sqrt{\beta^2 - (1+4m)^2}} \frac{I_1\left[ka\sqrt{1-\left(\frac{1+4m}{\beta}\right)^2}\right]}{I_0\left[ka\sqrt{1-\left(\frac{1+4m}{\beta}\right)^2}\right]} \times \times \frac{I_0\left[\frac{\pi}{4}(1+4m)(1-\zeta)\right]\sin\left[\frac{\pi}{4}(1+4m)(1-\zeta)\right]}{\frac{\pi}{4}(1+4m)}. \qquad (3)$$

From the above it is seen that the scattering curves, calculated by taking an arbitrary number of the terms in the righthand-side portion of Eq. (3), depend on the combination of the quantity ka, kb and β. Consequently, it is seen that the

Selective Characteristics ....

scattering equation can be represented in the form $ka = f(kb)$ with β as a parameter or $ka = \varphi(\beta)$ as a parameter. For the zero mode, $\gamma_0 = 0$ and $\gamma_m = 2\pi m/D$. In this case, the scattering equation is:

$$\frac{F_1(k_0a)}{F_0(k_0a)} = \sum_{m=-\infty}^{+\infty} \frac{1}{\sqrt{1-\left(\frac{4m}{\beta\frac{k_0}{k}}\right)^2}} \cdot \frac{I_1\left[k_0a\sqrt{1-\left(\frac{4m}{\beta\frac{k_0}{k}}\right)^2}\right] I_1[\pi m(1-\tfrac{\beta}{2})]\sin[\pi m(1-\tfrac{\beta}{2})]}{I_0\left[k_0a\sqrt{1-\left(\frac{4m}{\beta\frac{k_0}{k}}\right)^2}\right]\pi m} \qquad (4) \qquad (4)$$

where k_0 is the wave number for the zero mode. For the π-mode, the scattering equation becomes:

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Selective Characteristics ....

$$\frac{F_1(k_\pi a)}{F_0(k_\pi a)} = \sum_{m=-\infty}^{+\infty} \frac{1}{\sqrt{1-\left[\frac{2(1+2m)}{\beta\frac{k_\pi}{k}}\right]^2}} \times$$

$$\times \frac{I_1\left[k_\pi a \sqrt{1-\left[\frac{2(1+2m)}{\beta\frac{k_\pi}{k}}\right]^2}\right] I_0\left[\frac{\pi}{2}(1+2m)(1-\zeta)\right] \sin\left[\frac{\pi}{2}(1+2m)(1-\zeta)\right]}{I_0\left[k_\pi a \sqrt{1-\left[\frac{2(1+2m)}{\beta\frac{k_\pi}{k}}\right]^2}\right] \frac{\pi}{2}(1+2m)} \quad (5)$$

From the above it is seen that for the 0- and π-modes the scattering equation can also be represented in a parametric form. Consequently, if the geometric dimensions of a cell of the waveguide, the phase velocity of the wave and the wave number for the $\pi/2$-mode are known, it is possible to determine

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Eq(5) on page 517 attached to Mat 6

Selective Characteristics ...

the frequency of the 0- and π-oscillation modes. The parametric curves obtained experimentally for 0-, $\pi/2$- and π-modes are shown in Figs. 1-3 respectively. The curves were obtained by measuring the frequencies of 0- $\pi/2$- and π-oscillation modes in a resonator formed by a single cell and two semi-cells of a disc-loaded waveguide (Ref. 5). From the curves of Fig. 1 it is possible to determine the frequency at which the oscillations of the $\pi/2$-mode occur in a cell. Similarly from Figs. 2 and 3 it is possible to find the frequencies of the 0- and π-oscillation modes. The maximum error in determining the frequencies of 0- and π-modes does not exceed 1.7%. There are 3 figures, 1 table and 6 references: 2 Soviet and 4 non-Soviet. The English-language references are quoted in the text.

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24387

S/142/60/003/005/014/015
E192/E382

Selective Characteristics .

ASSOCIATION Glavnoye Upravleniye po ispol'zovaniyu atomnoy energii pri Sovete Ministrov SSSR (General Commission on Utilisation of Atomic Energy Attached to the Council of Ministers of the USSR)

SUBMITTED February 15 1960 (initially)
April 4 1960 (after revision)

Card 8/10

S/759/62/000/003/020/021

AUTHOR: Sobenin, N. P.

TITLE: Estimate of the accuracy of the resonance method

SOURCE: Moscow, Inzhenerno-fizicheskiy institut. Uskoriteli. no.3.1962. 198-206

TEXT: The resonance method for determining those frequencies of the accelerator generator, at which an integral num ber of half-waves fits in the shorted iris waveguide, was verified on the basis of experience gathered by the Microwave Laboratory of the Moscow Engineering-physics Institut, with an aim toward improving the accuracy of the method. The entire analysis is confined to one specific iris-waveguide configuration with inside diameter 2b = 90.73 mm, iris hole diameter 2a = 42.64 mm, period of structure D = 22.31 mm, iris thickness D-d = 4 mm, and phase velocity at $\pi/2$ mode $\beta \sim 0.9$. The incluence of the technology of iris-waveguide manufacture was studied and it is concluded that closer tolerances on the dimensions and assembly are needed. The effects of various dimensional and assembly deviations are illustrated by curves. Errors due to the construction and location of the exciting and receiving devices are

Card 1/2

S/759/62/000/003/018/021

AUTHORS: Val'dner, O. A., Sinitsyna E. A., Sobenin, N. P., Shchedrin, I. S.

TITLE: Parametrization of group velocity

Source: Moscow. Inzhenerno-fizicheskiy institut. Uskoriteli. no.3.1962. 185-191

TEXT: It is shown that the dependence of the group velocity in a linear electron accelerator on the geometric dimensions and phase velocity of the wave can be represented for an iris waveguide in parametric form. Parametric curves are plotted for $\pi/2$ modes from the results of experimental data. The parameters involved are $k_n a$ (where $k_n = 2\pi/\lambda_n$ is the wave number of the n-th mode with wavelength λ_n and 2a is the diameter of the iris opening), $k_n b$ (where 2b is the inside diameter of the waveguide proper), β_n (the phase velocity), and n (the relative thickness of the diaphragm). The experimental curves are plotted for the following parameter ranges: β - from 0.4 to 1, λ - from 10 to 11 cm, a/b - from 0.2 to 0.5, a/λ - from 0.08 to 0.2, and iris thickness 0.4 cm. The group velocity is then readily obtainable from an approximate formula. The errors of the method are analyzed. There are two figures and two tables.

Card 1/1

S/759/62/000/004/003/016
D207/D308

AUTHORS: Gavrilova, R. K., Milovanov, O. S. and Sobenin, N. P.

TITLE: Experimental data on the frequency response characteristic of a circular diaphragm-type waveguide with a constant phase velocity

SOURCE: Inzhenerno-fizicheskiy institut. Uskoriteli, no. 4, 1962, 12-19, Moscow

TEXT: A method is given for the assembly of sections of a circular waveguide which ensures the best frequency characteristic in a linear electron accelerator. The waveguide used in this work had the following parameters: $a/\lambda = 0.155$, $a/b = 0.383$, $\beta = 0.998$; here a is the radius of the apertures in the diaphragms (corrugations), b is the inner radius of the waveguide itself, β is the phase velocity and λ is the wavelength. The sections consisted each of one ring (internal diameter tolerances of -20 to +50 μ, thickness tolerances of -10 to -150 μ) and one annular diaphragm (aperture diameter tolerances of -10 to -40 μ). It is shown that

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Experimental data on ...

the best frequency characteristic is obtained by assembling these sections according to increasing or decreasing frequency g of $\pi/2$ modes in them. The frequency f need not be known: only the deviations Δf from the calculated value of f must be measured. In this way a good frequency characteristic can be obtained for 1 or 2 m long waveguides working at $\lambda = 3$ cm or less. For example, the energies of electrons obtained from an accelerator У-12 (U-12) were altered by less than 2% for $\Delta f = 2$ Mc/s of the sections assembled according to increasing or decreasing f. There are 7 figures.

Card 2/2

S/759/62/000/003/021/021

AUTHORS: Sinitsyna, E. A., Sobenin, N. P.

TITLE: Phase-measuring circuit with twin-tee as mixer

SOURCE: Moscow. Inzhinerno-fizicheskiy institut. Uskoriteli. no.3.1962. 207-214

TEXT: The errors introduced in a phase-measuring circuit used to determine the variation of the phase velocity along a round iris waveguide were investigated as functions of the parameters characterizing the twin-tee used in the circuit and as functions of the variation of the amplitude of the signal extracted from the investigated waveguide. While a twin-tee mixer is superior to the customarily employed coaxial equipment, it must satisfy more stringent requirements with respect to matching and symmetry of its arms. The test setup is described and the test procedure detailed. A formula is derived for the maximum error due to the phase variation. The systematic errors introduced by various phase-measuring circuits are analyzed. It is concluded that the twin-tee mixer permits difference measurements to be made with a lower systematic error than the previously considered circuits. There are 4 figures and 1 table.

Card 1/1

S/759/62/000/004/004/016
D207/D308

AUTHORS: Gavrilova, R. K., Milovanov, O. S., Sobenin, N. P. and Shchedrin, I. S.

TITLE: Frequency response characteristic of a waveguide buncher for a linear electron accelerator

SOURCE: Inzhenerno-fizicheskiy institut. Moscow. Uskoriteli, no. 4, 1962, 20-28

TEXT: It is shown that a 120 cm long buncher for a 3 MeV accelerator of U-10 (U-10) type must have a microwave reflection coefficient not greater than 0.07 at ± (6-8) Mc/s from the working frequency. The buncher considered is of the corrugated (diaphragm) type and suffers from (1) relatively high wave admittance in the first sections producing considerable reflections, and (2) inaccuracies in the section dimensions giving rise to further reflections. The effect (1) can be reduced by using thinner diaphragms. This does not alter the electron-beam parameters since the accelerating field intensity does not vary strongly with the diaphragm thick-

Card 1/2

Frequency response characteristic ...

ness and the resultant phase velocity changes can be compensated by varying the inner diameter of the waveguide itself in the first sections. The effect (2) can be reduced by a suitable selection of rings and diaphragms forming the buncher sections: three identical rings, two half-rings and two pairs of diaphragms are used. The success of this arrangement is demonstrated by almost complete similarity of the transmission band of the input-waveguide transformer and the same transformer coupled to the buncher, indicating a transformer/buncher reflection coefficient of 0.1 in the + 15 Mc/s range on both sides of the working frequency. There are 7 figures.

Card 2/2

S/759/62/000/004/007/016
D207/D308

AUTHORS: Zverev, B. V., Sobenin, N. P. and Shchedrin, I. S.

TITLE: Parametric representation of the dispersion curve of a circular diaphragm-type waveguide. I

SOURCE: Moscow. Inzhenerno-fizicheskiy institut. Uskoriteli, no. 4, 1962, 52-69

TEXT: It is difficult to calculate or measure the dispersion curve of a diaphragm-type waveguide, i.e. the dependence of the phase velocity in the waveguide on the frequency of the power supply. It is more convenient to use parametric curves for determination of the frequency of a particular wave mode in a wide range of waveguide dimensions, wavelengths and phase velocities. The authors first derived the dispersion equation in a form convenient for parametric representation. Then they measured the resonance frequencies of the 0, $\pi/4$, $\pi/3$, $\pi/2$, $2/3\pi$, $3/4\pi$, π modes using an oscillator ГС-10 (GS-10) consisting of several rings and diaphragms held in a press ПГЛ-5 (PGL-5) in order to avoid any change

Card 1/2

Parametric representation of ...

in dimensions. Parametric curves are given for the wave modes π/4, π/3, 2/3π, 3/4π, derived from these resonance frequencies. From these curves one can plot parametric nomograms for calculations of the group velocity, derivatives of the phase velocity and of the frequency with respect to the waveguide dimensions, derivatives of the phase velocity with respect to the frequency, etc. The results used to plot the parametric curves may also be employed for the determination of the coefficients occurring in the series expansion of the dispersion curve (see Part II). There are 5 figures and 8 tables.

Card 2/2

S/759/62/000/004/013/016
D207/D308

AUTHORS: Sobenin, N. P. and Shal'nov, A. V.

TITLE: Dependence of the electron output energy on the dimensional tolerances of a linear accelerator waveguide

SOURCE: Moscow. Inzhenerno-fizicheskiy institut. Uskoriteli, no. 4, 1962, 103-110

TEXT: To determine the dependence referred to in the title the authors plotted first parametric curves of the derivatives of the phase velocity ß in a corrugated waveguide with respect to the following geometrical dimensions: the radius of the apertures in the diaphragms (corrugations), a; the inner radius of the waveguide itself, b; the distance between the diaphragms, d; the thickness of the diaphragms, t. The ratio a/b was used as the parameter and the curves were derived from the experimental partial derivatives of the $\pi/2$-mode frequency with respect to the waveguide dimensions and from group velocity values. It was found that the dimension b had the greatest effect on the phase velocity ß, and

Card 1/2

SOBENIN, N.P.; SHCHEDRIN, I.S.; GRYZLOV, A.V.; ZVEREV, B.V.

Representation of the principal high-frequency characteristics of a round septate waveguide in graphical form. Radiotekh. i elektron. 8 no.11:1945-1949 N '63. (MIRA 17:1)

[illegible], [illegible]; B[illegible], [illegible]; [illegible], I.I.

[illegible] calculation of reflections in septate wave guides. [illegible] no.6:3[illegible]-42 '64. (MIRA 18:2)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651820003-5"

L 22489-65 EWT(l)/EEC-4/EWA(h) Peb ESD(gs)/ESD(t) S/2759/64/000/006/0021/0028
ACCESSION NR: AT5001492

AUTHOR: Zverev, B. V.; Sobenin, N. P.; Tragov, A. G.; Shchedrin, I. S.

TITLE: Determination of attenuation in round diaphragmed waveguides

SOURCE: Moscow. Inzhenerno-fizicheskiy institut. Uskoriteli, no. 6, 1964, 21-28

TOPIC TAGS: periodic waveguide, diaphragmed waveguide, attenuation, quality factor

ABSTRACT: The authors present calculated data for the plotting of theoretical attenuation curves for a diaphragmed waveguide with diaphragm thickness 4.00 mm and for several wavelengths. They point out, however, that calculations do not always yield the actual values of the attenuation, since the formulas have been obtained under several assumptions and since they involve the evaluation of double series. The propose therefore a method for refining the theoretical attenuation curves of diaphragmed waveguides, by measuring the Q of a segment of such a waveguide, using the installation shown in Fig. 1 of the enclosure. An analysis of the results and a comparison with the theoretrical data shows that the accuracy with which the attenuation is determined can be reduced to less than 12%, which

Card 1/3

L 22489-65
ACCESSION NR: AT5001492

is a much lower error than results from the purely theoretical curves. Orig. art. has: 6 figures, 11 formulas, and 1 table.

ASSOCIATION: Inzhenerno-fizicheskiy institut, Moscow (Engineering-Physics Institute)

SUBMITTED: 00 ENCL: 01 SUB CODE: EC, QP

NR REF SOV: 003 OTHER: 000

Card 2/3

L 22489-65
ACCESSION NR: AT5001492

ENCLOSURE: 01

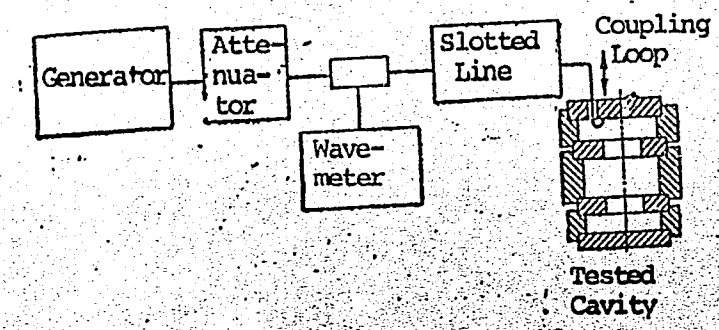

FIG. 1. Block diagram for the measurement of the Q of a sgement of a diaphragmed waveguide

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L 22490-65 EWT(l)/EEC-4/EWA(h) Peb S/2759/64/000/006/0036/0042
ACCESSION NR: AT5001494

AUTHOR: Milovanov, O. S.; Sobenin, N. P.; Shchedrin, I. S.

TITLE: Engineering calculation of reflections in diaphragmed waveguides

SOURCE: Moscow. Inzhenerno-fizicheskiy institut. Uskoriteli, no. 6, 1964, 36-42

TOPIC TAGS: periodic waveguide, diaphragmed waveguide, scattering matrix, internal reflection, transmission matrix

ABSTRACT: This is a companion theoretical paper to a preceding experimental paper in this collection (by O. A. Val'dner and I. S. Shchedrin, p. 29, Accession Nr. AT5001493), in which diaphragmed waveguides are considered with constant dimensions and without losses in the walls, an assumption which is justified for the S-band. The waveguide with reflecting inhomogeneities is represented by parallel admittances located at different electrical distances from one another, and the scattering matrix is determined from the transmission matrix of the system. The reflections are assumed to be independent of the frequency, so that the band-pass characteristics depend only on the variation of the electric dis-

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L 22490-65
ACCESSION NR: AT5001494

tances from the input terminals to the existing inhomogeneities. A procedure for determining the reflections from the experimental results obtained by the method of the companion paper and a Smith chart is described. The method employed can also be used for waveguides with variable parameters (bunching sections), for other microwave bands, and for arbitrary long lines if the frequency variation of the electrical distance of the inhomogeneities is known as a function of the number of cells in the periodic line. Orig. art. has: 3 figures and 21 formulas.

ASSOCIATION: Inzhenerno-fizicheskiy institut, Moscow (Engineering-Physics Institute)

SUBMITTED: 00 ENCL: 00 SUB CODE: EC

NR REF SOV: 004 OTHER: 000

Card 2/2

L 42869-66 EWT(1)/EWT(m) IJP(c)

ACC NR: AP5027002 SOURCE CODE: UR/0120/65/000/005/0026/0029

49
B

AUTHOR: Zverev, B. V.; Sobenin, N. P.

ORG: Moscow Engineering-Physics Institute (Moskovskiy inzhenerno-fizicheskiy institut)

TITLE: Adjustment of circular iris waveguides of linear accelerators by the resonance method

19
15

SOURCE: Pribory i tekhnika eksperimenta, no. 5, 1965, 26-29

TOPIC TAGS: waveguide iris, circular waveguide, linear accelerator

ABSTRACT: The accuracy of measuring the frequency in circular iris waveguide resonators is estimated in this article. A method is described which permits adjusting such waveguides with smoothly changing dimensions even with tolerances of ±50μ. The bandwidth characteristic of the waveguide after adjustment is satisfactory from the point of view of stable operation of the HF oscillator, and the law of change of the phase of velocity is maintained with an error of less than 1%. The examined method of adjusting the units of the iris waveguide has obvious advantages over other methods in that the components of the waveguide are adjusted directly, which precludes errors associated with tolerances for the size of the waveguide. The effect of the holes in the rings is taken into account and the errors associated with the imperfection of the silencing devices and the effect of the coupling loops are eliminated. The possibilities of

UDC: 621.372.8

Card 1/2

L 41138-66 EWT(1)

ACC NR: AT6017508 (N) SOURCE CODE: UR/2759/65/000/007/0054/0065

AUTHOR: Zverev, B. V.; Sobenin, N. P. 41 61

ORG: none

TITLE: Graphical representation of basic high frequency characteristics of a cylindrical waveguide with diaphragms and with $2\pi/3$ type of oscillations

SOURCE: Moscow. Inzhenerno-fizicheskiy institut. Uskoriteli, no. 7, 1965, 54-65

TOPIC TAGS: electron accelerator, circular waveguide, particle accelerator component

ABSTRACT: Ten families of curves and data are presented which were obtained from resonance measurements on a cylindrical waveguide with diaphragms. All curves and data are related to the basic high frequency oscillations of the $2\pi/3$ type. The curves are sufficiently accurate over a large interval of variation in the waveguide design parameters. Orig. art. has: 2 tables, 7 formulas, 10 figures.

SUB CODE: 20 09/ SUBM DATE: none/ ORIG REF: 005/ OTH REF: 004

Card 1/1 hs

I 40081-66 EWT(1) [illegible] (N) SOURCE CODE: UR/2759/65/000/007/0167/0175

ACC NR: AT6017516

AUTHOR: Zverev, B. V.; Sobenin, N. P.

ORG: none

TITLE: Experimental investigation of the waveguide properties for a particle separator with a crossed field

SOURCE: Moscow. Inzhenerno-fizicheskiy institut. Uskoriteli, no. 7, 1965, 167-175

TOPIC TAGS: particle accelerator component, relativistic particle, waveguide

ABSTRACT: The authors describe the experimental methods and results of a study of waveguides as high-frequency particle separators.[1] They found that in the high-pass band the mode E_{11} and H_{11} provides for a perpendicular electric field in a cylindrical waveguide with diaphragms. In this mode, with perpendicular electric field, the dispersion is negative. The errors of measurement are less than 1 Mc (around ½%). The usual method of resonance measurement with a perturbing probe was employed. A graph of the change in frequency along the waveguide axis shows that at 2818.5 Mc the π-type oscillations dominate whereas the 0-type dominate at 3048 Mc. This proves the presence of negative dispersion. Resonant frequency variations as a function of the displacement of the dielectric needle shaped probe along the z-axis, at r=15 mm are graphed. The authors conclude that the investigated wave is polarized and has a radial compo-

Card 1/2

L 40081-66

ACC NR: AT6017516

nent of the electric field; at $r=0$ and $r=b$ (radius of the guide) E_z and E_θ vanish. E_r is maximum at $r=0$ and H_r is maximum near the opening of the diaphragm and is perpendicular on the plane through the z-axis and the coupling loop. Such a waveguide can then be used as an ultrahigh frequency separator for relativistic particles. Orig. art. has: 6 figures, 2 tables.

SUB CODE: 20,09/ SUBM DATE: none/ ORIG REF: 002/ OTH REF: 003

Card 2/2 11b

L 40079-66 EWT(1)

ACC NR: AT6017517 (N) SOURCE CODE: UR/2759/65/000/007/0176/0183

AUTHOR: Zverev, B. V.; Sobenin, N. P.

ORG: none

TITLE: Graphical representation of the high frequency characteristics of the hybrid modes E_{11} and H_{11} in a cylindrical waveguide loaded with a diaphragm

SOURCE: Moscow. Inzhenerno-fizicheskiy institut. Uskoriteli, no. 7, 1965, 176-183

TOPIC TAGS: particle accelerator component, relativistic particle, waveguide

ABSTRACT: Experimental curves are given for designing a diaphragm waveguide to be used as a high frequency particle separator. The curves are based on resonant frequency measurements. The high frequency characteristics were determined as functions of a/b where $2b$ is the inner diameter of the diaphragm waveguide and $2a$ is the diameter in the diaphragm opening. Figure 1 shows the group velocity curve as a function of a/b. The dispersion can be calculated, knowing the group velocity, and is graphed in figure 2. Since the partial derivatives of the frequency relative to the design parameters a and D (where D is the period) are necessary for the final design of high frequency particle separators, the essential curves in figures 3 and 4 are the essential features of this paper. Orig. art. has: 5 figures, 2 tables, 12 formulas.

Card 1/3

L 40079-66
ACC NR: AT6017517

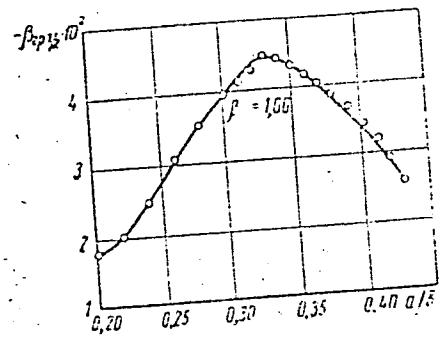

Fig. 1

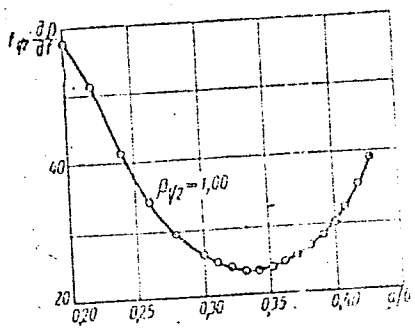

Fig. 2

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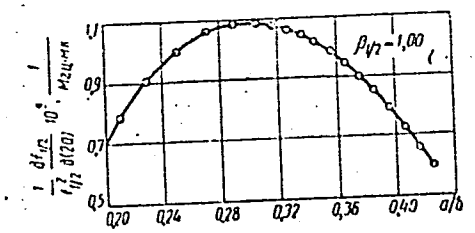

Fig. 3. Graph of the derivative of the frequency of π/2-type oscillations with respect to the diameter of the diaphragm opening.

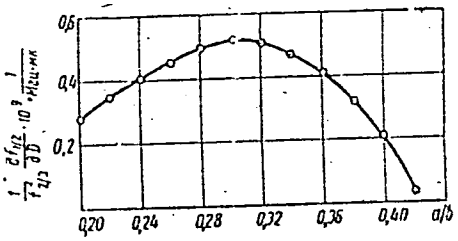

Fig. 4. Graph of the derivative of the frequency of π/2-type oscillations with respect to the period.

SUB CODE: 20,09/ SUBM DATE: none/ ORIG REF: 005

Card 3/3 11b

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[Design of multinomial filters] Raschet polinomial'nykh fil'trov. Moskva, Sviaz'izdat, 1963. 207 p. (MIRA 16:7)
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Forty years of courses given by "Vystrel." Voen.vest. 38
no.11:27-37 N '58. (MIRA 11:12)
(Military education)

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(Tambov Province--Corn (Maize)--Varieties)

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[illegible], [illegible].

[illegible], [illegible]. Marine fisheries in Slovenia. p. 229.

Vol. 7, No. 7, July 1956.
[illegible]
[illegible]
Rijeka, Yugoslavia.

So: East European Accession, Vol. 6, No. 2, February 1957

SOBERAYSKIY, E.S.

Improving the stability of phototelegraphic radio communication.
Vest.sviazi 14 no.4:12-13 Ap '54. (MLRA 7:6)

1. Nachal'nik tekhnicheskogo otdela Moskovskoy direktsii radiosvyazi.
(Phototelegraphy)

SOBRAYSKIY, K. S.

"Polygonometry in Conjunction With Lateral Directions and Triangulation." Cand Tech Sci, Moscow Inst of Engineers for the Organization of Land Exploitation, Moscow, 1953. Dissertation (Referativnyy Zhurnal—Astronomiya Moscow, Feb 54)

SO: SUM 186, 19 Aug 1954

SOBERAYSKIY, K.S., kandidat tekhnicheskikh nauk.

Using conditional measurements for adjusting a multiple resection. Shor.st.po geod.no.10:39-48 '55. (MLRA 10:2)
(Surveying)

ALEKSANDROV, Nikolay Nikolayevich; VZNUZDAYEV, Sergey Vasil'yevich; DVORYANKOV, Sergey Mikhaylovich; KEMNITS, Yuriy Vladimirovich; MASLOV, Aleksey Vasil'yevich; MURASHEV, Sergey Iustinovich; SOBERAYSKIY, Konstantin Stanislavovich; MURASHEV, S.A., redaktor; KHROMCHENKO, F.I., redaktor izdatel'stva; KUZ'MIN, G.M., tekhnicheskiy redaktor

[Precise calculations in topographical surveys of irrigation districts] Raschety tochnosti topograficheskikh s"emok v raionakh orosheniia. Moskva, Izd-vo geodezicheskoi lit-ry, 1956. 48 p. (MIRA 10:1)
(Topographical surveying)
(Irrigation)

AUTHOR: Soberayskiy, K. S., Candidate of Technical Sciences 6-58-3-2/16

TITLE: On Increasing the Accuracy of Polygonometry (O povyshenii tochnosti poligonometrii)

PERIODICAL: Geodeziya i Kartografiya, 1958, Nr 3, pp. 8-14 (USSR)

ABSTRACT: When from the interpeaks of a polygonal course the directions were measured toward the side-points the accuracy in the determination of all elements of the polygonal course can be increased by solving the equation set up for this course together with the equations obtained in connection with the measured directions to the side-points. The equations obtained in the measurement of the direction to the side--points are investigated. On the basis of this investigation it is shown that from the interpeaks of the polygonal course the directions of triangulation-points lying on one or the other side of the course are to be measured. The conditions forming on that occasion are to be included in the general balance of the course. It is most favorable when the side points lie about opposite the middle of the course. When the distance to the side point is more than 10 km the accuracy

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is only insignificantly increased. The peaks of the course at which the side directions are measured shall be equally distributed along the entire course. No large number of directions to the side point shall be included into the common balance, as this only increases the extent of work without increasing the necessary accuracy.
There are 7 figures, 1 table, and 1 reference, which is Soviet.

AVAILABLE: Library of Congress

1. Mathematics---Applications

MASLOV, Aleksey Vasil'yevich. Prinimali uchastiye: PANFILOV, A.T.; ALEKSANDROV, N.N., dotsent; SOBERAYSKIY, K.S., dotsent; YAUSHEV, F.M., starshiy prepodavatel'; SAKOVTSEV, B.P., starshiy prepodavatel'; YUNUSOVA, T.A., inzh.. VASIL'YEVA, V.I., red.izd-va; ROMANOVA, V.V., tekhn.red.

[Directions for surveys with plane-table and theodolite at a scale of 1:10,000] Nastavlenie po proizvodstvu menzul'nykh i teodolitnykh s"emok v masshtabe 1:10000. Moskva, Izd-vo geod.lit-ry, 1960. 322 p. (MIRA 13:8)

1. Russia (1923- U.S.S.R.) Gosudarstvennaya inspektsiya po zemlepol'zovaniyu i zemleustroystvu. 2. Zaveduyushchiy kafedroy geodezii Moskovskogo instituta inzhenerov zemleustroystva (for Maslov). 3. Nachal'nik gosudarstvennoy inspektsii po zemleustroystvu i zemlepol'zovaniyu Ministerstva sel'skogo khozyaystva SSSR (for Panfilov). (Surveying)

SOBESKIY, Konstantin Stanislavovich; SIROTA, Ivan Fedorovich; BATRAKOV, Yuriy Grigor'yevich; VZNUZDAYEV, Sergey Vasil'yevich; DVORYANKOV, Sergey Mikhaylovich; MASLOV, A.V., red.; VASIL'YEVA, V.I., red.izd-va; ROMANOVA, V.V., tekhn. red.

[Geodesic works for the construction of irrigation and drainage systems] Geodezicheskie raboty dlia stroitel'stva orositel'nykh i osushitel'nykh sistem. [By] K.S.Soberaiskii i dr. Moskva, Gosgeoltekhizdat, 1963. 203 p. (MIRA 16:12)

(Surveying) (Irrigation) (Drainage)

ACC NR: AP6030839 SOURCE CODE: RU/0023/66/011/001/0081/0083

AUTHOR: Sefer, M. (Doctor); Verenca, Cornelia (Technician); Sobescianschi, Constanta (Technician)

27 B

ORG: Second Department of Microbiology/headed by Professor, Doctor N. Nestorescu/, Medical Pharmaceutical Institute, Bucharest (Institutul de Medicina si Farmacie, Catedra de Microbiologie II)

TITLE: New method for the study of the chemical constitution and antigenic structure of bacteria

SOURCE: Microbiologia, parazitologia si epidemiologia, v. 11, no. 1, 1966, 81-83

TOPIC TAGS: bacteriology, freezing, antigen, protein, biochemistry

ABSTRACT: The authors describe a process for the study of the chemical constitution of bacteria which consists, essentially, of subjecting a washed concentrate suspension of the bacteria to repeated cycles of freezing and thawing, followed by the separation through centrifuging of a nucleoprotein chemical complex and the later extraction of another chemical complex from the digested cellular residues. [JPRS: 35,814]

SUB CODE: 06 / SUBM DATE: 09Aug65 / ORIG REF: 003 / OTH REF: 010

Card 1/1 UDC: 576.85.097.29

107-57-1-47/60

AUTHOR: Sobeshchanskiy, L. and Vlasov, M.

TITLE: Semiconductor Converter for Supplying an A-8 Radio Receiver (Preobrazovatel' na poluprovodnikovykh priborakh dlya priyemnika A-8)

PERIODICAL: Radio, 1957, Nr 1, p 46 and inside page, back cover (USSR)

ABSTRACT: The converter has been developed from the "Radio" journal specifications. Normally, the A-8 car radio is supplied by the VP-8 vibrapack, in which a VA-12 vibrator is used for DC-to-AC conversion and a 6Ts4P kenotron is used for rectification. Use of semiconductor devices in the vibrapack permits increasing its efficiency and reliability and decreasing its weight and dimensions 5-10 times because the transformation frequency is selected at 4-5 kc instead of 100 cps. A new Soviet converter is described in which two high-power P-4 transistors in a blocking-oscillator circuit and four DG-Ts25 semiconductor diodes in a bridge circuit are used. A circuit diagram, parts data, characteristics, and construction details of the semiconductor converter are supplied.
There are 5 figures in the article.

AVAILABLE: Library of Congress

Card 1/1

SOBESHCHANSKIY, L. F.

L. F. Sobeshchanskiy, "Methods of designing dc converters using semiconducting instruments." Scientific Session Devoted to "Radio Day", May 1958, Trudrezervizdat, Moscow, 9 Sep 58.

Impulse characteristics of power triodes, methods of designing the electrical characteristics of converters using semiconducting instruments and certain questions of the structural design of converter elements are analyzed.

SURNAME, Given Names

Country: Czechoslovakia

Academic Degrees: not given

Affiliation: Stomatology Clinic, Head-Docent A. Edlan, (Stomatologicka klinika, prednosta docent dr. A. Edlan) Plzen.
First Surgical clinic, Head-Docent K. Domansky (I. chirurgicka klinika, prednosta docent dr. K. Domanski,) Plzen.

Source: Prague, Ceskoslovenska Stomatologie, Vol 61, No 6, Sep 1961; pp 367-372.

Data: Dental Treatment of some Mentally Altered Persons under General Anaesthaesia.

PISLOVA, Ruzena,
KOURIK, Jindrich,
SOBESKY, Ivo,

GPO 981643

SOBESKY, I.

2

CZECHOSLOVAKIA

MINAR, J., MD; FESSL, V., MD; SOBESKY, I., MD.

1. Anestesiological Complex SFN (Anesteziologicka slozka SFN), Pilsen (for Minar); 2. First Surgical Clinic of the Medical Faculty of Charles University, Pilsen Branch (I. chirurgicka klinika lekarske fakulty KU se sidlem v Plzni), Pilsen (for all)

Prague, Prakticky lekar, No 5, 1963, pp 168-169

"The Danger of Ether Anesthesia in Old Patients."

CZECHOSLOVAKIA / Laboratory Equipment. Instruments, Theory, Construction and Use. F

Abs Jour : Ref Zhur - Khim., No 15, 1958, No 50141

Author : Dudok, Jaroslav; Soboslavsky, Cyril; Bican, Pavol.
Inst : Not given
Title : Simple Stabilizer for Electrophoresis on Paper.

Orig Pub : Coskosl. farmac., 1957, 6, No. 9, 526-527

Abstract : The stabilizer consists of a usual rectifier stabilized by gas-discharge stabilizers of voltage. The device is assembled of standard radio parts. -- V. Sviridov.

Card 1/1

E N D

SOBESLAVSKY, C.; DUDEK, J.; TEPLA, E.

Determination of blood calcium & magnesium with a new chelatometric indicator. Cas. lek. cesk. 98 no.9:279-282 27 Feb 59.

1. C. S., Praha 2, U nemocnice 1.
(CALCIUM, in blood
determ., new chelatometric indicator method (Cz))
(MAGNESIUM, in blood
same)

RASKA, K.; SYRUCEK, L.; SOBESLAVSKY, O.; POKORNY, J.; PRIVORA, M.; HAVLIK, O.; LIM, D.; ZASTERA, M.

Rodents of epizootology of Q rickettsiosis. Cesk. epidem. mikrob. imun. 5 no.5:246-250 Sept 56.

1. Ustav epidemiologie a mikrobiologie, Praha, red. prof. Dr. K. Raska.
(Q FEVER, epidemiol.
in Czech., role of rodents in epizootology (Cz))
(RODENTS
role in epizootology of Q fever in Czech. (Cz))

SYRUCEK, L.; SOBESLAVSKY, O.

Experimental infection of rat, Rattus norvegicus with C. burneti.
Cesk. epidem. mikrob. imun. 5 no.5:251-254 Sept 56.

1. Ustav epidemiologie a mikrobiologie, Praha, red. prof. Dr.
K. Raska.
(Q FEVER, exper.
in rat (Cz))

SOBESLAVSKY, O.

Experimental infection of Gallus gallus domesticus with C. burnetii. J. Hyg. Epidem., Praha 1 no.1:101-102 1957.

1. Institut fur Epidemiologie und Mikrobiologie, Prag. Direktor: Prof. Dr. Karel Raska.

(Q FEVER, experimental,
in domestic fowl (Ger))
(FOWLS, DOMESTIC, diseases,
exper. Q fever (Ger))

SOBESLAVSKY, O.

Experimental infection of the domestic fowl (Gallus gallus domesticus) with Rickettsia burneti. Cesk. epidem. mikrob. imun. 6 no.3:146-151 May 57.

1. Ustav epidemiologie a mikrobiologie, reditel prof. MUDr. K. Raska.
(Q FEVER, exper.
in chickens (Cz))

SYRUCEK, L.; SOBESLAVKY, O.; HAVLIK, O.

Isolation of Coxiella burnetii in shrew mouse Sorex minutus in the focus of Q fever in northwestern Czechoslovakia. Cesk. epidem. mikrob. imun. 6 no.6:392-395 Nov 57.

1. Ustav epidemiologie a mikrobiologie, Praha, reditel Karel Raska.
(Q FEVER, epidemiology,
in Czech, isolation of Coxiella burnetii in shrew mouse in focus of infect. (Cz))
(MICE,
isolation of Coxiella burnetii in shrew mouse in focus of Q fever in Czech (Cz))

SYRUCEK, L.; SOBESLAVSKY, O.; GUTVIRTH, I.

Isolation of Coxiella burneti from human placentas. J. Hyg. Epidem., Praha 2 no.1:29-35 1958.

1. Institute of Epidemiology and Microbiology, Prague, and Maternity Department, Kraslice, District Hospital. 2. Institute of Epidemiology and Microbiology, Prague 12, Srobarova 48 (for Syrucek).

(COXIELLA BURNETII,
isolation from placentas of women infected many years previously)

(PLACENTA, microbiology
Coxiella burnetii isolation from placentas of women infected many years previously)

(PREGNANCY, complications
Coxiella burnetii isolation from placentas of women infected many years previously)

SOBESLAVSKY, O.; SYRUCEK, L.

Transovular transmission of C. Burneti in the domestic fowl (Gallus Gallus Domesticus). J.hyg.epidem.,Praha 3 no.4:458-464 1959.

1. Institute of Epidemiology and Microbiology, Prague.
(Q FEVER transm.)
(EGGS microbiol.)
(POULTRY dis.)

SOBESIAVSKY,O.; REHN, F.; FISCHER,J.

Isolation of tick-borne encephalitis virus from moor hen (Fulica atra). Cesk. epidem. mikrob. imun. 9 no.4:256-261 Je '60.

1. Vojensky lekarsky vyzkumny a doskolovaci ustav J. Ev. Purkyne v Hradci Kralove; II. patologicko-anatomicky ustav lekarske fakulty KU v Praze.
(ENCEPHALITIS EPIDEMIC virol.)
(POULTRY virol.)

SOBESLAVSKI, O.

Conglutinating complement absorption test in the diagnosis of adenovirus infection. Cesk. epidem. mikrob. imun. 10 no.3:206-211 '61.

1. Ustav epidemiologie a mikrobiologie, Praha.
(ADENOVIRUS INFECTIONS immunol.) (COMPLEMENT)

SOBESLAVSKY, O.; SYRUCEK, L.; DANESOVA, J.

Identification of Eaton's agent (Mycoplasma pneumoniae) as the pathogen in primary atypical pneumonia in Czechoslovakia. Cesk. epidem. 12 no.5:257-261 S '63.

1. Ustav epidemiologie a mikrobiologie v Praze - Detska klinika lekarske fakulty hygienicke KU v Praze.
(MYCOPLASMA) (PNEUMONIA, VIRAL)
(COMPLEMENT FIXATION TESTS)
(ANTIBODY FORMATION)

SOBESLAVSKY, O.; SYNUCEK,L.; BRUCKOVA,M.; HERDEGEN,L.; STICHEN-VIRTHOVA,B.; ZAPLETAL,A.; SAMANKOVA, L.; DANESOVA, J.; ABRAHAMOVIC, M.; KRAJCI, D.; FIRESOVA, Z.

A contribution on the ecology of Mycoplasma pneumoniae infections. J. hyg. epidem. (Praha) 9 no.1:86-94 '65

1. Institute of Epidemiology and Microbiology, Prague, 2nd and 4th Pediatric Clinics of the Medical Faculty, Chair of Preventive Pediatrics of the Medical Faculty, Paediatric, Otorhinolaryngological and Medical Clinics of the Medical Hygiene Faculty, Charles University, Prague.

SOBESLAVSKY, O.; BRUCKOVA, M.; SYRUCEK,L.; ZAPLETAL, A.

Recurrent pneumonia caused by Mycoplasma pneumoniae. Cesk. epidem. 14 no.2:81-87 Mr '65

1. Ustav epidemiologie a mikrobiologie, Praha; II. detska klinika fakulty detskeho lekarstvi Karlovy University, Praha.

BRUCKOVA, M.; SYRUCEK, L.; SOBESLAVSKY,O.; SAMANKOVA, L.

Contribution to the ecology of the respiratory syncytial virus in Czechoslovakia. Cesk. epidem. 14 no.3:136-142 My '65

1. Ustav epidemiologie a mikrobiologie, Praha, a Katedra preventivni pediatrie fakulty detskeho lekarstvi Karlovy University, Praha.

ZAPLETAL, A.; VANECEK, K.; BRUCKOVA, M.; SYRUCEK, L.; SOBESLAVSKY, O.

Etiology of acute bronchiolitis and related severe acute respiratory diseases in children. Cesk. pediat. 20 no.2:97-105 F '65

1. II detska klinika (prednosta: prof. dr. J. Houstek, DrSc.); Ustav vyzkumu vyvoje ditete faluty detskeho lekarstvi Karlovy University v Praze (reditel: prof. dr. J. Houstek, DrSc.); Ustav epidemiologie v Praze (reditel: prof. dr. K. Raska, DrSc.).

SOBESLAVSKY, O.; SYRUCEK, L.; BRUCKOVA,M.

Primary atypical pneumonia and respiratory tract infection caused by Mycoplasma pneumoniae (Eaton's agent). Cas. lek. cesk. 104 no.4:89-95 29 Ja '65

1. Ustav epidemiologie a mikrobiologie, Praha (zast. reditel: dr.L. Syrucek, CSc.).

KURANOVA, P.E.; LARIONOVA, Ye.S.; PLOTNIKOV, P.M.; PUMPYANSKIY, A.Ya.; SOBETS, L.P.; SOBOLEV, A.T.; IL'INSKIY, N.A., spetsred.; SHCHERBAKOVA, G.V., red.; YAROV, B.M., tekhn.red.

[Mechanized assembly-line production of sweet rusk; experience of the Leningrad Port Mechanical Bakery] Mekhanizirovannoe potochnoe proizvodstvo sdobnykh sukharei; opyt Leningradskogo Portovogo khlebozavoda. Moskva, Pishchepromizdat, 1956. 31 p. (MIRA 11:12)

1. Moscov. Vsesoyuznyy nauchno-issledovatel'skiy institut khlebopekarnoy promyshlennosti.

(Leningrad--Bakers and bakeries--Equipment and supplies)

SOBETSKAYA, G.S.

Pancreatoduodenal resection in cancer of the head of the pancreas. Vest. khir. 84 no. 2:124-125 F '60. (MIRA 14:1)
(PANCREAS--CANCER) (DUODENUM--SURGERY)

SOBETSKII, S. V.

Chemical composition of cellulose. VIII. V. I. Sharkov and S. V. Sobetskii (Leningrad Forestry Acad.). Zhur. Priklad. Khim. (J. Applied Chem.) 21, [illegible]; cf. Lesokhim. Prom. 3, No. 8, 17-21(1940); C.A. 43, 5016h.—Chem. analyses of a variety of common tree structures showed large variations in various components. Generally, shade trees contain more pentosans than do the conifers but no correlation of lignin content could be detected. Generally, in the spring the pentosan and uronic acid levels are higher than in the summer. Spring lignin contains more MeO than summer lignin. An oak specimen submerged for about 5000 years in water gave only a slightly higher than normal ash with somewhat higher content of hot-water solubles, and decrease of hemicellulose content. Specimens of trees taken from U.S.S.R. give the following av. values (based on the total dry wt.) of pentosans, Koenig lignin, cellulose, hemicelluloses, pentosans in cellulose, ash: *Alnus glutinosa* 21.3, 22.49, 48.34, 30.78, 2.91, and 0.29; *Prunus padus* 27.55, 20.24, 46.49, 38.06, 2.53, and 0.19; *Sorbus aucuparia* 29.53, 22.42, 46.44, 33.18, 4.03, and 0.63; *Juniperus* 15.45, 21.72, 48.27, 29.11, 1.91, and 0.22; *Cotoneaster vulgaris* 31.26, 22.39, 44.32, 42.97, 3.59, and 0.43; *Pinus silvestris* 11.2, 28.2, 53.8, 20.5, 2.0, and 0.23; *Ulmus laevis* 19.65, 21.85, 51.87, 25.51, 3.56, and 0.74; *U. foliaceae* 18.55, 26.21, 47.55, 24.14, 2.71, and 1.14; *Fraxinus excelsior* 25.39, 25.21, 44.12, 31.26, 1.09, and 0.51; *Crataegus* 20.06, 22.61, 42.68, 38.59, 1.0, and 0.44; *Acer platanoides* 25.02, 22.12, 42.0, 33.28, 4.01, and 0.28; *Tilia cordata* 23.31, 18.3, 49.78, 27.7, 1.17, and 0.6; *Populus nigra* 23.4, 18.8, 48.0, 28.83, 2.76, and 0.35; *Salix alba* 21.7, 28.42, 46.26, 21.27, 1.1, and 0.55; *Corylus avellana* 29.38, 21.07, 47.42, 33.53, 3.82, and 0.42; *Quercus sessiliflora* 22.78, 23.78, 43.50, 29.1, 2.05, and 0.29; *Olea europaea* 23.80, 19.70, 32.5, 35.00, 0.22, and 1.11; *Arbutus andrachne* 25.73, 23.85, 37.57, 33.47, 1.49, and 0.83; *Hedera helix* 28.85, 24.56, 39.31, 35.43, 0.49, and 0.83; *Tamarix gallica* 20.54, 18.29, 31.64, 33.84, 1.49, and 5.43; *Laurus nobilis* 28.53, 20.85, 43.23, 35.12, 2.67, and 0.73; *Celtis australica* 28.51, 20.72, 41.85, 35.63, 2.05, and 1.20; *Punica granatum* 24.6, 21.07, 39.26, 37.77, 0.46, and 1.21; *Larix sibirica* 9.3, 29.45, 45.8, —, —, 1.0; *Betula tianschanica* 32.35, 18.50, 43.06, 41.18, 0.86, and 0.32; *Prunus armeniaca* 23.87, 18.28, 38.35, 33.08, 2.03, and 0.51; *Pirus malus* 26.23, 19.46, 40.87, 37.28, 3.43, and 0.41; *Picea schrenkiana* 12.66, 32.51, 41.4, 27.35, 2.48, and 0.55; *Chamaerops* 29.07, 20.64, 41.43, 35.95, 2.47, and 2.03; *Aleuribes* 27.09, 23.45, 46.34, 32.19, 2.76, 0.5; *Pavlownia tomentosa* 23.52, 19.09, 45.07, 31.81, 0, 0.29; *Sambucus nigra* 25.43, 30.04, 47.76, 25.55, 4.3, and 0.61; *Prunus laurocerasus* 25.56, 26.03, 44.83, 37.27, 1.83, and 0.54; *Rhododendron ponticum* 25.12, 28.81, 41.66, 33.93, 2.07, and 0.33. G. M. Kosolapoff

SOBETSKIY, V.A.

Systematics of upper Cretaceous pectinids from the middle Dniester Valley. Paloent.zhur. no.2:63-71 '60.
(MIRA 13:7)

1. Paleontologicheskiy institut Akademii nauk SSSR.
(Dniester Valley--Lamellibranchiata, Fossil)

KOPENSKIY, V. A.

Cand Biol Sci - (diss) "Upper Cretaceous Pectinacea of the Central Dniester River Region, their systematic composition, and ecological characteristics." Moscow, 1961. 21 pp;(Academy of Sciences USSR, Paleontology Inst); 210 copies; price not given; (KL, 7-61 sup, 228)

SOBETSKIY, V.A.; CHAINSKAYA, V.G., red.; MARKOVICH, G.L., tekhn. red.

[Upper Cretaceous Pectinacea in the middle Dniester Valley, their taxonomic composition and ecological characteristics] Verkhnemelovye Pectinacea Srednego Pridnestrov'ia, ikh sistematicheskii sostav i ekologicheskie osobennosti. Kishinev, Izd-vo "Shtiintsa," 1961. 95 p. (MIRA 15:9)
(Dniester Valley--Pectinacea, Fossil)

SOBETSKIY, V.A.

Materials on the faunal characteristics of Jurassic sediments in the western part of the Dobruja trough. Izv. AN Mold. SSR. no.4:11-17 '62. (MIRA 15:6)

BOBRINSKIY, V.M.; BUKATCHUK, P.D.; BURGELYA, N.K.; DRUMYA, A.V.; KAPTSAN, V.Kh.; MAKARESKU, V.S.; NEVRYANSKIY, D.G.; NEGADAYEV-NIKONOV, K.N.; PERES, F.S.; ROMANOV, L.F.; ROSHKA, V.Kh.; SAFAROV, E.I.; SAYANOV, V.S.; SOBETSKIY, V.A.; TKACHUK, V.A.; KHUBKA, A.N.; EDEL'SHTEYN, A.Ya.; LUTOKHIN, I., red.

[Paleogeography of Moldavia] Paleogeografiia Moldavii. Kartia, moldovenaske, 1965. 145 p. (MIRA 18:9)

1. Otdel palenotologii i stratigrafii AN Moldavskoy SSR (for Negadayev-Nikonov, Roshka, Romanov, Sobetskiy, Khubka). 2. Institut geologii i poleznykh iskopayemykh Gosudarstvennogo geologicheskogo komiteta SSSR (for Bobrinskiy, Burgelya, Nevryanskiy, Tkachuk, Edel'shteyn). 3. Opornaya seysmostantsiya AN Moldavskoy SSR (for Drumya). 4. Gosudarstvennyy proizvodstvennyy geologicheskiy Komitet Moldavskoy SSR (for Bukatchuk, Kaptsan, Safarov).

[redacted], V.A., YANOVSKAYA, G.A.

New data on the stratigraphy of Upper Cretaceous sediments in southeastern Moldavia. Dokl. AN SSSR 161 no.4:911-914 Ap '65.

1. Tiraspol'skiy gosudarstvennyy pedagogicheskiy institut im. T.G. Shevchenko. Submitted November 30, 1964.

BOBRINSKAYA, O.G.; BOBRINSKIY, V.M.; BUKATCHUK, P.D.; DANICH, M.M.; KAPTSAN, V.Kh.; NEGADAYEV-NIKONOV, K.N.; POPOVA, T.V.; ROSHKA, V.Kh.; SAFAROV, E.I.; SOBETSKIY, V.A.; EDEL'SHTEYN, A.Ya.; BURGELYA, N.K., red.; DRUMYA, A.V., red.; KUZNETSOVA, E.,red.

[Stratigraphy of sedimentary formations in Moldavia] Stratigrafiia osadochnykh obrazovanii Moldavii. Kishinev, Kartia moldoveniaske, 1964. 129 p. (MIRA 19:1)

1. Otdel paleontologii i stratigrafii AN Moldavskoy SSR (for Bobrinskaya, Danich, Negadayev-Nikonov, Popova, Roshka, Sobetskiy). 2. Institut geologii i poleznykh iskopayemykh, gorod Kishinev (for Bobrinskiy, Edel'shteyn). 3. Upravleniye geologii i okhrany nedr pri Sovete Ministrov Moldavskoy SSR (for Bukatchuk, Kaptsan, Safarov).

TOSHKOV, A.; SOBEVA, V. [Sobieva, V.]

Effect of aqueous distillates of Ranunculaceae on the fixed virus in vitro and in vivo. Mikrobiol. zhur. 22 no.4:24-26 '60. (MIRA 13:11)

1. Iz Instituta epidemiologii i mikrobiologii, Sofiya Bolgariya.
(RABIES) (PHYTONCIDES) (CROWFOOT)

SOBEVA, V.; NOYEVA, K. [Noeva, K.]; GANCHEVA, Ts.; SLAVCHEV, R.

Experiments in preparing the specific gamma globulin against smallpox. Trudy epidemiol mikrobiol 8:153-155 '61 [publ.'62].

TOSHKOV, As.; IVANOV, V.; SOBEVA, V.; GANCHEVA, TSv.; RANGELOVA, St.; TONEVA, V.

Antibacterial, antiviral, antitoxic and cytopathogenic properties of protoanemonin and anemonin. Antibiotiki 6 no.10:918-924 O '61.

1. Nauchno-issledovatel'skiy institut epidemiologii i mikrobiologii, Sofiya, Bolgariya.
(ANEMONIN) (PROTOANEMONIN)

KARPAROV, A.; SOBEVA, V.; GANCHEVA, Ts.

Immunity in rabies. Trudy epidemiol mikrobiol 8:143-145 '61 [publ.'62].

K-4

POLAND / Forestry. Forest Crops

Abs Jour: Ref Zhur-Biol., No 13, 1958, 58420

Author : Nowakovski, A., Sobezak, R.

Inst : Not given

Title : Alder in Soil Protective Plantings

Orig Pub: Las polski, 1957, 31, No 12, 3-4

Abstract: The achievements of Czech foresters in the field of afforestation of fallow lands, utilizing biogroups of alder in crops along with other genera, are described. In the opinion of Czech foresters, the best soil protective plantings are those consisting of biogroups of alder with oak, or with maple planted in clusters. The plantings of pine with birch and aspen also yield fine results. The

Card 1/2

SOBIANIECKI, Wlodzimierz

Giant cell tumors of the maxilla. Otolar polska 12 no.1:59-65 1958.

1. Z Kliniki Otolaryngologicznej A. M. Gdansk Kierownik: prof. dr J. Iwaszkiewicz.

(LIPOMA, case reports
giant cell tumors of maxilla (Pol))
(MAXILLA, neoplasms
giant cell tumors, case reports (Pol))

SOBIC, D.

SOBIC, D.

Yugoslavia (430)

Science

Historical development of our cartographic works. p. 31. Geodetska Sluzba Narodne Republike Srbije, Vol. 3, no. 1, January-June 1952.

East European Accessions List. Library of Congress, Vol. 1, no. 14, Dec. 1952. UNCLASSIFIED.

POLAND

DUDZIK, Zygmunt, KLOSOWSKI, Seweryn, LUDWICKI, Henryk, and SOBICZEWSKA, Maria, Department of Galenic Drugs (Zaklad Lekow Galenowych), Drug Institute (Instytut Lekow) in Warsaw (Director: Dr. H. LUDWICKI)

"Determination of Camphor in Some Pharmaceutical Preparations."

Warsaw, Farmacja Polska, Vol 19, No 6, 25 Mar 63, pp 110-111.

Abstract: Authors describe a colorimetric method (using Ehrlich's solution and a Pulfrich photocolorimeter (filter S 53)) to determine the amount of camphor in galenicals. They find the method reproducible, suitable for analytical laboratory, sufficiently accurate, and less cumbersome than the method recommended in Farmakopeia Polska III. There are 16 references, of which one is Polish, two are Russian, four German, and the others Western, mostly English.

1/1

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651820003-5"

SOBICZEWSKA, Maria

Determination of alkaloids in plants by means of the non-aqueous titration with p-toluenesulfonic acid. Acta Pol. pharm. 21 no.6:485-488 '64

1. Z Zakladu Lekow Galenowych Instytutu Lekow w Warszawie (kierownik: dr. H. Ludwicki).

SOBICZEWSKA, Maria

Determination of small amounts of alkaloids in injection fluids in an anhydrous medium. Farmacja Pol 20 no.1/2: 35-36 25 Ja'64.

1. Zaklad Chemii Farmaceutycznej i Zaklad Lekow Galenowych, Instytut Lekow, Warszawa.

21721
P/045/61/020/003/003/004
B133/B228

24.6600

AUTHORS: Dabrowski, Janusz and Sobiczewski, Adam

TITLE: Optical model for nucleon-nucleus scattering

PERIODICAL: Acta Physica Polonica, v. 20, no. 3, 1961, 243-255

TEXT: The present paper deals with the derivation of the parameters of the optical potential for nucleon-nucleus scattering. The optical potential V for a nucleus with high mass number A is given by:

$$V = \sum_{i=1}^{A} \langle \psi_0 | t_{0i} | \psi_0 \rangle \qquad (1)$$

The transition operator t_{oi} describing the scattering between the particle "o" and "i" in the presence of the other target nucleons satisfies the integral equation:

$$t_{0i} = v_{0i} + v_{0i} \frac{Q}{e} t_{0i}, \qquad (2)$$

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where the operator Q excludes all the states occupied by the target nucleons, and $e = E - H_A - T_o - V + i\eta$. v_{oi} is the nucleon-nucleon interaction, E is the ground-state energy of the target nucleus plus the energy of the projectile, H_A the Hamiltonian of the target nucleus, and T_o the kinetic energy of the projectile. The approximations contained already in (1) were discussed by Sawicki (see references). An exceptional case for which one can easily solve Eq. (2) for the t matrix is the case of the separable potential:

$$\left(\frac{1}{2\pi}\right)^3 \int d\mathbf{r}_{12} e^{-i\mathbf{p}'\mathbf{r}_{12}} v_{12} e^{i\mathbf{p}\mathbf{r}_{12}} = \langle \mathbf{p}' | v_{12} | \mathbf{p} \rangle$$

$$= -\frac{\lambda \hbar^2}{M} g(p')\, g(p) \qquad (10)$$

Depending on the form of the g function it is called "Yamaguchi potential" (Y) when $g(p) = (p^2 + \beta^2)^{-1}$, or "effective range potential" (ER) when

$g(p) = (p^2 + \beta^2)^{-1/2}$. One of the disadvantages of potential (10) is, that it acts in the S state only. The authors now want to improve the results for the optical potential obtained with the separable potential (10) by adding the contribution from higher (than S) partial waves in phase-shift approximation. To get the phase-shift approximation for the t matrix, they put the operator Q = 1 in Eq. (2) and replace V by an energy-independent real potential. To calculate the optical potential $V(k_o)$, the following coordinates are introduced:

$$p = \left|\frac{k_0 - k_1}{2}\right|, \quad u = \left|\frac{k_0 + k_1}{2}\right| \tag{17}$$

In these coordinates

$$\int_{k_1 < k_F} dk_1 = \frac{16\pi}{k_0} \int_{(k_0 - k_F)/2}^{(k_0 + k_F)/2} dp\, p \int_{\max\left[(k_0 - p), \sqrt{k_F^2 - p^2}\right]}^{\sqrt{(k_0^2 + k_F^2)/2 - p^2}} du\, u \tag{18}$$

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holds. After introduction of the dimensionless variables $\nu = k_o/k_F$ $x = p/k_F$ one finally gets:

$$\left.\begin{matrix}\mathrm{Re}\ V(k_0)\\ \mathrm{Im}\ V(k_0)\end{matrix}\right\} = -\frac{2}{\pi}\frac{\hbar^2 k_F^2}{M}\frac{1}{\nu}\int_{(\nu-1)/2}^{(\nu+1)/2} dx\left[\frac{1}{4}-\left(x-\frac{\nu}{2}\right)^2\right]\left\{\begin{matrix}g(x)\\ 2f(x)\end{matrix}\right\} \qquad (20)$$

where g is given by

$$g(p) = [\sum(\text{odd } j) + 3\sum(\text{even } j)]\,(2j+1)\sin 2\delta_j + [\sum(\text{even } j) + 3\sum(\text{odd } j)] \times \\ \times [(2j+1)\sin 2\eta_j + (2j+3)(\sin 2\eta_{j+1,s} + \sin 2\eta_{j+1,p})] + 3\sin 2\eta_0 \qquad (16)$$

The equation for f is obtained from Eq. (16) by replacing sin 2, sin 2 by $\sin^2$, $\sin^2$, respectively. To improve the expression for Im $V(k_o)$, the authors take into account some of the effects of the exclusion principle. For this reason, they follow the Goldberger method known as the "frivolous model". Their rather intuitive approach leads to

$$\operatorname{Im} V_{\mathrm{Gd}}(k_0) = -\frac{2\hbar^2 k_F^2}{\pi M}\,\frac{1}{\nu}\int_{(\nu-1)/2}^{(\nu+1)/2} dx[f(x)/x]\int_{\max[(\nu-x),\sqrt{1-x^2}]}^{\sqrt{(1+\nu^2)/2-x^2}} dy(x^2+y^2-1) \qquad (26)$$

where the index Gd indicates the Goldberger method.

where y is u/k_F, and Gd indicates the Goldberger method. To get numerical results, the optical potential is discussed as a function of the wave numbers of the incoming nucleon. Due to the approximations made in the derivation, satisfying results are expected only for neutrons and only for high energies. Figs. 1 and 2 show V as a function of the energy E_0 of the incoming neutron. Corresponding results for the (ER) interaction are given in Table III. Because of the uncertainty of the experimental results, a comparison between theory and experiment is difficult. It seems that the experimental points favor the curves obtained by means of GT and SM phase shifts. There are 2 figures, 3 tables, and 25 non-Soviet-bloc references. The 3 most recent references to English-language publications

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21721

Optical model for...

P/045/61/020/003/003/004
B133/B228

read as follows: Dabrowski, J. and Sawicki, J., Nuclear Phys. 13, 621 (1959); Nuclear Phys. 22, 318 (1961). Sawicki, J., Nuovo Cimento, 15, 606 (1960).

ASSOCIATION: Institute for Nuclear Research, Warsaw, and Institute for Theoretical Physics, Warsaw University, Warsaw (Janusz Dabrowski). Institute for Theoretical Physics, Warsaw University, Warsaw, and Warsaw Technical University, Warsaw (Adam Sobiczewski)

SUBMITTED: September 30, 1960

Card 6/9

S/058/62/000/010/034/093
A061/A101

AUTHORS: Sobieczewski, Adam, Zielińska, Małgorzata

TITLE: Calculation of the optical potential according to the nucleon-nucleon scattering phases in Thomas-Fermi approximation. II

PERIODICAL: Referativnyy zhurnal, Fizika, no. 10, 1962, 46, abstract 10B351 ("Rept. Inst. badań jądrow. PAN", 1961, no. 281, 6 pp., illust., English; summaries in Polish and Russian)

TEXT: The calculations presented in part I (RZhFiz, 1962, 9B409) were repeated precisely, but using the latest values of the nucleon-nucleon scattering phases, as established by Breit et al. (RZhFiz, 1961, 11B194), and the following values of incident nucleon energy were chosen for the calculation instead of the Signell-Marshak phases: 50, 80, and 120 Mev. Radius and thickness of the surface layer of both the real and the imaginary part of the potential are almost the same as in part I. The depths of the real and the imaginary part have somewhat higher values: in the center of the nucleus the depth of the real part is greater by ~35%, while that of the imaginary part differs from the values used previously by less than 8%.

Yu. Orlov

[Abstracter's note: Complete translation]

Card 1/1

33783
P/045/62/021/002/004/007
B137/B102

24,7000(1144, 1160, 1385)

AUTHORS: Dąbrowski, Janusz, Sobiczewski, Adam, and Zielińska, Małgorzata

TITLE: Calculation of the optical potential with the nucleon-nucleon phase shifts in the Thomas-Fermi approximation

PERIODICAL: Acta Physica Polonica, v. 21, no. 2, 1962, 145 - 152

TEXT: The authors calculate the radial distribution of the optical potential V for nucleon-nucleus scattering at an energy of $E_0 \gtrsim 50$ Mev with the aid of the empirical nuclear density. $V = V_o + \Delta V$, where V_o is the optical potential calculated with the free nucleon-nucleon scattering operator t_o, and ΔV is a correction owing to the exclusion principle. The Thomas-Fermi approximation is used to calculate V for a finite nucleus. The optical potential is expressed with the aid of nucleon-nucleon phase shifts. The nuclear density $\rho(r)$ is assumed to be identical with the charge distribution determined from Hofstadter's electron scattering experiments. For numerical calculations of V the Signell-Marshak nucleon-

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Calculation of the optical .

nucleon phase shifts are used. ΔV increases the depth of the real part of the optical potential, and decreases that of the imaginary part. The corrections are more important at higher densities. Calculations were carried out for E_ρ = 50, 80 and 120 Mev. The shape of the optical potential V is discussed in terms of the half-way radius $R_{r(i)}$ and the surface thickness $s_{r(i)}$, where r and i stand for real $R_r \cong R_\rho + 0.1$ f, and $s_r = s_\rho$. R_ρ is the half-way radius, and s_ρ is the surface thickness (the distance over which the density drops from 90 % to 10 % of its peak value). f is the unit of length in fermis. s_r = 2.20 is found, which agrees with experimental results (s_r = 2.6 - 3.1 f for surface absorption below 50 Mev, and s_r = 2.0 - 2.2 for volume absorption throughout the whole energy range). The difference $R_r - R_\rho$ = 0.1 f is too small as compared with experimental results (0.8 ± 0.3 f). The values for Re V(0) are too big by 20 Mev as compared with experiment. It can be concluded from the experiments that Re V has practically the same radial distribution as the nuclear density with a corresponding depth, bigger than is usually assumed. $R_i - R_\rho$ = 0.25,

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Calculation of the optical ...

0.15, 0.10 f is found for E_o = 50, 80 and 120 Mev, respectively. The calculated depth -Im V(0) is in good agreement with the experimental values given by Bjorklund. There are 2 figures, 1 table, and 11 non-Soviet references. The four most recent references to English-language publications read as follows: Bjorklund, F., Proceedings of the International Conference on the Nuclear Optical Model. The Florida State University Studies, No. 32, 1, 1959; Hahn, B., Ravenhall, D., and Hofstadter, R., Phys. Rev., 101, 1131 (1956); Kerman, A. K., McManns, H., and Thaler, R.M, Ann. Phys (New York), 8, 551 (1959); Signell, P. S., and Marshak, R. E., Phys. Rev., 109, 1229 (1958).

ASSOCIATION: Institute for Nuclear Research and Institute for Theoretical Physics, Warsaw University, Warsaw (Dąbrowski); Institute for Theoretical Physics, Warsaw University, Warsaw and Warsaw Technical University, Warsaw (Sobiczewski); Institute for Theoretical Physics, Warsaw University, Warsaw (Zielińska)

SUBMITTED: July 14, 1961

Card 3/3

ZIELINSKA, Malgorzata; SOBICZEWSKI, Adam

Calculation of the optical potential with the nucleon-nucleon phase shifts in the Thomas-Fermi approximation. II. Acta physica Pol 21 no.4:423-427 Ap '62.

1. Institute for Theoretical Physics, University, Warsaw; Technical University, Warsaw; Institute for Nuclear Research, Warsaw.

SOBICZEWSKI, A.

Rotation and beta-vibration interaction in the rare earth even nuclei. Bul Ac Pol math 12 no.12:757-760 '64.

1. Institute for Nuclear Research of the Polish Academy of Sciences, Warsaw. Submitted October 6, 1964.

SOBICZEWSKI, E.

Results of tests of the shock buffer performance on a silk weaving loom. Przegl wlokien 18 no.10:472 O '64.

1. Lodz Technical University.