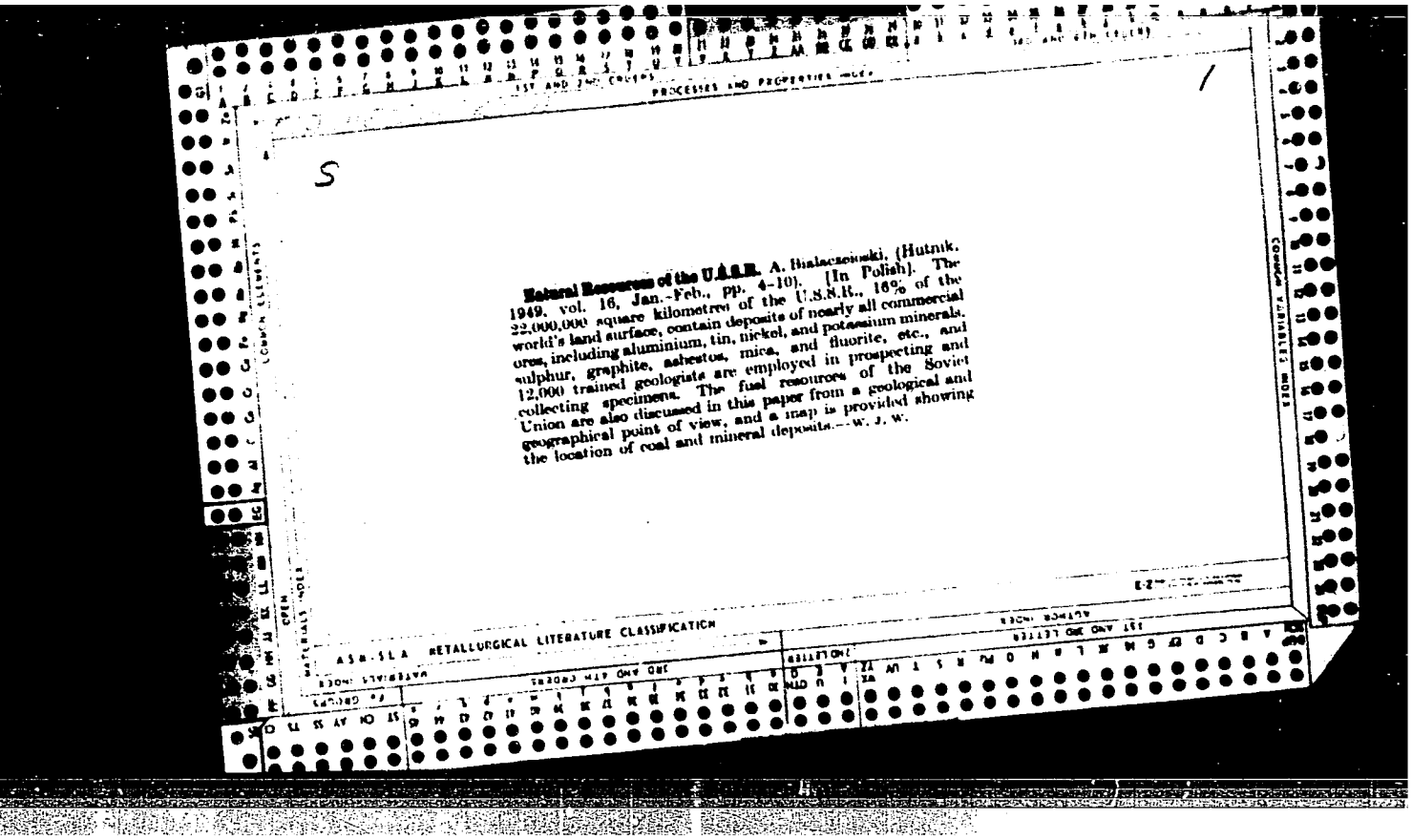
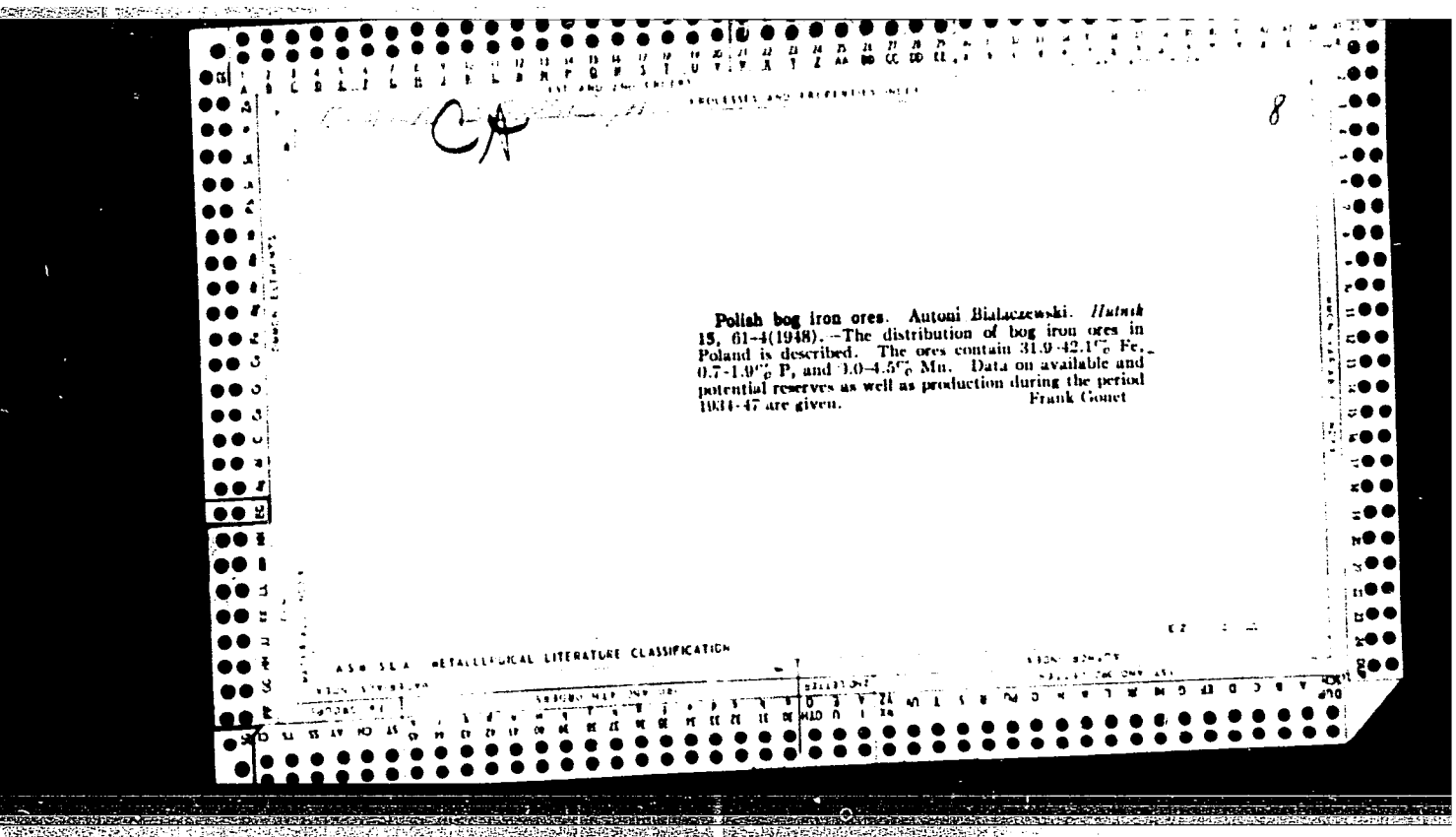


Natural Resources of the U.S.S.R. A. Bialaczewski. (Hutnik, 1949, vol. 16, Jan.-Feb., pp. 4-10). [In Polish]. The 22,000,000 square kilometres of the U.S.S.R., 16% of the world's land surface, contain deposits of nearly all commercial ores, including aluminium, tin, nickel, and potassium minerals, sulphur, graphite, asbestos, mica, and fluorite, etc., and 12,000 trained geologists are employed in prospecting and collecting specimens. The fuel resources of the Soviet Union are also discussed in this paper from a geological and geographical point of view; and a map is provided showing the location of coal and mineral deposits.—W. J. W.



Polish bog iron ores. Antoni Białaczewski. *Hutnik* 15, 61–4(1948).—The distribution of bog iron ores in Poland is described. The ores contain 31.9–42.1% Fe, 0.7–1.9% P, and 3.0–4.5% Mn. Data on available and potential reserves as well as production during the period 1934–47 are given. Frank Gonet

IWIACHOWSKI, A.

"Economic Importance of Our Phosporite Resources", P. 274, (GEOLOGIA, Vol. 7, No. 10, October 1954, Katowice, Poland)

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

BIALACZEWSKI, A.

The 12th scientific congress of the Alumni Association of the College of Mining and Metallurgy in Cracow. Przegl geolog 10 no.2 :3 of cover F '62.

29100
P/045/61/020/010/001/003
B108/B104

9,3700 (1482)

AUTHOR: Białas, A.

TITLE: Electromagnetic potentials of a moving electromagnetic dipole

PERIODICAL: Acta Physica Polonica, v. 20, no. 10, 1961, 831-844

TEXT: The author derived expressions for the electromagnetic potentials of a balanced system of moving charges and currents. Such a system is termed electromagnetic dipole. The structure of the field sources is allowed for in linear approximation. The current density may be represented as the sum of a "transferred" and a "conducted" part. Consequently, also an electromagnetic dipole may be split into an electric and a magnetic part. The Lienard-Wiechert potentials are derived from the Lorentz solution of Maxwell's equations. These potentials are $\vec{A} = e\vec{v}/l$ and $\varphi = e/l$, where $l = R - \vec{R}\cdot\vec{v}$. The center $\vec{M} = (0,0,0)$ is chosen within the dipole. Thus $\vec{R} = (X,Y,Z)$. The electromagnetic potentials of an electric and a magnetic dipole are calculated separately. The author uses two ways to come to the same result: 1) a generalization of the method of deriving the Liénard-Wiechert potentials (Lorentz, H. A., The Theory of Electrons, Leipzig, 1909);

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Electromagnetic potentials of a...

2) the author makes use of Dirac's δ function, regarding the dipole as a singularity of the field sources. The expressions are generalized to multipoles of any order. The author obtains

$$A^{\mu} = \frac{(-1)^m}{m!}\left[\partial_{k_{m-1}} \cdots \partial_{k_1} \partial_k \frac{1}{R}\right] \cdot D^{\mu k k_1 \cdots k_{m-1}},$$

where $D^{\mu k k_1 \cdots k_{m-1}}$ is the electric, and $D^{ik k_1 \cdots k_{m-1}}$ the magnetic moment of a 2^m pole. In order to demonstrate the use of the formulas derived, the author calculates the radiation of a 2^m pole. The resulting formulas may be regarded as generalizations of the formulas established by A. Rubinowicz and J. Blaton (Ergebnisse der exakten Naturwiss., 11, 176 (1932)). Similar formulas have been derived by other authors (Średniawa, B., Acta phys. Polon., 19, 477 (1960)). Professor J. Weyssenhoff is thanked for valuable discussions. There are 9 references: 3 Soviet-bloc and 6 non-Soviet. The most recent references to English-language publications read as follows: Thirring, W., Principles of Quantum Electrodynamics, N. Y.-London 1958; Mathisson, M., Proc. Cambridge Phil. Soc., 38, 40 (1942); Stratton, J. A., Electromagnetic Theory, N. Y.-London 1941.

Card 2/3

29100
P/045/61/020/010/001/003
B108/B104

Electromagnetic potentials of a...

ASSOCIATION: Institute of Physics, Jagellonian University, Cracow

SUBMITTED: April 26, 1961

Card 3/3

BIALAS, Elzbieta; BIALAS, Andrzej

Equations for the vector field in Rayski's unitary theory.
Acta physica Pol 22:Suppl.:185-189 '62.

1. Institute of Theoretical Physics, Jagellonian University, Krakow.

BIALAS, Andrzej

On the radiation of a moving magnetic dipole. Acta physica Pol 22 no.4:349-362 O '62.

1. Institute of Theoretical Physics, Jagellonian University, Krakow.

BIALAS, Andrzej

Equations of motion of a rotating particle with magnetic moment. Acta physica Pol 22 no.6:499-510 D '62.

1. Institute of Theoretical Physics, Jagellonian University, Krakow.

BIALAS, Andrzej

"Problems of quantum mechanics" by I.I. Goldman, W.D. Kriwczenkow. Reviewed by Andrzej Bialas. Postepy fizyki 14 no.2:261 '63.

BIALAS, Andrzej

On the continuity of Petrov classification. Acta physica Pol 23 no.6:699-703 Je '63.

1. Institute of Physics, Jagellonian University, Krakow.

BIALAS, E.; BIALAS, A.

On the relation between the Penrose classification of gravitational fields and the classification according to group of motions. Acta physica Pol 24 no.4:515-517 O '63.

1. Institute of Physics, Jagiellonian University, Krakow.

BIALAS, Andrzej

Electromagnetic waves in general relativity as the source of information. Acta physica Pol 24 no.4:465-469 O '63.

1. Institute of Physics, Jagiellonian University, Krakow.

ACCESSION NR: AP4017210 P/0045/64/025/001/0071/0074

AUTHOR: Bialas, Andrzej

TITLE: Conservation laws for the spin particle in the gravitational field

SOURCE: Acta physica polonica, v. 25, no. 1, 1964, 71-74

TOPIC TAGS: conservation law, spin particle, gratitational field, general relativity, group of motion

ABSTRACT: The covariant formulation of the conservation laws in general relativity represents a very difficult problem not yet satisfactorily solved. The paper considers the problem of the conservation laws for the spin particles, and shows that if the gravitational field admits a group of motion, the free spin particle satisfies the conservation laws. The number of these laws is equal to the number of parameters of the group of motion.
Orig. art. has: 22 equations.

Card 1/2

ACCESSION NR: AP4017210

ASSOCIATION: Instytut Fizyki UJ, Krakow (Institute of Physics of the Jagellonian University)

SUBMITTED: 23Jul63 DATE ACQ: 18Mar64 ENCL: 00

SUB CODE: PH NO REF SOV: 000 OTHER: 005

Card 2/2

BIALAS, Edmund; [illegible]

Fetal electrocardiography in cases of complicated pregnancy. Pol. tyg. lek. 19 no.47:1801-1805 23 N'64.

1. Z I Kliniki Poloznictwa i Chorob Kobiecych Akademii Medycznej w Poznaniu (kierownik: prof. dr. med. Witold Michalkiewicz).

BIALAS, E.; BIALAS, A.

On the relation between the Penrose classification of gravitational fields and the classification according to group of motions. Acta physica Pol 24 no.4:515-517 O '63.

1. Institute of Physics, Jagiellonian University, Krakow.

YDZIK, Tadeusz; BIALAS, Edmund; SZUBERT, Edward; BARON, Jozef

Effect of adenosinetriphosphoric acid on the bio-electrical activity of the myometrium in pregnancy. Ginek. Pol. 35 no.4: 495-502 Jl-Ag '64

1. Z I Kliniki Poloznictwa i Chorob Kobiecych Akademii Medycznej w Poznaniu (Kierownik: prof. dr. med. W. Michalkiewicz).

BIALAS, Elzbieta

Gravito-electromagnetic field equations in Rayski's unitary field theory. Acta physica Pol 20 no.11:915-918 '61.

1. Institute of Theoretical Physics, Jagellonian University, Krakow.

(Unified field theories)

BIALAS, Elzbieta

Gravito-electromagnetic field equations in Rayski's unitary field theory. Acta physica Pol 20 no.11:915-918 '61

1. Institute of Theoretical Physics, Jagellonian University, Krakow.

BIALAS, Elzbieta; BIALAS, Andrzej

Equations for the vector field in Rayski's unitary theory.
Acta physica Pol 22:Suppl.:185-189 '62.

1. Institute of Theoretical Physics, Jagellonian University, Krakow.

BIALAS, Elzbieta

Asymptotic behavior of the Riemann principal directions of gravitational field. Acta physica Pol 26 no.1:95-103 Jl '64.

1. Institute of Theoretical Physics, Jagiellonian University, Krakow.

PAWLIKOWSKI, Stefan prof., dr.,inz.; LUGOWSKA, Maria, dr.,inz.; PLACZEK, Joachim, mgr.,inz.; BIALAS, Jan, inz.

Dry milling of sulfur ore. Rudy i metale 6 no.12:533-536 D '61.

PAWLIKOWSKI, Stefan, prof. dr inz.; LUGOWSKA, Maria, doc. dr inz.;
PLACZEK, Joachim, mgr ins.; [redacted] inz.

Autogenous grinding of sulfur ore and treatment of the product in flash roasting furnaces. Rudy i metale 8 no.4:138-140 '63.

BIALAS, K.

The influence of the WWy freight car friction resistance on the magnitude of coal consumption.

P. 266 (Przeglad Kolejowy Mechaniczny. Vol. 8, no. 9, Sept. 1956, Warszaw, Poland)

Monthly Index of East European Accessions (EEAI) LC. Vol. 7, no. 2, Febru ry 1958

BIALAS, S., mgr.,inz.

Defending the standard Pn-55/M-01152; an answer to dr. T. Jakubowski's comments. Normalizacja P 28 no.11:518-519 N '60.

1. Katedra Technologii Budowy Pojazdow Mechanicznych, Politechnika, Warszawa.

BIALKO, T.

Drawing technique. Pt. 2. p.160

(PRZEGLAD KOLEJOWY DROGOWY. Vol. 9, No. 7, July 1957. Warszawa, Poland)

SO: Monthly List of East European Accessions (EEAL) LC. Vol. 6, No. 10, October 1957. Uncl.

43752
S/081/62/000/023/056/120
B160/B186

11.1160

AUTHORS: Białas, Tadeusz, Migduła, Juliusz

TITLE: Production of 98% nitric acid

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 23, 1962, 454-455, abstract 23K100 (Pol. pat. 44899, Sept. 21, 1961)

TEXT: The waste water from the cooler, formed during the production of 98% HNO_3 by the absorption of nitrous gases in nitrooleum, and about 25% of the waste water from the oxidation tower are fed directly to the bottom of an absorption tower where they are mixed with nitrooleum at a temperature of -10 to -12°C in the presence of uncompressed O_2 arriving at the rate of 6-7% with nitrous gases. Under these conditions the reaction $N_2O_4 + H_2O + \frac{1}{2}O_2 = 2HNO_3 + 31.89$ kcal. The O_2 consumption is 165 m^3 per ton of 98% HNO_3 produced. [Abstracter's note: Complete translation.]

Card 1/1

BIALAS, T.

"Vacuum gauge calibration system 010^{-2} 10^{1} mmHg)" by A. Flanick, J. Ainsworth. Reviewed by T. Bialas. Pomiary 9 no.1:47 Ja '63.

BIALAS, T. -

"The tensimeter, a new vacuum gauge." Reviewed by T. Bialas. Pomiary 9 no.1:47 Ja '63.

BIALAS, T.

"Ultrapressure engineering" by A. Zeitlin, J. Brayman.
Reviewed by T. Bialas. Pomiary 9 no.1:47 Ja '63.

BIALAS, T.

"Calibration methods of very high pressure instruments" by J. Zelcer. Reviewed by T. Bialas. Pomiary 9 no.1:47 Ja '63.

BIALAS, T.

"Manometer with contactless device for border value indication." Reviewed by T. Bialas. Pomiary 9 no.1:47-48 Ja '63.

BIALAS, T.

"Manometers for distant measurements." Reviewed by T. Bialas.
Pomiary 9 no.1:48 Ja '63.

BIALAS, T.

"Pressure gauge tester of the 0.02 from 0 to 2,5 KG/cm^2 class" by W. Gramieniecki, J. Frolow, K. Chansuwarow. Reviewed by T. Bialas. Pomiary 9 no.1:48 Ja '63.

BIALAS, T.

"The piston barometer, a measuring instrument for air pressure measurements" by G. Koschel. Reviewed by T. Bialas. Pomiary 9 no.1:47 Ja '63.

AUGUSTYNIAK, Kazimierz; BIALAS, Zygmunt

Lithofacial differentiation of the Zacler strata in the central Sudeten Basin. Kwartalnik geol 5 no.4:980-981 '61.

1. Dolnoslaska Stacja Terenowa, Instytut Geologiczny, Warszawa.

BIALAS, Zabawa, A.; SKULSKA, E.; WALACH, Z.

Relative line strengths in the doublets of the spark spectra of Mg II, Ca II, Sr II, and Ba II. Acta physica Pol 26 no.2:175-183 '64.

1. Institute of Physics of the Jagiellonian University, Krakow.

L 21431-65 EWT(d)/EWP(1) Po-4/Pq-4/Pg-4/Pk-4/Pl-4 IJP(c)/AFDM(c) BC
ACCESSION NR: AP5002513 P/0031/64/009/004/0413/0426

AUTHOR: Bialasiewicz, J. (Byalasevich, Ya.) B

TITLE: On a method for determining physical parameters of a linear system

SOURCE: Archiwum automatyki i telemechaniki, v. 9, no. 4, 1964, 413-426

TOPIC TAGS: linear control system, physical parameter determination, Fredholm integral equation, autocorrelation function, cross correlation function

ABSTRACT: A method is presented for approximate determination of the physical parameters of a model of a system described by a linear differential equation with constant coefficients. The mathematical problem is proposed in the form of the frequency response $g^*(\tau)$ and its approximate physical parameters are sought such that the mean square error between the output signals of the system and of its model is minimal. Under the assumption that the autocorrelation function of the input signal of the system is known and that the

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cross-correlation function of the input and output signals is measurable, the following approximation of $g^*(\tau)$,

$$g(\tau)=\begin{cases}0 & \text{for } \tau>T\\ g^*(\tau) & \text{for all other } \tau \text{ values}\end{cases}$$

is taken, where T is an arbitrarily chosen constant. The accuracy of approximation depends on the selection of T. For the selected value of T, the problem of determining the approximate physical parameters $g(\tau)$ is reduced to solving a Fredholm-type integral equation of the first kind with a symmetrical kernel. If the input signal of the system is so chosen that the orthonormal system of eigenfunctions of the autocorrelation function is complete in L^2 space, then a system of equations can be derived from which approximate values of physical parameters of the model can be calculated. The problem of selecting the input signal and of determining the corresponding eigenfunctions and eigenvalues of the autocorrelation function of a selected signal is also analyzed. Orig. art. has: 5 figures and 45 formulas.

ASSOCIATION: none

L 21431-65
ACCESSION NR: AP5002513

SUBMITTED: 01Jun64 ENCL: 00 SUB CODE: MA

NO REF SOV: 001 OTHER: 006 ATD PRESS: 3166

Card 3/3

ACC NR: AP7001173 SOURCE CODE: PO/0031/66/011/004/0435/0444

AUTHOR: Białasiewicz, Jan — Byalasevich, Ya.

ORG: Institute of Automation of the Polish Academy of Sciences (Instytut automatyki PAN)

TITLE: Application of the linear decision function to recognition of technological situations

SOURCE: Archiwum automatyki i telemekhaniki, v. 11, no. 4, 1966, 435-444

TOPIC TAGS: pattern recognition, decision function, learning system, stochastic approximation method

ABSTRACT: It is assumed that the state of a technological process (the technological situation) is described by a certain set of parameters defining the point (vector, $v = (x_1, \ldots, x_n, y_1, \ldots, y_e)$ in the $n + 1$ dimensional Euclidean space R_{n+1} and that these parameters are chosen in such a manner that the technological situations to be recognized correspond to nonintersecting sets. Two groups of parameters in the vector are distinguished: a) $x_1, \ldots x_n$ defining the point $x(x_1, \ldots x_n)$ in space R_n are parameters which can be measured during normal operation of the technological system; and b) $y_1, \ldots y_e$) in space R_e are parameters which can not be measured during normal operation of the technological system. A rule is sought which makes it possible to recognize technological situations on the basis of vectors $x \in R_n$. This consists in the construction of a decision function by

ACC NR: AP7001173

which situations are separated into classes. An algorithm for synthesizing such an optimal decision function (in the sense of the minimal frequency of the decision error) is derived by using the method of stochastic approximations. For the sake of simplicity, a linear decision function defined in space R_n is constructed such that its values define the number of situations to be recognized. The realization of the synthesis of the decision function on a digital computer is given for the case when the number of situations $m = 2$ and the space of measurements is R_2. Results obtained for a concrete example by means of the UMCl digital computer are presented. Orig. art. has: 4 figures, 43 formulas, and 1 table. [LK]

SUB CODE: 12/ SUBM DATE: 12Jan66/ ORIG REF: 002/ OTH REF: 001/ ATD PRESS: 5109

Card 2/2

BIALASIEWICZ, Jan, mgr inz.

Certain applications and development prospects of industrial adaptive control systems. Pomiary 10 no.2:59-60 F'64.

1. Zaklad Teorii Sterowania, Instytut Automatyki, Polska Akademia Nauk, Warszawa.

BIALASIEWICZ, Jan

A certain method of identifying the physical parameters of linear systems. Archiw automat 9 no.4:413-426 '64.

POLAND

BIALASIEWICZ, Jan

Automation Institute, Polish Academy of Sciences (Instytut Automatyki PAN)

Warsaw, Archiwum automatyki i telemechaniki, No 2, April-June 1965, pp 227-237

"Multidimensional model of object recognition process from information based upon the stochastic approximation method."

BIALCZAK, B.

A list of regional meetings organized by the Association of Polish Mechanical Engineers and Technicians in 1959. p.125

PRZEGLAD MECHANCZNY (Stowarsyazenie Inzynierow i Techników Mechanikow Poliskich) Warszawa, Poland. Vol.18, no.4, Feb. 1959

Monthly List of East European Accessions Index, (EEAI) LC, Vol. , no.66, June 1959
Uncl.

IALCZAK, B.

Scientific-technical cooperation of Poland with Socialist countries. p.126

PRZEGLĄD MECHANCZNY (Stowarsyazenie Inzyinerow i Techników Mechanikow Poliskich) Warszawa, POland. Vol.18, no.4, Feb. 1959

Monthly List of East European Accessions Index (EEAI) LC, Vol.8, no.66, June 1959
Unl.

BIALCZAK, Boguslaw, mgr.inz.

Sewing machines - a valuable export article. Przegl techn no.33: 5 17 Ag '60.

BIALCZYNSKI, Henryk (Plock); CHOJNACKI, Jakub (Plock)

The city of Plock in the past, now, and in the future. Przegl budowl i bud mieszk 34 no.4/5:202-206 Ap-My '62.

HUBER, Zdzislaw; PRUSZEWICZ, Antoni; SZMEJA, Zygmunt; BIALEK, Edmund

Studies on smell, taste, hearing, balance, vision and surface sensation after anterior temporal lobectomy. Neurol. neurochir. psychiat. Pol. 15 no.3:475-480 My-Je '65.

1. Z Kliniki Neurochirurgii AM w Poznaniu (Kierownik: doc. dr. med. H. Powiertowski) i z Kliniki Otolaryngologicznej AM w Poznaniu (Kierownik: prof. dr. med. A. Zakrzewski).

86724

9,6100
13,2500

P/034/60/000/010/001/005
A225/A026

AUTHOR: Białęcki, Andrzej, Master of Engineering

TITLE: An Analysis of the Possibilities of Using the Gyroscopic Effect of the Orbital Movement of Elementary Particles for the Measurement of Angular Velocity

PERIODICAL: Pomiary - Automatyka - Kontrola, 1960, No. 10, pp. 386 - 391

TEXT: The article presents theoretical possibilities for measuring the angular velocity on all kinds of vehicles (mainly air planes, or later spaceships) not by means of the conventional mechanical gyroscopes, but by replacing the rotating disk by electrons with accelerations up to the speed of light. He emphasizes on several occasions that his idea of an electronic gyroscope is purely theoretical, and represents principles rather than mechanical solutions; their realization will be the matter of a probably distant future. After describing the function of a mechanical gyroscope, he describes a "gyrotron" (Fig. 2), which also operates by making use of the existing Coriolis force of inertia, but the rotating disk is replaced by a tuning fork with both its prongs representing the measuring masses m and vibrating along the axis y at a frequency ω, under the

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An Analysis of the Possibilities of Using the Gyroscopic Effect of the Orbital Movement of Elementar Particles for the Measurement of Angular Velocity

influence of electromagnetic devices 1 and 2. The prongs of the tuning fork 3 are attached to the mount 5 by means of a spring 4 with a torque coefficient k, subject to the torsional force along axis z. The tuning fork tends to maintain a constant plane of vibration, while the mount 5 is turned at an angular velocity $\vec{\omega}_p$. This velocity may be regarded as a sum of the relative velocity $\vec{\omega}_w$ of the mount in regard to the fork and the velocity $\vec{\omega}_u$ of the fork (the velocity of propulsion). If the torque angle of the fork in regard to the mount is represented by the sign φ, then is, in a balanced position with $\omega_p = 0$, the φ also equal 0. The momentum of the inertia I of the masses m in regard to axis z is $I = 2 m r^2$. If λ represents the damping coefficient, then

$$\varphi = \frac{4 m a r \omega \omega_p}{\sqrt{(k - I\omega^2)^2 + \lambda^2\omega^2}} \cos(\omega_t - \varphi_1) \qquad (15)$$

Another method is the use of electronic accelerators with an orbital movement of particles. In accordance with the Biot-Savart Law an electric charge e propelled in a magnetic field at a velocity v is subject to force $\vec{F}_m = \vec{ev} \cdot \vec{H}$, in which $\vec{H}$

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A225 A026

An Analysis of the Possibilities of Using the Gyroscopic Effect of the Orbital Movement of Elementar Particles for the Measurement of Angular Velocity

is the intensity of the magnetic field. An injector injects electrons into the accelerator at a distance r from the center. The torque $\vec{K_0}$ of the system for N particles will be:

$$\vec{K_0} = \sum_{i=1}^{i=N} m_i \vec{r_i} \cdot \vec{v_i} . \qquad (21)$$

The total acceleration p_{bz} of a particle m is the sum of the relative acceleration p_{wz} plus propulsion p_{uz} plus the Coriolis force p_{cz} along the axis z. Contrary to a conventional gyroscope, where the measured deviation is proportional to the angular velocity of the rotor Ω, in an electronic gyroscope the amplitude Z decreases with the increase of the angular velocity Ω of particles in orbit. Another idea is an electronic gyroscope with sectional (angular) orbit consisting of straight sections connected by circular sections. The deviation from the original plane will result in a change of the course of electrons and a differing amplitude. The author describes his conception of the principles on which such an electronic gyroscope could be designed. It must contain the following basic parts: a magnetic field for bending the orbit of the particles; a vacuum

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An Analysis of the Possibilities of Using the Gyroscopic Effect of the Orbital Movement of Elementar Particles for the Measurement of Angular Velocity

chamber; an injector for launching particles into orbit; a system for maintaining their acceleration; a system for the measurement of their deviation z; a source of power and amplification. Optional are: a deflection system for projecting the particles on a fluorescent screen, and a device for counting the number of particles in orbit. Figure 6 represents graphically this idea. There are 6 figures and 11 references: 4 Polish, 6 Soviet and 1 Czechoslovak.

SUBMITTED: October 12, 1959

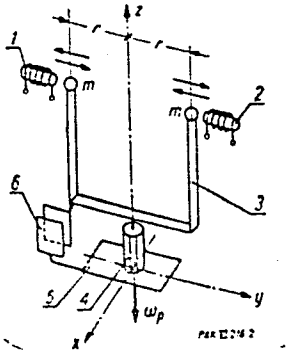

Figure 2: A diagram of the system of measurement of angular velocity by a gyrotron. 1 - 2 - electromagnets; 3 - tuning fork; 4 - spring; 5 - mount; 6 - gauge for the measurement of torque.

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86724

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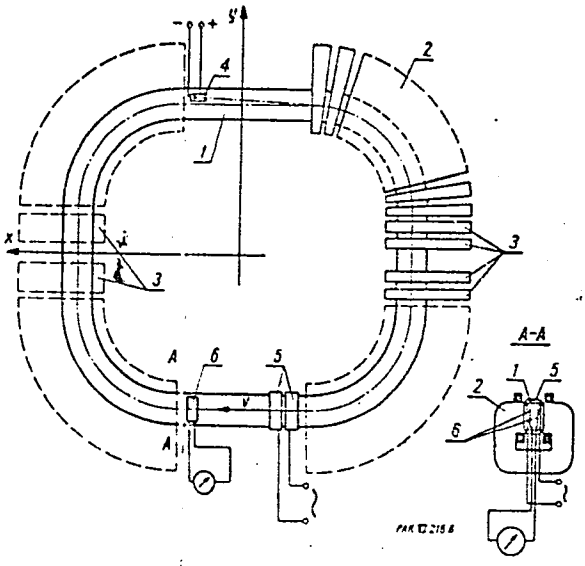
An Analysis of the Possibilities of Using the Gyroscopic Effect of the Orbital Movement of Elementar Particles for the Measurement of Angular Velocity

Figure 6. A provisional diagram of an electronic gyroscope. 1 - vacuum chamber; 2 - electromagnets; 3 - magnetic focusing lenses; 4 - injector of electrons; 5 - accelerating system; 6 - signal electrodes.



Card 5/5

26828
P/034/61/000/001/002/002
D235/D302

13,2520

AUTHOR: Białecki, Andrzej, Master of Engineering

TITLE: New kinds of gyroscopes

PERIODICAL: Pomiary, Automatyka, Kontrola, no. 1, 1961, 19 - 20

TEXT: The principles of a corpuscular gyroscope are described. The description is based on a paper by Holahan, which was translated into Russian, in "Voprosy raketnoy tekhniki (no. 1, 1960)". The title of the paper is 'Gyroscopes based on new principles'. In corpuscular gyroscopes the spin of elementary particles about their own axis is used in a similar fashion as rotors in ordinary gyroscopes. The whole phenomena is governed according to quantum mechanics. The angular speed of precession is given by Eq. (1) and the frequency of precession by Eq. (2). e - electron charge: m - mass of particle; c - speed of light; μ - vector of magnetic moment; p - vector of mechanical moment; H -

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New kinds of gyroscopes

$$\omega = \frac{e}{2mc} H = \frac{\mu}{p} H \qquad (1)$$

$$f = \frac{\omega}{2\pi} = \frac{\mu}{2\pi p} H \qquad (2)$$

constant of magnetic field. The mechanical moment is defined by Eq. (3).

$$\mu = \frac{h}{2\pi} \qquad (3)$$

h - Planck's constant. Ratio μ/p is about 0 to 0.3 for electrons and about 5.3 for protons. In practical cases the frequency of precession is about 40 Mcs. There are enormous practical difficulties in designing the system as the change in

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D235/D302

New kinds of gyroscopes

frequency due to external forces is only about 1c/s. In the same paper, other gyroscopes are also mentioned: 1) Interaction of elementary particles and electromagnetic fields for the creation of inertia; 2) Hydrodynamic gyroscopes; 3) Interreaction of particles in inertial space; 4) Magneto hydrodynamic gyroscopes; 5) Gyroscopes with 3 degrees of freedom using processes in rigid bodies; 6) Elastic gyroscopes.

Card 3/3

BIALECKI, Arkady

Bath furnaces for zinc plating with forced circulation of furnace gases. Problemy proj hut maszyn 11 no.4:116-122 Ap '63.

1. Biprowumet, Bytom.

BIALECKI, Janusz

The new year and the calendar. Horyz techn 17 no.1: 13-14 Ja'64.

BIALECKI, Mieczyslaw; STERNAL, Marian

Microbiological determination of riboflavin in blood. Pat. polska 7 no.2:109-117 Apr-June 56.

1. Z Zakladu Patologii Ogolnej i Doswiadczalnej A.M. w Poznaniu Kierownik: prof. dr. A. Horst, Adres autora: Poznan, Zakl. Patologii A.M., ul. Fredry 10.
(VITAMIN B_2, in blood,
determ., microbiol. method (Pol))

SOBOTA, Stefan; BIALECKI, Mieczyslaw

Riboflavin in the blood of patients with progressive chronic rheumatism. Reumatologia Polska no.3:341-345 '60.

1. Z Zakladu Patologii Ogolnej i Doswiadczalnej AM w Poznaniu Z Oddzialu Chorob Zawodowych Wewnetrznych Szpitala im. F. Raszeji w Poznaniu Kierownik: prof. dr Antoni Horst
(ARTHRITIS RHEUMATOID blood)
(VITAMIN B2 blood)

CZARNECKI, Ryszard; BIALECKI, Mieczyslaw; BACZYK, Kazimierz; KOPCZYK, Teresa

Effect of therapeutic use of hemodialysis on riboflavin concentration in the blood. Polski tygod.lek. 15 no.43/44:1691-1693 24 O '60.

1. Z II Kliniki Chorob Wewnetrznych A.M., w Poznaniu; kierownik: prof.dr J.Roguski i z Zakladu Patologii Ogolnej A.M. w Poznaniu; kierownik: prof.dr A.Horst.
(DIALYSIS)
(VITAMIN B2 blood)

JAROSZEWICZ, Konstanty; BIALECKI, Maksymilian; WYSOCKA, Helena

A case of acute hemorrhage caused by a tumor of the jejunum. Polski tygod. lek. 16 no.38:1463-1464 18 S '61.

1. Z Oddzialu Chirurgicznego Szpitala im. Sebastiana Petryego w Sochaczewie; dyrektor Szpitala i ordynator oddzialu chirurgicznego: dr med. Konstanty Jaroszewicz.

(LEIOMYOMA compl)
(HEMORRHAGE GASTROINTESTINAL etiol)
(JEJUNUM neopl)

BIALECKI, M.

KALITKA, Edmund, inz.; BIALECKI, Marian, inz.

Transmission of radio time signals. Przegl kolej elektrotechn 13 no.10:296-299 '61.

BIALECKI, Mieczyslaw

Behavior of nicotinic acid in physical effort. Pol. tyg. lek. 17 no.35: 1370-1375 27 Ag '62.

1. Z Zakladu Patologii Ogolnej i Doswiadczalnej AM w Poznaniu; kierownik: prof. dr Antoni Horst.

(NICOTINIC ACID) (EXERTION)

BIALECKI, Mieczyslaw; NIJAKOWSKI, Feliks

Tissue and blood saturation with biotin in relation to the type of muscular work. Acta physiol. Pol. 16 no.3:401-405 My-Je '65.

1. Zaklad Patologii Ogolnej i Doswiadczalnej AM w Poznaniu (Kierownik: prof. dr. A. Horst) i Zaklad Teorii i Metodyki Sprotow Roznych WSWF w Poznaniu (Kurator Katedry: prof. dr. B. Kielczewski).

Bialecki, M.

POL.

3184

Przygrecki K., Bialecki M. Methods of Rail-End Surface Hardening.

„Metody powierzchniowego utwardzania końców szyn kolejowych". Przegląd Kolejowy. No. 4, 1954, pp. 133—136, 1 fig., 2 tabs.

The authors review modern rail-end surface hardening methods as practised in various countries both by steel works and along the railway track. These include: sorbitisation with rolling heat; sorbitisation in an oxy-acetylene flame; sorbitisation by means of high-frequency current induction heating; and, finally, the hardening of rail ends in the permanent way with an oxy-acetylene flame. The article contains technical specifications for rails with hardened ends, and results of Soviet experiments. The surface hardening method for rail ends effects economies by showing, in relation to non-hardened rail and as a result of abrasion and work-hardening, a 50 per cent reduction in rail wear. The authors suggest the introduction in Poland of the sorbitisation method of hardening the ends of rails by using rolling heat in steel works, and oxy-acetylene flame on the permanent way.

Distr: 4E2c

Effect of substitution of molybdenum by tungsten upon the properties of heat-treated steels. S. Przegaliński and M. Bialecki. *Prace Inst. Hutnic.* 10, 100–19(1958).—In 5 structural, heat-treated steels, which were Ni-Cr, Mn-Cr, and Cr steels, the Mo was replaced by W. The object was to find steels which do not show so much temper brittleness. Best results are obtained if W is substituted in steels free from Ni. In steels with Ni replacing Mo by 3 times the amt. of W will not lead to satisfactory results. The tensile strengths are hardly affected by such substitution, but the hardenability is somewhat impaired.

Werner Jacobson

BIALECKI, M.

M. Bialecki. "The Design of Automatic Central Telephone Exchanges for Railways in the Tesla Factories," Przeglad Kolejowy Elektro., Jul 56.

KALITKA, Edmund, inz.; BIALECKI, Marian, inz.

Transmission of radio time signals through "Western Electric" selectors. Przegl kolej elektrotech 14 no.2:47-50 F '62.

BIALECKI, Stanislaw

Tuberculosis of the knee. Wiadomosci lek. 7 no.1:53-57 Jan 54.
(TUBERCULOSIS, OSTEOARTICULAR,
knee)

BIALECKI, Stanislaw

Spinal tuberculosis. Wiadomosci lek. 7 no.2:98-102 Feb. 54.
(TUBERCULOSIS, SPINAL,)

BIALECKI, Stanislaw

Arthrosis deformans and its therapy. Wiadomosci lek. 7 no.4:255-259 Apr. 54.
(ARTHRITIS, RHEUMATOID, therapy,)

BIALECKI, Stanislaw, Warszawa, Lowicka 33 m.1

Typical fractures of radius. Wiadomosci lek. 7 no.11:579-582 Nov 54.
(RADIUS, fractures
Colles fract.)
(FRACTURES
radius, Colles fract.)

BIALECKI, Stanislaw (Warszawa, Lowicka 33 m. 1)

Surgical treatment of clubfoot and flatfoot paralysed in poliomyelitis. Chir.narz.ruchu 20 no.2:123-130 1955

1. Z Kliniki Ortopedycznej A. M. w Warszawie, Kierownik: prof. dr. A. Gruca.

(CLUBFOOT, complications, paralysis after polio.,surg.)
(FLATFOOT, complications, paralysis after polio., surg.)
(POLIO, complications, clubfoot & flatfoot paralysis, surg.)

BIALECKI, S.

"Operative treatment of paralyzed calcaneum. In English."

p. 99 (Bulletin) Vol. 4, no. 3, 1956
Varsovie, Poland

SO: Monthly Index of East European Accessions (EEAI) LC. Vol. 7, no. 4, April 1958

EXCERPTA MEDICA Sec.9 Vol.12/4 Surgery April 1958

1926. (511) THE TREATMENT OF MODERATE SCOLIOSIS BY ONE-STAGE SURGERY - Leczenie bocznych skrzywień kręgosłupa II stopnia zabiegiem jednoczasowym - Białecki S. Klin. Ortop. A.M., Warszawa - CHIR. NARZAD. RUCHU 1957, 22/3 (277-280) Graphs 1 Tables 1 Illus. 15

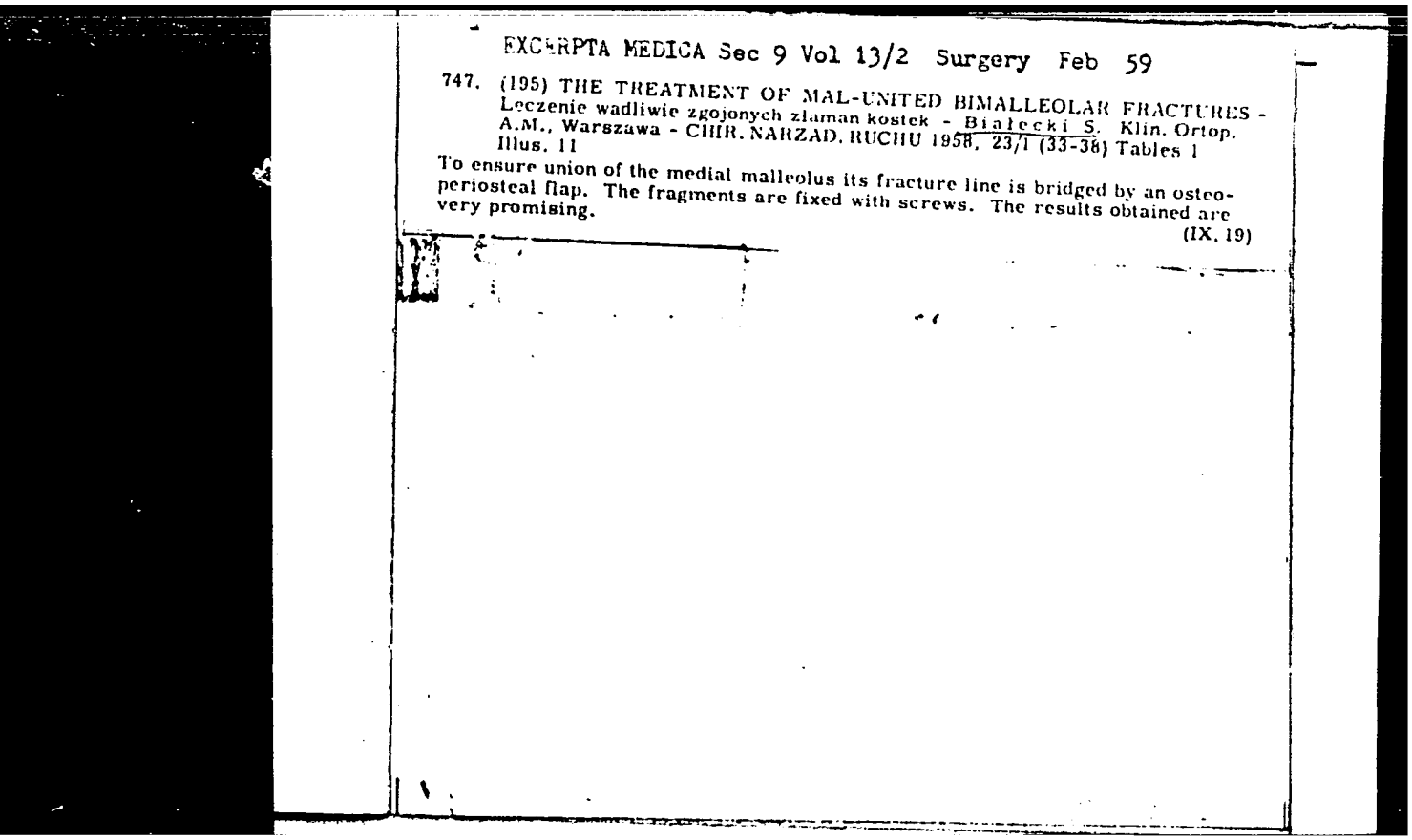
Sixteen patients, aged 5 to 19, with moderate curvature were operated on. In 10 cases 'liberation' of the spine was performed followed by insertion of a spring-screw distractor on the concave side of the primary curve. Nine curvatures improved, in one case stabilization was gained. Alloplasty was carried out in 3 cases. Improvement followed in one case, deterioration in the second one, and stabilization in the third one. Two cases in which liberation in conjunction with resection of paravertebral segments of the ribs had been performed deteriorated following operation. Facetectomy was also followed by deterioration. The conclusion is drawn that a one-stage operation for moderate scoliosis does not yield good results. A marked improvement may only be achieved by two or several successive operations. The objectives of operation are: (1) to improve mechanics of the spine and trunk by liberation of the spine and insertion of a distractor, and (2) to restore muscle balance by alloplasty.

BIALECKI, Stanislaw (Warszawa, ul. Lowicka 33.)

Surgical treatment of Paget's disease. Chir. narz. ruchu 13 no.2: 157-162 1958.

1. Z Kliniki Ortopedycznej A. M. w Warszawie Kierownik: prof. dr A. Gruca.

(OSTEITIS DEFORMANS, surgery
excis. & bone grafts (Pol))



EXCERPTA MEDICA Sec 9 Vol 13/2 Surgery Feb 59

747. (195) THE TREATMENT OF MAL-UNITED BIMALLEOLAR FRACTURES - Leczenie wadliwie zgojonych zlaman kostek - Białecki S. Klin. Ortop. A.M., Warszawa - CHIR. NARZAD. RUCHU 1958, 23/1 (33-38) Tables 1 Illus. 11

To ensure union of the medial malleolus its fracture line is bridged by an osteo-periosteal flap. The fragments are fixed with screws. The results obtained are very promising.

(IX, 19)

EXCERPTA MEDICA Sec 9 Vol 13/4 Surgery Apr 59

1718. (517) OPERATIVE TREATMENT OF PAGET'S DISEASE - Operacyjne leczenie choroby Pageta - Białecki St. Klin. Ortop. A.M., Warszawa - CHIR. NARZĄD. RUCHU 1958, 23/2 (157-162) Illus. 13

Two cases of Paget's disease were operated upon in Warsaw Orthopaedic Clinic; in one case three-quarters of the radius were excised, in another nearly the whole humerus was removed. The excised bones were replaced by fibular grafts. In both cases the grafts 'took' within a few months. A prolonged follow-up radiography and microscopy revealed recurrence of Paget's disease in the grafts. (IX, 12, 19*)

BIALECKI, Stanislaw; BIEZANSKI, Wieslaw; GAWLIK, Zbigniew

Radiological, anatomo-pathological and biochemical changes in the femoral heads with deforming changes. Chir.narz.ruchu ortop. polska 24 no.6:529-536 '59.

1. Z Kliniki Ortopedycznej AM w Warszawie. Kierownik: prof.dr A. Gruca. Z Zakładu Anatomii Patologicznej AM w Warszawie. Kierownik: prof.dr J. Dabrowska.
(FEMUR HEAD pathol.)

BIALECKI, Stanislaw

Remote results of surgical therapy of deforming changes of the hip joint with the aid of alloplasty. Chir.narz.ruchu ortop.polska 24 no.6:593-600 '59.

1. Z Kliniki Ortopedycznej AM w Warszawie. Kierownik: prof.dr A. Gruca.
(HIP surg.)

BIALECKI, S.; BOJKO, M.; JÓZEFACIUK, D.; LESZEK, H.; MICHALSKI, E.; RUSZCZYNSKA, J.; SARNECKA, D.; WOJCIECHOWSKI, J.

Causes of delayed union and pseudarthrosis of the long bone. Chir. narz. ruchu ortop. polska 26 no.5:597-604 '61.

1. Z Kliniki Ortopedycznej AM w Warszawie Kierownik: prof. dr. A.Gruca.

(FRACTURES UNUNITED etiol) (PSEUDARTHROSIS etiol)

BIALECKI, Stanislaw; MITROZEWSKA, Honorata; LITYNSKA, Jadwiga; JEDRZEJEWSKA, Halina

Complication of intra-articular unions in fractures of the knee and ankle joints. Chir.narz.ruchu ortop. polska 27 no.1:49-53 '62.

1. Z Kliniki Ortopedycznej AM w Warszawie Kierownik: prof. dr A.Gruca.

(KNEE fract & disloc) (ANKLE fract & disloc)

BIALECKI, Stanislaw; FUNA, Marian; SARNECKA, Danuta

Surgical treatment of post-inflammatory defects of the tibia. Chir. narz. ruchu ortop. polska 27 no.1:55-61 '62.

1. Z Kliniki Ortopedycznej AM w Warszawie Kierownik: prof. dr A Gruca.

(TIVIA dis)

BIALECKI, S.

Technic and result of surgical treatment of scoliosis in adults. Acta chir. orthop. traum. cech. 29 no.5:428-433 O '62.

1. Ortopedicka klinika lekarske akademie ve Varsave, prednosta prof. dr. A. Gruca.

(SCOLIOSIS)

BIALEK, Edmund; SLIWINSKA, Halina

Weltmann reaction in tonsillitis. Otolar. polska 10 no.3-4: 439-442 1956.

1. Z Kliniki Chorob Uszu, Nosa i Gardla PAM w Szczecinie Kierownik: prof. dr. J. Taniewski i z Centralnego Laboratorium P.S.K. w Szczecinie Kierownik: dr. H. Sliwinska, Szczecin, Spoldzielcza 11 m. 6.

(WELTMANN TEST, in various diseases, tonsillitis (Pol))
(TONSILLITIS, physiology, Weltmann test (Pol))

EXCERPTA MEDICA Sec.11 Vol.10/8 Oto-Rhino-Laryngo Aug57

BIALEK E.

1482. BIAŁEK E. and ŚLIWIŃSKA H. Klin. Otolaryngol. P.A.M. i Centr. Lab. P.S.K., Szczecin. *Średnie odczynów Weltmanna w przewlekłym zapaleniu migdałków podniebiennych. The average of Weltmann's reactions in chronic tonsillitis OTOLARYNG. POL. 1957, 11/1 (71-74) Graphs 2

The authors have examined 100 patients with chronic tonsillitis not complicated by other diseases and 35 patients with acute tonsillitis. The average of Weltmann's reaction for chronic inflammation is 675, this being consistent with the clinical picture of the disease.

BIALEK, Edmund

Morphogenesis of peritonsillar abscess. Otolar. polska 11 no.4:417-422 1957.

1. Z Kliniki Chorob Uszu, Nosa i Gardla P. A. M. w Szczecinie. Kierownik: prof. J. Taniewski.

(TONSILS, abscess
morphogenesis of peritonsillar abscess (Pol))

BIALEK, E.; TOKARZ, F.; SZMEJA, Z.

Otoneurological examination following brain stem injuries. Otolaryng. Pol. 16 no.1a:255-259 '62.

1. Z Kliniki Otolaryngologicznej AM w Posnaniu Kierownik: prof. dr med. A. Zakrzewski i z Kliniki Neurochirurgii AM w Poznaniu Kierownik: dr H. Powiertowski.

(BRAIN STEM wds & inj) (EAR physiol)

BIALEK, H.; Baumann, S.

Regulating work by the method of instantaneous observations. p. 245.
(SZKLO I CERAMIKA. Vol. 8, no. 9, Sept. 1957, Warszawa, Poland)

SO: Monthly List of East European Accessions (EEAL) LC. Vol. 6, No. 12, Dec. 1957. Uncl.

BIALEK, J.

Solubility of nicotinic acid in organic bases. Bul chim PAN 12 no.12:883-887 '64.

Solid--liquid equilibria of pyridinecarboxylic acid bisulfates. Pts.1-2. Ibid.:889-898

1. Department of Physical Chemistry of the Institute of General Chemistry, Warsaw. Submitted October 15, 1964.

BIALEK, Jozef, mgr

Permanent tool exhibition. Mechanik 34 no.9:486 '61.

1. Zjednoczenie Przemyslu Obrabiarek i Narzedzi, Warszawa.

BIALEK, Stanislaw

Compensation of the social security pension by damages provided by civil law. Praca zabezp spol 5 no.5:24-29 My '63.

TOKARSKI, Zbigniew, mgr inz.; BIALEK, Stanislaw, mgr inz.

Mining of seam No. 302 in the Komuna Paryska mine under an active fire area in seam No. 301. Przgel gorn 20 no.6: Supplement: Biul glow inst gorn 14 no.2:276-282 Je'64

BIALESKI, A.

Export of matches. (To be contd.) p. 18. (PRZEMYSL DRZEWNY, Warszawa, Vol. 6, no. 3, Mar. 1955.)

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 4, No. 1, Jan. 1955, Uncl.

BIALEVICH, Anton (Kalgas "Novaye zhutstse," Karelitski rayen) (MIRA 11:2)

It's good! Rab. i sial. 34 no.2:2-3 '58.
(Korelichi District--Flax)