

LITYNSKI, Adam; URBANIAK, Zb. Zenon

Influence of heating on the vitality of three-year-old seeds of common bird's foot-trefoil (*Lotus corniculatus* L.) examined immediately and at various intervals thereafter. Rocz nauk roln rosl 88 no.1:91-105 '63.

1. Zaklad Podstaw Rolnictwa, Politechnika, Warszawa.

ACC NR: AP6026732

(N)

SOURCE CODE: FO/0021/66/000/005/0188/0192

AUTHOR: Urbaniec, Krzysztof (Master Engineer)

ORG: Institute of Heat Engineering of Warsaw Polytechnical Institute (Instytut Techniki Ciepłej Politechniki Warszawskiej)

TITLE: Thermionic generators for nuclear power plants

SOURCE: Przegląd elektrotechniczny, no. 5, 1966, 188-192

TOPIC TAGS: nuclear power plant, thermionics, thermionic energy conversion, power generating station, nuclear power

ABSTRACT: The article discusses the principles underlying the application of thermionic generators in the conversion of heat generated by nuclear reactors to electrical energy, the fundamental problems associated with the use of such converters in industrial installations and the main trends of research in the field, and analyzes the possibility of using thermionic conversion with the various types of reactors. The study was undertaken because there is much to suggest that there is great advantage to be found in the thermionic conversion of heat to electric energy. Whereas the present article concentrates first of all on fundamental problems and the suitability of structural materials for long term operation under heavy duty conditions, the author indicates that a further study will turn attention to certain aspects of system design.

UDC: 621.362:621.039.577

Card 1/2

ACC NR: AP6026732

when using this method of energy conversion. Orig. art. has 5 figures, 14 formulas and 2 tables.

SUB CODE: 18,10/

SUBM DATE: none

ORIG REF: 012/

OTH REF: 013/

Card 2/2

8 (3)

POL/24-60-1-7/20

AUTHOR: Urbaniec, Martin, Engineer

TITLE: Polish Capacitors for Improving the Power Factor.

PERIODICAL: Wiadomości Elektrotechniczne, 1960, Nr 1, pp 15 - 16

ABSTRACT: The article gives brief information on the types of capacitors for improving the power factor, produced by the Zakłady Wytwórcze Podzespołów Telekomunikacyjnych (Telecommunication Parts and Accessories Producing Plant) "Telpod", in Cracow, 4 Lipowa Street. For inside use the KSTA type is manufactured for the following voltages: 220, 380, 500, 3000, 3030, 3640, 6000, and 6060 v a-c, 50 cps. At the end of this year a 9090 v type will be added. There are several power values for each voltage (either one or three phases). Up to 500 v can be supplied with or without enclosures. For mounting out of doors the KEZ type is manufactured. Among these, KEZ-E type has one pole connected to the outside, the other one isolated, the KEZ-I type has both poles isolated. Capacitors for other

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Polish Capacitors for Improving the Power Factor

POL/24-60-1-7/20

than the indicated voltages can also be produced according to the customer's specifications. The KSTA type accords with the Branch Standard RN-58/MPC-14001, while the KEZ type corresponds to the Technical Standard WT-58/E-16103.

There are 8 diagrams.

ASSOCIATION: "Telpod", Cracow.

Card 2/2

URBANIK, C.

The Radom Plants of the Lumber Industry discuss the five-Year Plan.

P. 33, (Przemysl Drzewny. Vol. 7, no. 2, 1956, Warszawa, Poland)

Monthly Index of East European Accessions (EFAI) LC. Vol. 7, no. 2,
February 1958

URBANIK, Edmund

Problems of wood protection, Przem drzew 13 no.1:22-24 Ja '62.

POLAND/Optics - Spectroscopy.

K

Abs Jour : Ref Zhur Fizika, No 4, 1960, 9953

Author : Urbanski, T., Kuczynski, W., Hofman. W., Urbanik, H.,
Witanowski, M.

Inst : -

Title : The Infrared Absorption Spectra of Extracted Coals

Orig Pub : Bull. Acad. polon. sci. Ser. sci. chim., geol. et
geogr., 1959, 7, No 4, 207-214

Abstract : In the region $750 - 4500 \text{ cm}^{-1}$, the authors have investigated the infrared absorption spectra of several natural coals with different degree of carbonization: brown coal (I), hard coal (III), and anthracite (III) after extraction with a mixture of benzene (70%) with ethanol (30%). It is noted that as the increase of the carbon contents in the specimens of the coal increases, the overall background of their spectral absorption increases, particularly in the short wave region, this being explained

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POLAND/Optics - Spectroscopy.

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Abs Jour : Ref Zhur Fizika, No 4, 1960, 9953

by the graphitization of the structure of the coal. In spectra of I, an intense absorption band near approximately 3350 cm^{-1} is observed, corresponding to the vibrations of the hydroxyl groups. Its intensity decreases with carbonization of the coal. In addition, bands are observed in the spectra near 1690 cm^{-1} (carbonyl group of aromatic ketones) a group of bands in the region of $1150 - 1280\text{ cm}^{-1}$ (valent vibrations of the C -- O bonds in phenols and ethers and deformation vibrations of the OH groups) and many absorption bands of silicate impurities. The intensities of the bands of absorption of organic impurities decreases upon going from spectra of I to the spectra of II and III. Bibliography, 11 titles. -- A.N. Sidorov

Card 2/2

Gibarak, K. Sur un tronc de J. F. Pál sur les couches

~~SECRET~~ ~~TOP SECRET~~ (1954)

This paper is motivated by the measure character form.

URBANIK, K.

PHASE I BOOK EXPLOITATION

POL/4231

Polskie towarzystwo matematyczne

Prace Matematyczne, I, 2 (Mathematical Transactions, Vol. 1, pt. 2).
Warszawa, Państwowe wyd-wo naukowe, 1955. 441 p. 1463 copies printed.
Errata slip inserted.

Editorial Committee: Władysław Orlicz (Chief Ed.), Stefan Drobot (Deputy
Chief Ed.), Adam Bielecki, Stanisław Hartman, Jan Mikusiński, Roman Sikorski,
Marceli Stark, Hanna Szmalzkowicz, Krzysztof Tatarkiewicz, and Włodzimierz
Wrona.

PURPOSE: This book is intended for mathematicians.

COVERAGE: The book consists of a collection of articles on analysis, series,
and function theory. Among the topics discussed are: the solution of
Diophantine equations, set translation, power series, measure by a function,
operational calculus, approximation of a function, and functional spaces.
References and summaries in English and Russian are found at the end of most
of the articles. No personalities are mentioned.

Card 1/3

Mathematical Transactions, Vol. 1, pt. 2

FOL/4231

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Mathematical Transactions, Vol. 1, pt. 2

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Życzkowski, M. On the Errors in Approximating a Function by the
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Reports From Scientific Sessions of the Polish Mathematical Society

415

AVAILABLE: Library of Congress

Card 3/3

AC/wbc/mas
9-16-60

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the hypothesis of measurement of a ...

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URBAN, K.

Urbanik, K.

400-200

1959
SOME REMARKS ON THE ASYMPTOTIC BEHAVIOUR OF
THE COSMIC RAY CASCADE FOR LARGE DEPTH OF THE
ABSORBER. I. ESTIMATION OF THE FACTORIAL MO-
MENTS. K. Urbanik (Polish Academy of Science, Wrocław).
Nuovo cimento (10) 2, Suppl. No. 4, 1147-9 (1955).
A mathematical estimation of the factorial moments of
nuclear cascades in homogeneous matter is developed.
(D.E.B.)

eng

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URBANIK, K.

Bulletin - Vol. 2, no. 8, 1954.

Limit properties of homogeneous Markoff processes with a denumerable set of states.
In English. p. 371.

SO: Monthly list of East European Accessions, (EEAL), LC, Vol. 4, No. 9, Sept. 1955
Uncl.

Urbanik, M.

Technical control increases the quality of production. p.12.
(HUTNIK vol. 5, no. 1, Jan. 1955, Praha)

EO: Monthly List of East European Accessions, (EEAL). LC, Vol. 4, No. 11,
Nov. 1955, Uncl.

"APPROVED FOR RELEASE: 04/03/2001

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IRPANIK R

APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R001858020010-6"

URBANIK, K.

Urbanik, K. Stochastic processes whose sample functions are distributions. Inst. Vorlesungen Math. Statist. (1956), 146-149 (Russian; English summary).

This paper gives definitions that permit a rigorous discussion of certain stochastic processes used in physics, such as the definition of a generalized stochastic process of stationary type. A sequence of sample functions $\{f_n\}$ of a stochastic process Φ is said to be fundamental if for each t and $\epsilon > 0$ there is an N such that for all $n, m \geq N$ and $s, t \in [0, \infty)$ it holds that $|f_n(t) - f_m(t)| < \epsilon$.

A sequence of sample functions is "fundamental" if there is a convergent sequence of processes F_n and integer k_n such that $F_n(t) = f_n(t)$ w.p. 1. Two sequences $\{f_n\}$ and $\{g_n\}$ are equivalent if, w.p. 1, $f_n = F_n(t)$, $g_n = G_n(t)$, $F_n \rightarrow 0$, $G_n \rightarrow 0$. A fundamental sequence determines a generalized stochastic process Φ , $f_n \rightarrow \Phi$ being the same for all sequences equivalent to $\{f_n\}$. The f_n sample functions define, w.p. 1, a distribution in the sense of Mikusiński, Bull. Acad. Polon. Sci. Cl. III 3 (1955), 589-591, MR 17, 594, for connection with the "distributions" of L. Schwartz, see J. Kozłowski, Nederl. Akad. Wetensch. Proc. Ser. A 58 (1955), 661-674, MR 17, 594. It is always possible to determine a given Φ by means of a sequence f_n whose sample functions are infinitely often differentiable w.p. 1, and $d\Phi/dt$ is defined as $\{f'_n\}$. $\Phi = \{f_n\}$ has independent increments, values if for each $t > 0$ and sufficiently

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Urbanik, K.

large n , I_n has independent (increments, values) for (intervals, points) whose distance is $\geq \epsilon$. Theorem: A generalized process has independent values if and only if it is a first order derivative of some generalized process with independent increments. Also treated are correlation functions, spectral representations, and an ergodic theorem for generalized second-order stationary processes. Proofs are not included.

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John

URBANIK, K.

"Stochastic Processes Whose Sample Functions Are Distributions"

Teor. Ver. i Yeye Prim., 1, No. 1. 1956
Sum 1137, 28 Nov 56

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$$E(q(\xi)|S(\xi)=n) = \frac{1}{\alpha\alpha} \sum_{k=1}^{\alpha} \frac{U_{k-1}}{k} \left(\frac{U_n}{U_{n-1}} \right)^{\frac{1}{k}}$$

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APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R001858020010-6"

URBANIK, K., Fisz, H.

Analytical characterization of a composite nonhomogeneous Poisson process.

In English. p. 328.

(STUDIA MATHEMATICA. Vol. 19, no. 3, 1984, Warszawa, Poland)

SO: Monthly List of East European Accessions (EeAL) 10. Vol. 1, no. 12, Dec. 1987.
Incl.

URBANIK, K.;ZIEBA, A.

URBANIK, K.;ZIEBA, A. Prediction of solar activity. p. 355.

Vol. 5, no. 2, 1956
ARCHIWUM ELEKTROTECHNIKI
TECHNOLOGY
Warszawa, Poland

So: East European Accession, Vol. 6, no. 2, Feb. 1957

URBANIK, K.

52-3-6/9

AUTHORS: Rubinshteyn, G. Sh. and Urbanik. K.

TITLE: Solution of an Extremal Problem. (Resheniye odnoy ekstremal'noy zadachi).

PERIODICAL: Teoriya Veroyatnostey i Yeye Primeneniya, 1957, Vol.II, Nr.3. pp.375-377. (USSR)

ABSTRACT: Let N be a set of pairs of integers $\langle i, j \rangle$ ($i, j = 1, 2, \dots, h$), and M a non-empty subset of N . We shall denote by $\mathcal{P}_M$ the class of all systems $P = \{p_{ij}\}$ ($\langle i, j \rangle \in N$) satisfying the following conditions:

$$p_{ij} \geq 0 \text{ for } \langle i, j \rangle \in N, p_{ij} = 0 \text{ for } \langle i, j \rangle \in N \setminus M,$$

$$\sum_{\langle i, j \rangle \in M} p_{ij} = 1.$$

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52-3-6/9

. Solution of an Extremal Problem.

Let

$$\Phi(P) = \sum_{\langle i, j \rangle \in N} p_{ij} \log \frac{p_{ij}}{\sum_{k=1}^n p_{ik} \sum_{l=1}^n p_{lj}}$$

The following theorem is proved:

$$\max_{P \in \mathcal{P}_M} \Phi(P) = \log r(M),$$

where $r(M)$ is the greatest number of pairs $\langle i_1, j_1 \rangle, \langle i_2, j_2 \rangle, \dots, \langle i_s, j_s \rangle$ belonging to M , such that

Card 2/3 $i_k \neq i_l \neq j_k \neq j_l$ for $k \neq l$ ($k, l = 1, 2, \dots, s$).

52-3-6/9

. Solution of an Extremal Problem.

This is an answer to a problem raised by A. N. Kolmogorov.

SUBMITTED: May 7, 1957.

AVAILABLE: Library of Congress.

Card 3/3

U.S.S.R., A
RUBINSHTEYN, G.Sh. (Leningrad); URBANIK, K. (Wroclaw).

Solving an extremal problem [with summary in English]. Teor. veroiat.
i ee prim. 2 no.3:373-377 '57. (MLRA 10:11)
(Information theory)

URBANIK, K.

"On a stochastic model of a cascade"

p. 237 (Studia Mathematica, Papers issued by the Polish Academy of Sciences,
Vol. 16, no. 3, 1958, Warsaw, Poland)

Monthly Index of East European Accessions (EEAI) LC, Vol. 8, No. 1, Jan. 59.

URBANIK, K.

"Generalized stochastic processes"

p. 268 (Studia Mathematica, Papers issued by the Polish Academy of Sciences,
Vol. 16, no. 3, 1958, Warsaw, Poland)

Monthly Index of East European Accessions (EEAI) LC, Vol. 8, No. 1, Jan. 59.

URBANIK, K.

Local characteristics of generalized stochastic processes. In English. p. 199.

STUDIA MATHEMATICA. (Polska Akademia Nauk)
Warszawa, Poland.
Vol. 17, no. 3, 1958.

Monthly List of East European Accessions (EEAI) LC, Vol. 9, no. 2, Feb. 1960

Uncl.

URBANIK, K.

The conditional expectations and the ergodic theorem for strictly stationary generalized stochastic processes. In English. p.267.

STUDIA MATHEMATICA. (Polska Akademia Nauk)
Warszawa, Poland.
Vol. 17, no. 3, 1958.

Monthly List of East European Accessions (EEAI) LC, Vol. 9, no. 2, Feb. 1960

Uncl.

URBANIK, K.

A theorem on distributions integrable with even power. In English. p. 323.

STUDIA MATHEMATICA. (Polska Akademia Nauk)
Warszawa, Poland.
Vol. 17, no. 3, 1958.

Monthly List of East European Accessions (EEAI) LC, Vol. 9, no. 2, Feb. 1960

Uncl.

URBANIK, K.

Effective processes in the sense of H. Steinhaus. In English. p. 335.

STUDIA MATHEMATICA. (Polska Akademia Nauk)
Warszawa, Poland.
Vol. 17, no. 3, 1958.

Monthly List of East European Accessions (EEAI) LC, Vol. 9, no. 2, Feb. 1960

Uncl.

URBANIK, K.

16(1) PHASE I BOOF EXPLOITATION SOV/2660

Vsesoyuzny matematicheskiy s'ezd. 3rd, Moscow, 1956
Trudy. t. 4; Raznoye soderzhanie sektsionnykh dokladov. Doklady inostrannykh uchenykh (Transactions of the 3rd All-Union Mathematical Conference in Moscow, vol. 4; Summary of Sectional Reports, Reports of Foreign Scientists) Moscow, Izd-vo AN SSSR, 1959. 247 p. 2,200 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Matematicheskii Institut.

Rech. Ed.: G.M. Shvachko; Editorial Board: A.A. Abramov, V.G. Bilyarskiy, A.M. Vasil'yev, B.V. Medvedev, A.D. Mykhailis, S.M. Smirnov, G. L. Gulyaev, V.A. Uspenskiy, N.G. Chetaev, G. Ye. Shilov, and A.L. Shilov.

PURPOSE: This book is intended for mathematicians and physicists.

COVERAGE: The book is Volume IV of the Transactions of the Third All-Union Mathematical Conference, held in June and July 1956. The book is divided into two main parts. The first part contains summaries of the papers presented by Soviet scientists at the Conference that were not included in the first two volumes. The second part contains the text of reports submitted to the editor by non-Soviet scientists. In those cases when the non-Soviet scientist did not submit a copy of his paper to the editor, the title of the paper is cited and, if the paper was printed in a previous volume, reference is made to the appropriate volume. The papers, both Soviet and non-Soviet, cover various topics in number theory, algebra, trigonometry, differential equations, functional analysis, problems of mechanics and physics, computational mathematics, mathematical logic and the foundations of mathematics, and the history of mathematics.

Erl-Hardison, L. (Poland). On ergodic theorems 188

Gilbert, R. (Poland). On determinants in Banach space 188

Section on Probability Theory

Bartlett, M.S. (Great Britain). Application of probability theory and statistics to biology 189

Berg, J. (Czechoslovakia). On single-valued continuous functions of continuous functions 189

Bee, S.M. (India). Some remarks on the theory of evaluations 191

Bee, S.M. (India). On the analysis of growth functions 192

Urbanik, K. (Poland). Comments on the theory of generalized random processes 192

Card 30/34

URBANIK, K. (Wroclaw)

A-representation theorem for Marczewski's algebras. Fund mat 48
no.2:147-167 '60. (Zbl 10:1)

1. Mathematical Institute of the Polish Academy of Sciences.
(Aggregates) (Algebra)

URBANIK, K. (Wroclaw)

Remarks on compactly generated Abelian topological groups. Col math
7 no.2:187-190 '60. (EEAI 10:1)
(Abelian groups) (Topology)

ULLRICH, M. (Prague); URBANIK, K. (Wroclaw)

A limit theorem for random variables in compact topological groups.
Col math 7 no.2:191-198 (193-198 wanting) '60. (EEAI 10:1)
(Groups, Theory of) (Topology)

FAST, H.; URBANIK, K. (Wroclaw)

A characterization of step functions. Col math 7 no.2:251-254 '60.
(EEAI 10:1)

(Functions)

URBANIK, K.; WRIGHT, F.B.

Absolute-valued algebras. Bul Ac Pol mat 8 no.5:285-286 '60.

1. Tulane University of Louisiana, New Orleans, La. USA. Presented
by E. Marczewski.

(Algebra)

MARCZEWSKI, E.; URBANIK, K.

Abstract algebras in which all elements are independent. *Bul Ac
Pol mat* 8 no.5:291-293 '60.

1. Institute of Mathematics (Wroclaw Branch) Polish Academy of
Sciences. Presented by E. Marczewski.

(Algebra, Abstract)

URBANIK, K. (Wrocław)

A proof of a theorem of Zelazko on L^p -algebras. Col math 8 no.1:121-123 '61. (PZAI 10:5)

1. Mathematical Institute of the Polish Academy of Sciences.
(Algebra, Abstract) (Abelian groups)
(Topology) (Spaces, Generalized)

INGARDEN, R. S.; URBANIK, K.

Information as a fundamental notion of statistical physics. Bul Ac
Pol Ma. 9 no.4:313-316 '61.

1. Low Temperature Department. Wroclaw Branch, Institute of Physics,
Polish Academy of Sciences and Institute of Mathematics, Wroclaw Branch,
Polish Academy of Sciences. Presented by W. Rubinowicz.

33878

P/506/61/021/001/002/003
D234/D304

16.4200

AUTHOR: Urbanik, K. (Wrocław)

TITLE: Fourier analysis in Marcinkiewicz spaces

SOURCE: Polska Akademia Nauk. Instytut Matematyczny. Studia
mathematica, v. 21, no. 1, 1961, 93 - 102

TEXT: The author deals with the properties of generalized Fourier coefficients. The family of Fourier-Stieltjes coefficients is defined. A function is said to be m -periodic of period w if its m -spectrum consists only of multiples of $2\pi/w$. A theorem is established determining the set of Fourier-Stieltjes coefficients for such functions. There are 13 references: 10 Soviet-bloc and 3 non-Soviet-bloc. The references to the English-language publications read as follows: A.S. Besicovich, Almost periodic functions, Cambridge 1932; H. Bohnenblust and A. Sobczyk, Bull. Amer. Math. Soc., 44, 1938, 91-93.

ASSOCIATION: Instytut Matematyczny PAN (Institute of Mathematics,
PAS)

SUBMITTED: February 10, 1961
Card 1/1

X

33879

P/506/61/021/001/003/003
D234/D304

24.440
AUTHOR:

Urbanik, K. (Wrocław)

TITLE:

Joint probability distributions of observables in quantum mechanics

SOURCE:

Polska Akademia Nauk. Instytut Matematyczny. Studia mathematica, v. 21, no. 1, 1961, 117 - 133

TEXT: A definition of the joint probability of a system of observables is given and the following theorems are established: 1) Every system of observables associated with commuting operators is probabilistically definite; 2) If all operators corresponding to a system of probabilistically definite observables have pure point spectra, then they commute with each other; 3) If for every positive number c the potential energy V satisfies the condition

$$\lim_{x \rightarrow \infty} \int_x^{x+c} V(t) dt = \infty = \lim_{x \rightarrow \infty} \int_x^{x+c} (V(t) + t) dt$$

when the absolute value of x tends to ∞ , and the function $V(x) + x$

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D234/D304

Joint probability distributions of ...

is bounded below on the whole line, then the total energy and the position form a probabilistically indefinite system; 4) The joint probability distribution for the position and the linear momentum exists in a state if, and only if, the inequality

$$\int_{-\infty}^{\infty} e^{itx} \psi(y+t) \psi^*(y-t) dt \geq 0 \quad (5)$$

holds for all x and y . The joint probability distribution is always absolutely continuous and its density function is given by

$$g_{M,P}^{\psi}(x, y) = \frac{1}{2\pi} \int_{-\infty}^{\infty} e^{-itx} \psi(y + \frac{\hbar}{2} t) \psi^*(y - \frac{\hbar}{2} t) dt; \quad (6)$$

5) The linear momentum and the position are independent in a state if and only if the relation (11)

$$\psi(x) = c \sqrt{\frac{2a}{\pi}} \exp(-ax^2 + bx - \frac{(Reb)^2}{4a}) \quad (11)$$

holds almost everywhere, a being larger than 0, b and c being complex number and the absolute value of c equal to 1. There are 14
Card 2/3

Joint probability distributions of ...

P/506/61/021/001/003/003
D234/D304

references: 3 Soviet-bloc and 11 non-Soviet-bloc. The 4 most recent references to the English-language publications read as follows: H.A. Kramers, Quantum mechanics, Amsterdam 1957; P.A.M. Dirac, The principles of quantum mechanics, Oxford, 1958; S. Bochner, Harmonic analysis and the theory of probability, Berkeley - Los Angeles, 1955; M. Loeve, Probability theory, New York, 1955.

ASSOCIATION: Instytut matematyczny PAN (Mathematical Institute, PAS)

SUBMITTED: February 24, 1961

Card 3/3

X

URBANIK, K. (Wroclaw)

Absolute-valued algebras with an involution. Fund mat 49 no.3:247-258
'61.

INGARDEN, R. S. ; URBANIK, K. (Wroclaw)

Information without probability. Colloquium mathem 9 no. 1:131--150
1962.

1. Institute of Physics, Polish Academy of Sciences, Warsaw and
Mathematical Institute, Polish Academy of Sciences, Warsaw.

MARCZEWSKI, E.; URBANIK, K. (Wroclaw)

Abstract algebras in which all elements are independent. Col math 9
no.2:199-207 '62.

1. Mathematical Institute, Polish Academy of Sciences, Warsaw, and
Mathematical Institute, University, Wroclaw.

URBANIK, K.

The principle of increase of entropy for spin operators. Bul Ac
Pol mat 10 no.6:349-352 '62.

1. Institute of Mathematics, Polish Academy of Sciences, and
Institute of Mathematics, University, Wroclaw. Presented by
E. Marczewski.

URBANIK, K. (Wroclaw)

Generalized stationary processes of Markovian character. *Studia math*
21 no.3:261-282 '62.

1. Mathematical Institute, Polish Academy of Sciences, Warsaw.

24,5000

P/045/62/021/003/003/005
B137/B102

AUTHORS: Ingarden, Roman S., and Urbanik, Kazimierz

TITLE: quantum informational thermodynamics

PERIODICAL: Acta Physica Polonica, v. 21, no. 3, 1962, 281 - 304

TEXT: It is shown that a kind of thermodynamics, designated by the authors as "informational thermodynamics" or "A-thermodynamics", can be constructed on the basis of the "information" concept. Informational thermodynamics chiefly operates with the two concepts "information" and "expectation", both of which are functionals of the probability distribution. Informational thermodynamics is more abstract than the traditional one, which the authors call "probabilistic thermodynamics". In contrast to Jaynes (Ref., see below), who only uses operators with a limited number of proper values, also such operators with an unlimited number of proper values are discussed here, as belong to a specific class of so-called "thermodynamically regular" operators. It is shown that all other possible operators are unsuited for thermodynamic considerations. A Hermitian operator A, representing an arbitrary physical quantity, is thermodynamically regular, if its spectrum

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is discrete, and if there exists a real constant c so that

$\sum_{k=1}^{\infty} e^{c\lambda_k} < \infty$, where $\lambda_1, \lambda_2, \dots$ are eigenvalues of A . Boltzmann's "principle

of maximum probability" is replaced by that of "maximum information". A -entropy and A -temperature are defined. They become reduced to ordinary entropy and temperature if A is the operator H of total energy. For some operators A this approach leads to the new concept of a maximum (finite) A -temperature, where the A -temperature is variable within a limited range only. A few cases calculated as examples, namely, a spatially fixed fermion with $1/2$, a spatially fixed boson with spin 1, the linear harmonic oscillator, a free particle in a box, and the square of angular momentum show to what logical clearness informational thermodynamics is able to solve such problems. The three principal laws of A -thermodynamics are constructed and the assumptions regarding operator A are proved. The concepts "mixed state" and "statistical operator" are not used as they presuppose a probability distribution which mostly has to be taken from outside (quantum ergodic hypothesis). Since distribution probabilities are no longer of interest, these difficulties are eliminated in informational thermodynamics. /B

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Operators with finite temperature range have hitherto been unknown in physics. It is yet possible that such be encountered some day in plasma physics or astrophysics. The authors believe that a new virgin field of thermodynamics has been laid open to research. There are 11 references: 1 Soviet-bloc and 10 non-Soviet-bloc. The four most important references to English-language publications read as follows: Jaynes, E. T., Phys. Rev., 106, 602 (1957), Phys. Rev., 108, 171 (1957); Landau, L., and Lifshits, E., Statistical Physics, Pergamon Press, London, 1958; Quantum Mechanics, Pergamon Press, London, 1959; Tolman, R. C., The principles of Statistical Mechanics, Oxford University Press, London, 1938; Schrödinger, E., Statistical Thermodynamics, Cambridge University Press, Cambridge, 1952.

ASSOCIATION: Institute of Physics of the Polish Academy of Sciences and Institute of Theoretical Physics, Wrocław University, Wrocław (Ingarden, Roman S.); Mathematical Institute of the Polish Academy of Sciences and Institute of Mathematics Wrocław University, Wrocław (Urbanik, Kazimierz)

SUBMITTED: July 4, 1961
Card 3/3

URBANIK, K.

The limiting behavior of indecomposable branching processes. *Studia math* 22 no.1:109-125 '62.

1. Mathematical Institute, Polish Academy of Sciences, Warsaw.

URBANIK, K. (Wroclaw)

Reversibility in absolute-valued algebras. Fund mat 51 no.2:131-140 '62.

1. Institute of Mathematics, Polish Academy of Sciences, Warsaw.

URBANIK, K.

Remarks on independence in finite algebras. Col math 11
no.1:1-12 '63.

Remarks on ordered absolute-valued algebras. 31-39

1. Institute of Mathematics, University, Wroclaw, and
Mathematical Institute, Polish Academy of Sciences, War-
saw.

URBANIK, K.

Operations on probability measures admitting characteristic functions. Bul Ac Pol mat 11 no.4:165-168 '63.

1. Institute of Mathematics, Wroclaw Branch, Polish Academy of Sciences, and Institute of Mathematics, University, Wroclaw.
Presented by E. Marczewski.

URBANIK, K.

A representation theorem for γ^* -algebras. Fund math 52 no.3:
291-317 '63.

1. Wroclaw University, and Institute of Mathematics, Polish
Academy of Sciences. Fund math 52 no.3:291-317 '63.

URBANIK, K.

Prediction of strictly stationary sequences. Col math 12 no.1:
115-129 1964

Relative processes with continuous distribution functions. *ibid.* 113: 1-6 1964

1. Mathematical Institute, Italian Academy of Sciences, and
Mathematical Institute, University, Wrocław.

URBANIK, K.

Remarks on the entropy in quantum macrophysics. Col math 12
no 2:271-276 '64.

1. Institute of Mathematics of the Polish Academy of Sciences,
and Mathematical Institute of the Wroclaw University. Submitted
October 3, 1963.

URBANIK, K.

On algebraic operations in idempotent algebras. Bul Ac Pol math
12 no.12:739-742 '64.

1. Institute of Mathematics of the Polish Academy of Sciences
and Mathematical Institute of the Wroclaw University. Submitted
October 12, 1964.

URBANIK, K.

Generalized convolutions. Studia math 23 no. 3: 217-245 '64.

1. Mathematical Institute, Polish Academy of Sciences, and
Institute of Mathematics, University, Wroclaw.

Urbanikowa H.
GLOWACKA, Mirosława; PYTEL, Aleksy; URBANIKOWA, Halina; WYSOCKA, Krystyna

Case of pulmonary resection in a 3 1/2 year-old child with military tuberculosis complicated by bronchopleural fistula. Gruzlica
25 no.9:747-751 Sept 57.

1. Z II Kliniki Dziecięcej A. M. w Warszawie Kierownik: prof. M. Michałowicz. Z Kliniki Chirurgii Dziecięcej A. M. w Warszawie Kierownik: prof. J. Kossakowski. Z Zakładu Radiologii Pediatricznej A. M. w Warszawie Kierownik: prof. K. Rowinski.

(PNEUMONECTOMY, in various dis.

miliary tuberc. with bronchopleural fistula in child.,
case report (Pol))

(TUBERCULOSIS, MILIARY, in inf. & child
with bronchopleural fistula, case report (Pol))

URBANIKOWA, Halina; KANIEWSKA, Anna

Apparatus for maintaining infants in the vertical position during radiographic examination of the thorax. Polski przeegl. radiol. 23 no.5:337-339 S-O '59.

1. Z Zakladu Radiologii Pediatrycznej Akademii Medycznej w Warszawie Kierownik: prof. dr K. Rowinski.
(RADIOGRAPHY equip & supply)
(THORAX radiogra)

URBANIKOWA, Halina

On the usefulness of miniature roentgenographic examinations with a reference to damages caused by the irradiation. Gruslica 29 no.12: 1025-1030 D '61.

1. Z Zakladu Radiologii Pediatrycznej AM w Warszawie Kierownik Zakladu: prof. dr med. K. Rowinski z Wojewodzkiej Przychodni Przeciwgruzliczej w Warszawie Dyrektor: dr med. J. Gackowski.

(TUBERCULOSIS PULMONARY radiog)
(RADIATION INJURY)

DEKOWA SOKOLOWSKA, A.; BLAIM, A.; LISICKA, D.; STODULSKI, J.; URBANIKOWA, H.

A case of congenital flaccid bronchi in an infant. *Pediat. Pol.* 37
no.5:513-516 My '62.

1. Z II Kliniki Chorob Dzieci AM w Warszawie Kierownik: prof. dr med.
T. Lewenfisz-Wojnarowska z Kliniki Chirurgii Dziecięcej AM w Warszawie
Kierownik: prof. dr med. J. Kossakowski i z Zakładu Radiologii Pedia-
trycznej AM w Warszawie Kierownik: prof. dr med. K. Rowinski.

(BRONCHI abnorm)

URBANISKA-BONENBERG, Lucyna; WIERNY, Lech

Diagnostic difficulties in cases of hernia of the hiatus. Polski tygod. lek. 15 no. 22: 828-832 30 Wy '60.

1. Z II Kliniki Chorob Wewnętrznych Sl. A.M.; kierownik: prof. dr med. W. Zahorski i z Zakładu Radiologii Sl. A.M.; kierownik: doc dr med St. Matulewicz.

(HERNIA DIAPHRAGMATIC diag)

URBANKE, ALADAR

ZIATIC, Milena; URBANKE, Aladar

Granuloma fungoides. Radovi Med. fak. Vol.2:213-220 1953.

1. Iz Dermatoloske klinike (predstojnik akademik prof. dr. F.Kogoj)
i Patolosko-anatomskog zavoda Medicinskog fakulteta u Zagrebu
(v.d. predstojnika dr. B.Pelcic-Markovic). (Primljeno 20.VII.1953)
(MYCOSIS FUNGOIDES, pathol.)

URBANKE, A.

URBANKE, A.

Plexiform neuroma of the parotid gland. Radovi Med. fak. Vol. 3:
274-277 1953.

1. Zavod za patologiju i patolosku anatomiju Medicinskog fakulteta
u Zagrebu (V.d. predstojnika Dr. Markovic-Peicic B. Primaljeno
22.VII.1953)

(PAROTID GLAND, neoplasms

*neuroma, plexiform)

(NEUROMA

*parotid gland. plexiform)

RUSZKOWSKI, Ivan; URBANKE, Aladar

Giant-cell xanthomatous tumors of the synovial membranes.
Radove Med. fak. Zagrebu 1:21-31 1956.

(GIANT CELL TUMORS,
synovial giant cell xanthomatous tumors (Ser))
(SYNOVIAL MEMBRANE, neoplasms,
giant cell xanthomatous tumors (Ser))

URBANKE, A.
RUSZKOWSKI, I.; URBANKE, A.; KOVACIC, S.

Experimental research on regeneration of joint capsule of the
hip in dogs. Acta med. iugosl. 10 no.3:316-326 1956.

1. Ortopedska klinika Medicinskog fakulteta i Zavod za patologiju
i patolosku anatomiju Medicinskog fakulteta u Zagrebu.

(HIP, physiol.

regen. of hip capsule in dog (Ser))

URBANKE, Aladar; BUNAREVIC, Anka

On unusually large endocranial chordomas. Radovi med.fak., Zagreb ?
no.3:233-237 '59.

(CHORDOMA case reports)

(BRAIN NEOPLASMS case reports)

URBANKE, A.

On primary hemangioendothelial sarcoma of the spleen. Acta med. iugosl.
14 no.2:208-220 '60.

1. Patolosko-anatomski zavod Medicinskog fakulteta Sveucilista u
Zabrebu.

(SPLEEN neopl)

(SARCOMA case reports)

OBERMAN, B.; URBANKE, A.

On the so-called stromal endometriosis. Acta med. iugosl. 15 no.2:
214-226 '61.

(ENDOMETRIOSIS case reports)

BUNAREVIC, A.; URBANKE A.

Cytomegaly in adults. Acta med. iugosl. 15 no.2:227-239 '61.

1. Zavod za patologiju i patolosku anatomiju Medicinskog fakulteta
u Zagrebu.

(VIRUS DISEASES pathol.)

DEKARIS, Mihovil; DURST, Milan; URBANKE, Aladar; BAGOVIC, Pero

Pregnancy in a rudimentary cornu of the uterus bicornis. Rad. med. fak.
Zagreb. 10 no.2:95-113 '62.

(PREGNANCY COMPLICATIONS) (UTERUS)

IVANCIC, R.; URBANKE, A.; RADONIC, M.; KALLAI, L.; SARIC, S.;
ASPERGER, Z.; CEPELJA, Z.

Latent stenosis of the aortic isthmus. Liječn. vjesn. 85
no.2:183-186 '63.

(AORTIC COARCTATION)

S

BRALA, Z.; STULHOFER, M.; URBANKE, A.

Apropos of successful surgical therapy of a tumor of the carotid body (chemodectoma). Acta chir. Jugosl. 11 no.2: 157-161 '64

1. Kirurški odjel (Šef: prim. dr. B. Oberhofer) i Prosek-tura (Šef: dr. A. Urbanke), Opće bolnice "Dr. Ozren Novosel" u Zagrebu.

YUGOSLAVIA

URBANEC, Aladar, Dr; HLAVKA, Vladimir, Dr; CIGIT, Stjepko, Dr:
Institute of Pathology and Patho-Anatomy, Medical Faculty, University of Zagreb; Department of Pediatrics, Medical Center Sisak (Zavod za opstu patologiju i patolosku anatomiju Medicinsko fakulteta u Zagrebu; Djecji odjel Medicinskog centra Sisak).

"Acute Haemoperitoneum Due to Rupture of a Hepatic Tumor"

Zagreb, Radovi medicinskog fakulteta u Zagrebu, Vol 13, No 2, 1965, pp 167-173

Abstract /Authors' English summary/: Three cases of acute spontaneous haemoperitoneum with fatal termination are reported. The first case was an 18-month-old child with a hepatoblastoma of the liver, the second case was rupture of a primary carcinoma of the liver in a 56-year-old man, and the third case was a 34-year-old woman with rupture of a hepatic metastasis of primary solid carcinoma of the breast. The cause of the ruptures remained unexplained. The authors emphasize the significance of rupture of a primary or metastatic tumor of the liver in the differential diagnosis of an acute haemoperitoneum, especially since there have been cases described where intervention saved the patient's life. Pictures. 1 Yugoslav and 11 Western references. Manuscript received 12 Oct 1965.

1/1

FERIN, J.; URBANKOVA, G.; VLCKOVA, A.

Hygienic and toxicological problems of acrylonitrile and dimethyl-
formamide. Prac. lek. 13 no.8/9:466-468 N '61.

1. Ceskoslovenska akademia vied, Ustav experimentalnej mediciny
Slovenskej akademie vied, Bratislava, riaditel clen korespondent
SAV J. Antal, odd. hygieny, veduci akademik SAV V. Mucha.

(CYANIDES toxicol)
(FORMATES toxicol)
(OCCUPATIONAL DISEASES)

FERIN, J.; VLCKOVA, A.; URBANKOVA, G.

The clearing mechanism of the respiratory system. Bratisl.
lek. listy 43 Pt 2 no.7:411-416 '63.

1. CSAV - Ustav experimentalnej mediciny SAV v Bratislave,
riaditel clen koresp. SAV J. Antal, Dr. Sc.
(RESPIRATORY SYSTEM) (SILICON)
(RETICULOENDOTHELIAL SYSTEM)
(TRYPAN BLUE) (TITANIUM)

FERIN, J.; URBANKOVA, G.

"Memory test" in rats and its use for determining threshold
concentration of chemical substances. Activ. nerv. sup. 6
no. 1:54 '64

*

FERIN, Juraj; VLCKOVA, Angelika; URBANKOVA, Gertruda

Effect of trypan blue on the elimination of dust from the lungs.
Prac. lek. 16 no.5:202-203 J1 '64.

1. Ceskoslovenska akademia ved -- Ustav experimentalnej mediciny
Slovenskej akademie ved, oddelenie experimentalnej hygieny, Bra-
tislava.

FERIN, Juraj; REICHRTOVA, Eva; URBANKOVA, Gertruda; VLCKOVA, Angelika

Elimination of solid particles from the lungs and formation
of antibodies. Prac. lek. 16 no.9:410-412 N ' 64

1. Oddelenie experimentalnej hygieny Ustavu experimentalnej
mediciny Slovenskej akademie ved, Bratislava.

REICHTOVA, E.; FERIN, J.; URBANKOVA, G.

Contribution to the study of changes in the functional state
of the reticuloendothelial system in rats. Bratisl. lek. listy
44 no.12:714-718 D 31 '64

1. Oddelenie experimentalnej hygieny Ústavu experimentalnej
medicíny Slovenskej akadémie vied v Bratislave (riaditeľ člen
koresp. Slovenskej akadémie vied J. Antal, DrSc.).

FERIN, Juraj; URBANKOVA, Gertruda; VLCKOVA, Angelika

Influence of roentgen radiation on the elimination of solid particles from the lungs. Prac. lek. 17 no.3:105-106 Ap'65.

1. Oddelenie experimentalnej hygieny Ustavu experimentalnej mediciny Slovenskej akademie ved v Bratislave.

CZECHOSLOVAKIA UDC 612.014.434:613.842:616.24-003.65-034-092.1.9-092.9

PERIN, Juraj; URBANKOVA, Gertruda; VLCKOVA, Angelika; REICHRTOVA, Eva; Institute of Experimental Hygiene, Slovak Academy of Sciences (Ustav Experimentalnej Hygieny SAV), Bratislava.

"The Effect of Cold and of Cigarette Smoke on the Elimination of Dust from the Lungs."

Prague, Pracovni Lekarstvi, Vol 18, No 6 - 7, Aug 66, pp 263-264

Abstract /Authors' English summary modified/: Experiments on rats showed that both the stimuli investigated inhibit pulmonary clearance. The mechanism of the two stimuli is different in each case. Cigarette smoke inhibits ciliary activity; the cold induces a stress on the whole organism. 3 Tables, 1 Western, 5 Czech references. (Manuscript received 1 Dec 65).

LANIK, V.; KINDEBNAY, S.; L. SPISSAK, L.; URBANKOVA, H.; LANIKOVA, V.

Viewpoints on the syndrome of hip joint paralysis and its treatment.
Bratisl. lek. listy 45 no.2 :92-96 31 Ja '65

1. Detsky rehabilitačný ústav pro Detskej fakultnej nemocnici v Bratislave (veduci MUDr. V. Lanik); Ortopedická klinika lekárske fakulty Univerzity Komenského v Bratislave (veduci akademik J. Cervenansky) a Detsky ústav pre telesne chybných v Bratislave, Liečebné oddelenie (veduci primár MUDr. L. Spissak).

PADR, Zdenek; URBANKOVA, Jana; JEHLICKA, Stanislav

Paper chromatography of insulin. Cesk.farm. 4 no.6:311-313 JI '55.

1. Z Vyzkumneho ustavu pro farmacii a biochemii v Praze.
(INSULIN, determination,
chromatography)
(CHROMATOGRAPHY,
of insulin)

HRUSKA, Jiri, inz.; URBANKOVA, Zdenka, inz.

Disinfection plant of hospital waste water. Vodni hosp 13 no.6:
219-220 '63.

1. Krajsky projektovy ustav, Plzen.