

TFITBI, I.; N/CIA . . . .

Relation between the plasticity and life-span of certain cells.  
(Preliminary report). Stud. Arab. med. intern. Sci. 1964:1-2

NICOLAU, C.T.; BRATH, V.; TEITEL, I.

Utilization of radioactive iron in the study of sideroblastic genetic types. *Studii cerc. biologicale* 7: 1-10 (1964).

1. Laboratory of Biochemistry and Radioactive Isotopes, Center of Hematology, Bucharest. 2. Corresponding Member of the Rumanian Academy (for Nicolau). Submitted November 21, 1963.

NICOLAU, C. T., prof.; APATEANU, V., dr.; NICOARA, S., dr.; GRIGORIU, Gh., dr.;  
Colaboratori tehnici, GRIJOTTI, Fl.; RADULEANU, St.

Restoration of hematopoiesis with autologous bone marrow preserved in  
glycerol at 76 degrees, studied in dogs treated with E-39. Med. intern.  
13 no.10:1431-1437 0 '61.

(HEMATOPOIISIS)  
(ANTINEOPLASTIC AGENTS pharmacology)  
(BONE MARROW transplantation)

NIKOLAU, K.T. [Nicolau, C.T.], prof.; NIKOARA, S. [Nicoara, S.];  
APATYANU, V. [Apatianu, V.]; GRIGORIU, G.

Bone marrow donors; preliminary report. Probl.gemat. i perel.  
krovi no.2:38-40 '62. (MIPA 15:1)

1. Iz Bukharestskogo gematologicheskogo tsentra (dir. - prof.  
K.T. Nikolau).

(MARFOW---TRANSPLANTATION)

NICOLAU, C.T., prof.; GOMESCU, I., dr.; colaboratori tehnici GEORGIU, T.; SERBAN, C.

Experimental investigations of the etiology of leukoses. I. Induction of leukosis in H mice with acellular filtrates of Ehrlich's ascites carcinoma and transplantable L 10 sarcoma. *Med. intern.* 3:269-274 M: '62.

(LEUKEMIA virology)

(NEOPLASMS experimental)

NICOLAU, C.T.; GORESCU, I., dr.; colaboratori tehnici: GEORGIU, T.;  
SERBAN, C.

Experimental investigations of the etiology of leukoses. II. Induction  
of leukoses in H mice by injections of acellular extracts of bone marrow  
from acute human leukoses. Med. intern. 3:275-280 Mr '62.  
(LEUKEMIA virology) (BONE MARROW extracts)

NICOLAU, C.T.; NICOARA, S.; GRIGORIU, G.; APATEANU, V.

Rat-mouse heterologous bone marrow graft studied by means of the  
leukocyte alkaline phosphatase test. Stud. cercet. med. intern.  
3 no.2:265-273 '62.

(BONE MARROW transplantation) (LEUKOCYTES chemistry)  
(PHOSPHATASES blood)

NICOLAU, C.T.; APATEANU, V.; GRIGORIU, Gh.

Research on the value of splenectomy and corticotherapy in the conditioning of mice to obtain rat bone-marrow heterografts. Stud. cercet. med. intern. 3 no.5:641-646 '62.

(BONE MARROW) (TRANSPLANTATION) (IMMUNITY)  
(SPLENECTOMY) (ADRENAL CORTEX HORMONES)



NICOLAU, C.T., prof.; POEPA, Cecil, dr.; ENACHE, Fl., dr.

Comparative value of intravenous and intra-arterial transfusions in acute hemorrhagic shock in the terminal stage. Med. intern. 14 no.1: 25-32 Ja '62.

1. Lucrare efectuata la Institutul de Hematologie Bucuresti.  
(SHOCK therapy) (HEMORRHAGE complications)  
(BLOOD TRANSFUSION)

NICOLAU, C. T.

2

ROMANIA

NICOLAU, C. T., Professor, Corresponding Member of the Academy of  
the R.P.R.; FOYINO, Marilena, MD; APATANU, V., MD.

Center for Haematology, Bucharest (Centrul de hematologie,  
Bucuresti); Director: Professor C. T. Nicolau.- (for all)

Bucharest, Medicina Interna, No 12, Dec 61, pp 1425-1433

"Immunoserologic Control of Patients Transfused with Homologous  
Bone Marrow."

NICOLAU, C.T., GRIGORIU, Gh., dr.; APATEANU, Vl.; dr.; NICOARA, S., dr.

Sex chromatin. Med. intern. 15 no.3:263-272 Mr '63.

1. Lucrare efectuata la Centrul de hematologie, Bucuresti (director:  
prof. C.T. Nicolau).

(SEX CHROMATIN) (SEX DETERMINATION)

NICOLAU, C.T., prof.

Practical use of bone marrow transfusion in treatment of  
blood diseases. Med. intern. 15 no.12:1409-1416 D'63.

1. Lucrare efectuata in Centrul de hematologie, Bucuresti  
(director prof. C.T.Nicolau) si membru corespondent al Acade-  
miei R.P.R.

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NICOLAU, C.T., prof.; APATEANU, V., dr.; GRIGORIU, G., dr.; POPOVICI, C., dr.  
BIRZU, I., conf.; NECULA, V., dr.; GENGOLD, F., dr.; JOVIN, I., dr.  
GRIJOTTI, Florica, colaborator teh.; TEODORESCU, Viorica, colaborator teh.

Observations on technics of collection, preservation and administration of autologous bone marrow after radiotherapy and chemotherapy in neoplastic diseases. Med. intern. 15 no.12: 1417-1423 D'63.

1. Membru corespondent al Academiei R.P.R. (for Nicolau). 2. Centrul de hematologie (for Popovici). 3. Spitalul "Prof.dr. I. Cantucuzino" (for Necula). 4. Spitalul "Vasile Roaita" (for Jovin).

\*

NICOLAU, C.T., prof.; FOTINO, Marilera, dr.; APATEANU, V., dr.

Immunoserological control of patients treated with homologous bone marrow transfusion. Med. intern. 15 no.12:1425-1433 D'63.

1. Lucrare efectuata la Centrul de hematologie, Bucuresti (director: prof. C.T.Nicolau). 2. Membru corespondent al Academiei R.P.R. (for Nicolau).

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NICOLAU, Claude; HORER, Oswald; THOMAS, Ernest; STROESCU, Eugenia  
PASCARU, Iancu

Free radicals in enzymatic reactions. Pts. 1-2. Rev chimie  
Roum 9 no. 4:319-329 Ap '64.

1. Research Center of the Ministry of Health, Bucharest.

NICOLAU, C.T., prof.; TEITEL, P. dr.; TURCU, G.dr.; ERATU, V.dr.

Compensated chronic hemolytic disease with changes in erythrocytic energetic metabolism. Med. intern. 16 no.1:27-38 Ja'64

1. Lucrare efectuata la Centrul de hematologie, Bucuresti;  
director: prof. C.T.Nicolau, membru corespondent al Academiei  
R.P.R.

\*



NICOLAU, C.T., prof.; NICOARA, S., dr.; POPESCU, E.R., conf.; HIGENIU, A., dr.

Method of enriching cover-glass blood smears with leukocytes and thrombocytes. Med. intern. 16 no.1:117-124 Ja'64.

1. Lucrare efectuata la Centrul de hematologie, Bucuresti (director: prof. C.T.Nicolau, membru corespondent al Academiei R.P.R.).

\*

Radiology

RUMANIA

NICOLAU, Cl., Conf. Dr. [Affiliation not shown]

"Prevention and Treatment of Radiation **Sickness**. New Data on the Mechanism of Chemical Protection Against Radiation **Sickness**"

Bucharest, Revista Sanitara Militara, Vol 16, Special No., 1965; pp 333-339

**Abstract:** Review of literature studies with AET, Sodium diethyldithiocarbamate, N-acetyl homocysteine thiolactone, alpha, alpha-diphenyl-beta-picrylhydrazil. Biochemical methods of protection and of determining the degree of protection and the mode of action of the protective agent are discussed. 3 tables.

1/1

NICOLAE, G. I., prof.; TEITEL, P., asst. prof.; TAIGAN, S., dr.;  
TAIGAN, S., dr.

Frequency of changes in the plasticity and sensitivity of erythrocytes by autoantibodies in different blood diseases. 13 years of clinical experience in the use of the erythrocyte stability test. Med. Intern. (Berl.) 1970; 15: 14-15.

1. Lacrime efectuate in sindromul metabolic si functional a perfecti si a dezvoltarii a celulelor, Institutul de Farmaceutic, Bucuresti.

NICOLAU, C.T., prof.; IONESCU, V., dr. TITTEL, P., dr.; POPESCU, Doina T.,  
dr.; GHEORGHIU, Georgeta; ZAHARIA, Maria

Cytochemical determination of hemoglobin F as a diagnostic method  
in thalassemia. (Considerations on several clinical cases). Med.  
Intern. (Bucur.) 16 no.10:1181-1186 0 '64.

1. Lucrare efectuata in Centrul de hematologie (director: prof.  
C.T. Nicolau, membru corespondent al Academiei Republicii  
Populare Romine.

NICOLAU, C.T., prof.; APATEANU, V., dr.; GRIGORIU, Gh., dr.

Current status of the use of bone marrow transplants in  
therapeutics. Med. Intern. (Bucur) 17 no.2:129-139 P'65.

MILITARY MEDICINE, Vol. 117, No. 1, pp. 1-10.

Genesis of malignant lymphomas. *Med. Intern. Bucur.*  
1976;4:377-383. A; 1r5.

Central de hematologie si transfuzii, Bucuresti.

~~NICOLAI, C.T.~~ ~~MEITH, E., Jr.~~; ~~MIYU, Y.~~, ~~anim.~~; ~~ZEMEL, A.~~, ~~Asipina, Dr.~~  
Butolana, Piens, Dr.

Favorable therapeutic effect of adenosine triphosphate (ATP)  
in a case of compensated chronic hemolytic disease due to  
insufficiency of erythrocytic energetic metabolism. Med. Intern.  
(Bucur.) 10 no. 1:23-26, 1965.

1. lucrare efectuata in cadrul de hematologie, Bucuresti  
(director: prof. C.T. Nicolai).

NICOLAU, C.T., prof.; NICOARA, S., dr.; POPESCU, E., conf.; TAIGAR, Stela, dr.; BUTOIANU, Elena, dr.; URSEA, Constanta, dr.; POPESCU-RUT, Ileana, dr.

Cytochemical studies in 41 cases of acute leukemia. Med. intern. (Bucur) 17 no.5:515-530 My '65.

1. Lucrare efectuata la Centrul de hematologie, Bucuresti, in colaborare cu Clinica de hematologie, Institutul medico-farmaceutic, Bucuresti. 2. Membru corespondent al Academiei Republicii Populare Romine (for Nicolau).



NICOLAI, G.I.; TRITEL, P.; POCHHO, M.; BUCOLAN, E.; LIGAI, S.

The frequency of plasticity alteration and sensitization of erythrocytes with autoantibodies in various blood diseases. (Three years' experience in clinical application of the erythrocyte filtrability test.). *Biomed. med. rev.* 1977. 1: 20-29. Apr-Jun 77.

RUMANIA

NICOLAU, Cl., Conf. Dr., TOMAS, E.; OLINESCU, R.; CRISTEA, Al., CONSTANTI-  
NESCOU, Rodica; and STROESCU, Eugenia

"Activity of 2-Methyl-1, 4-Naphthoquinone Sodium Bisulfite (Vitamin K3)  
on Some Redox Enzymes"

Bucharest, Revista Sanitara Militara, Vol 16, Special No., 1965; pp 389-393

Abstract: In vitro studies to pinpoint mode of radiosensitizing effect of  
Vitamin K3 in study with ceruloplasmin, catalase, peroxidase, d-amino-  
acidoxidases. Results indicate that K3 vitamin has profound effect inhibit-  
ing or potentiating the enzymatic activities depending on its concentration.  
This is probably the mode of action of Vitamin K3 as radiosensitizer.

1/1

- 78 -

ANDREI, S., Ing.; B. S. P. N., Ing.; 1954, S.

Use of steel reinforcement in work for civil and industrial construction. Construction of no. 3:11-151 1954

1. Institute of Building and Construction Building  
Research Center of the State Foundation.

ROMANIA

BOSTANARU, V., Pharmacist, Lt-Col, NICOLAU, D., Pharmacist, and  
COSTINESCU, H., Dr, Lt-Col [affiliation not given]

"The Use of Plastic Packaging for the Conservation of Drugs in  
Maritime Climates."

Bucharest, Revista Sanitara Militara, Vol 62, No 1, Jan-Feb 66,  
pp 131-138.

Abstract: The authors examined the suitability of various  
types of plastics to supplement glass as the material for  
containers of drugs of different types in maritime climates.  
The advantages and disadvantages of the various plastics  
for specific uses are listed in tabular form.

Includes one table and 6 references, of which 2 are Rumanian,  
3 other Eastern European and one American. -- Manuscript  
submitted 23 May 1965.

1/1

NICOLAU, E.

"Propagation of radio waves" by F.B. Cernii. Reviewed by E. Nicolau.  
Electrotehnica il no.4:150-151 Ap '63.

NICOLAU, Edmond

Mathematical Review  
June 1954  
Mathematical Physics

Nicolau, Edmond. Relations de réciprocité et de conservation en électricité. Acad. Repub. Pop. Române. Bul. Şti. Sect. Şti. Mat. Fiz. 4, 739-749 (1952). (Romanian. Russian and French summaries)

L'auteur rappelle d'abord la manière dont on peut obtenir des relations de réciprocité à partir des systèmes d'équations aux dérivées partielles, linéaires et à coefficients constants; il applique ensuite la méthode aux systèmes d'équations décrivant: 1) les phénomènes électromagnétiques dans les diélectriques parfaits, homogènes et isotropes; 2) les phénomènes électriques sur les lignes de transmissions.

*From the author's summary.*

Nicolau, Edmond

Nicolau, Edmond. La déduction du théorème d'Oumov  
d'une relation de réciprocité. Com. Acad. R. P. Ro-  
manie 3, 121-124 (1953). (Romanian. Russian and  
French summaries)

I - F/W

Les petits mouvements d'un gaz parfait étant décrits  
par un système d'équations aux dérivées partielles, on  
détermine, en premier lieu, une formule de réciprocité qui  
relie deux groupes de solutions du système d'équations en  
question. Les inconnues du système sont l'excès de pres-  
sion  $p$  et la vitesse  $v$ . La formule de réciprocité ainsi  
établie jouit de la propriété suivante: si l'on arrive à faire  
coïncider les deux groupes de solutions, la formule de ré-  
ciprocité devient précisément la loi de conservation de  
l'énergie.

*Resumé de l'auteur.*

*AW*

Nicolau Edmond

3

Nicolau, Edmond. Remarques au sujet des ondes électromagnétiques. Acad. R. P. Române 3 (1953), 365-371. (Romanian. Russian and French summaries)

The author deduces from Maxwell's equations in Cartesian coordinates: If the electric vector depends only on  $z$  and  $t$ , then (apart from a static field) the magnetic vector does likewise, and both are parallel to the  $x, y$  plane. He makes similar observations for cylindrical and spherical waves.

A. Erdlyi (Pasadena, Calif.).

Phys  
1  
1-F/W

ADW



NICOLAU, Edmond

Nicolau, Edmond. Au sujet de la relation de Lorentz. 1 - F/W  
Acad. Repub. Pop. Romane. Bul. Sti. Sect. Sti. Mat.  
Fiz. 5 (1953), 191-193. (Romanian. Russian and  
French summaries)

The purpose of this note is to discuss whether the  
Lorentz condition between scalar and vector potential

(a)  $\text{div } A + \epsilon\mu\partial\phi/\partial t = 0$  or  $\text{div } A + \sigma\mu\phi + \epsilon\mu\partial\phi/\partial t = 0$

follows from the field equations. The author has shown  
that for two cases, (i) perfect homogeneous and isotropic  
dielectrics, (ii) homogeneous and isotropic conductors,  
(a) is independent of the field equations. The proof runs  
briefly as follows. Writing the field equations and (1) in  
operator form in a cartesian system  $\sum_{i=1}^3 V_i P_{ii} = 0$   
( $P_{ii} = \square - (X_i)^2$ ,  $X_i = \partial/\partial x_i$ ) and noticing that  $P_{ii}$ ,  $i \neq j$ ,  
contains  $X_j$  as factor, the author concludes that  $P_{ii}$  must  
also contain  $X_j$  as factor. Writing  $U_i = X_j V_i^*$ , the

7  
88

shows that  $U_0$  or condition (2) in  
field equations. N. Chako (New York, N.Y.)

NICOLAU, Edmond

"Reciprocity and conservation relations in electricity." Revue de Mathematiques  
et de Physique, Vol. 2, 1954

Nicolau, Edmond

Nicolau, Edmond. Transcription des équations max-  
imales de des tenseurs complexes. Com.  
MS Acad. R. P. Rouine 4, 6(3-619 (1954). (Romanian.  
Russian and French summaries)

I-F/W

*MS* ✓ Nikolaş, Edmond. L'étude d'un système différentiel non linéaire par une méthode électronique. Acad. Repub. Pop. Romine. Bul. Şti. Sect. Şil. Mat. Fiz. 6, 945-953 (1954). (Romanian. Russian and French summaries) L'Auteur montre la manière dont on peut étudier le système différentiel non linéaire:  
$$\frac{dx}{dt} = f(x, y), \frac{dy}{dt} = -kx + \mu f(x, y, \lambda)$$
 par une méthode électronique.  
*From the author's summary.*

1 - F/W

NICOLAU, E.

Exact Determination of the Difference between the Principle Tensions  
by Photoelasticity Measurements with the "Coker" Compensator. Studii Si  
Cercetari De Mechanica Aplicata (Studies and Research in Applied Mechanics),  
#1-2:181:Jan-Jun 55

NICOLAU, E.

Properties of orthogonality of fields in endovibrators,  
p. 1059.  
Academia Republicii Populare Romine. COMUNICAIILE.  
Bucuresti.  
Vol. 5, no. 7, July 1955

SOURCE: East European Accessions List (EEAL) Library of Congress,  
Vol. 5, No. 12, December 1956

NICOLAU, E.

Characteristic property of cylindrical endovibrators. p. 1161.  
COMUNICARILE. Bucuresti. Vol. 5, no. 8, Aug. 1955.

SCURCE: East European Accessions List (EEAL) Library of Congress  
Vol. 5, No. 7, July 1956.

NICOLAI, E.

Conservation of ~~power~~ and of impulse in ~~vents~~ with electromagnetic  
viscosity. p. 1457      COMUNICARILE Bucuresti Vol 5, no 10, October 1955

SOURCE: East European Accessions Lists (EEAL) Library of Congress  
Vol. 5, No. 12 December 1956



NICOLAU, E.; ARCAN, M.

Graphic method of separation of principal tensions in photoelasticity.

P. 491. Academia Republicii Populare Romine. Institutul de Mecanica Aplicata.

STUDII SI CERCETARI DE MECANICA APLICATA. Bucuresti. Vol. 2, no. 3/4,

July/Dec. 1955

So. East European Accessions List Vol. 5, no. 9 September, 1956

Rumania/Radiophysics - Superhigh Frequencies, I-11

Abst Journal: Referat Zhur - Fizika, No 12, 1956, 35439

Author: Nicolau, Edmond

Institution: None

Title: General Properties of Waveguides

Original  
Periodical: Studii si cercetari fiz., 1955, 6, No 4, 759-768; Rumanian;  
Russian and French resumes

Abstract: None

Card 1/1

NICOLAU, E.

Conserving Energy and Impulses in (Telegraph) Communication Lines under  
Harmonic Conditions. ELECTROTECHNICA (Electrical Engineering, ) #7:268:July 55

NICOLAU, E.

Concerning the Measurement of Condenser Losses with the Q-meter.  
ELECTROTEHNICA (Electrical Engineering) #9:408:Sep 55

*Nicolau, Edm.*  
RUMANIA/Magnetism - Ferrites

F-6

Abs Jour : Referat Zhur - Fizika, No 5, 1957, 12027

Author : Nicolau, Edm.

Inst :

Title : On the Measurement of Ferrites.

Orig Pub : Electrotehnica, 1956, 4, No 6, 272-276

Abstract : The author gives results of an experimental investigation on the properties of ferrites and draws many conclusions on their measurements. It is indicated, that many radio-frequency measurement methods cannot be employed with ferrites, since their permeability depends substantially on the applied field.

Card 1/1

NICOLAU, E.

NICOLAU, E. Elementary introduction to cybernetics. P. 361.

Vol. 4, No. 8, August 1956

ELECTROTEHNICA

TECHNOLOGY

Bucuresti

So: East European Accession, Vol. 6, No. 3, March 1957

NICOLAI, E.

NICOLAI, E. Use of electronic calculators in automatic machinery. p. 456

Vol. 4, no. 10, Oct. 1956  
ELECTROTECHNICA  
TECHNOLOGY  
Rumania

So: East European Accession, Vol. 6, No. 5, May 1957

NICOLAU, E.

Exact determination of the difference of principal tensions through photo-elasticity by means of the Coker compensator. p. 181. STUDII SI CERCETARI DE MECANICA APLICATA. Bucuresti. Vo. 6. no. ~~2~~ Jan/June 1956.

SOURCE: EEAL LC Vol 5. No. 11. Nov. 1956



NICOLAU, Ed.

F-5

Category : RUMANIA/Magnetism - Ferrites

Abs Jour Ref Zhur - Fizika, No 2, 1957, No 4043

Author : Labusca, Elena; Ionescu, M., Nicolau, Ed.

Title : Experimental Investigation of Nickel and Copper Ferrites.

Orig Pub Commun Acad RPR, 1956, 6, No 5, 649-654

Abstract : Using methods that are peculiar to powder metallurgy, the author had developed a method for obtaining magneto-dielectric materials of the double nickel ferrite type. The method consists of pressing and sintering a suitable mixture of pure oxides of Fe, Ni, and Zn. The double ferrite has magneto-dielectric properties, contributing to its use at high frequency, and is characterized by a high resistance (small volume losses). To be usable in the frequency band of 0.15 -- 4.5 mc, the ferrite composition should have a NiO/ZnO ratio of 0.35 and a ratio  $(NiO + ZnO)/Fe_2O_3 = 1$ .

Card : 1/1

NICOLAU, "

Contributions to the application of analogy with the membrane in the study of tensions of torsion.

P. 485 (Academia Republicii Populare Romine. Institutul de Mecanica Aplicata. STUDI SI CERCETARI DE MECANICA APLICATA. Vol. 7, no. 2, Apr./June 1956. Bucuresti, Romania)

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

*NICOLAU, EDMOND*

PHYSICS/Radiation - Generation and Conversion of Radio Frequency I-3  
Oscillations

Abs Jour : Ref Zhur - Fizika, No 6, 1956, No 13787

Author : Nicolau Edmond, Popescu Alexandra

Inst : Not Given

Title : Vacuum Tube Oscillator with High Stability

Orig Pub : Bul. Inst. politehn. Bucuresti, 1956, 12, No 1-2, 179-192

Abstract : Description of a quartz oscillator with high stability, insured by placing the quartz in a thermostatic oven and by automatic adjustment of the amplitude. When the plate voltage changes by 100 volts, the relative change in the frequency is less than  $10^{-8}$ . The stability turned out to be good also with respect to changes in the filament voltage and changing of tubes.

Card : 1/1

*N. Col. Av. Etn*

RUMANIA/Radio Physics - Propagation of Radio Waves

I-5

Abs Jour : Ref Zhur - Fizika, No 5, 1958, No 11368

Author : Nicolau Edn.

Inst : Not Given

Title : Propagation of Meter Waves Beyond the Horizon

Orig Pub : Telecommunicatii, 1957, 1, No 2, 35-42

Abstract : Survey article. Experimental data are given and the existing theories of long distance propagation of meter waves are examined.

Card : 1/1

RUMENIA/Radio Physics. Radiation of Radiowaves. Transmission Lines and Antennae I-4

Abs' Jour : Ref Zhur - Fizika, No 2, 1959, No 3920

Author : Nicolau Edn., Dobrescu A.

Inst : -

Title : On Three and Four-Element Antenna Systems

Orig Pub : Telecommunicatii, 1957, 1, No 6, 168-177

Abstract : The author investigates theoretically and experimentally the directivity pattern, the gain, and the input impedance of antenna systems consisting of three or four horizontal dipoles placed one above the other in a single vertical plane. The conditions for obtaining maximum gain with the aid of such systems are examined. Curves are given for the dependence of the principal parameters of the antenna systems on the geometry and mutual placement of the dipoles, and particular attention is paid to the influence of the thickness of the dipoles on the input impedance of four element systems with maximum gain. An estimate of the

Card : 1/2

NEWMAN, R.

The influence of electric media on the development of the  
centi-gram system.

1. 121 (Academia Republicii Populare Romane. Institutul de Cercetari  
si Cercetari de Cercetari si Cercetari. Vol. 1, p. 1, 1970. (Romanian, English))

Monthly Index of Eastern European Periodicals (MIEEP). Vol. 7, p. 1, 1970.  
January 1970

RUMANIA/Inorganic Chemistry - Complex Compounds.

C.

Abs Jour : Ref Zhur - Khimiya, No 9, 1958, 28202

Author : Spacu, P., Ianu, A., and Nicolau, E.

Inst : C.J. Parhon University.

Title : Investigation of the Complex Compounds Formed by the Cobaltitetrapiyridylchloride Ion.

Orig Pub : An Univ. 'C. J. Parhon', Ser stiint natur, No 15, 73-81 (1957) (in Rumanian with summaries in French and Russian)

Abstract : Complexes of the type  $[\text{CoPy}_4\text{Cl}_2]\text{X}$  have been prepared where X is  $\text{Cl}\cdot 6\text{H}_2\text{O}$  (I),  $\text{ClO}_3$ ,  $\text{ClO}_4$ ,  $\text{Cr}_2\text{O}_7\cdot 2\text{HCl}$ ,  $\text{Cr}_2\text{O}_7\cdot 6\text{H}_2\text{O}$ ,  $\text{MnO}_4$ , and  $\text{VO}_3$ . The complexes  $[\text{CoCl}_4]\text{H}_2\text{Py}_2$  and  $[\text{Co}(\text{SCN})_4]\text{H}_2\text{Py}_2\cdot \text{HSCNPy}$  have also been prepared.

Card 1/2

29

NICOLAU, E.; ROCERIC, M.

Model of a cortical analyzer for auditory signals. p. 264.

AUTOMATICA SI ELECTRONICA. (Asociatia Stiintifica a Inginerilor si  
Tehnicienilor din Romania) Bucuresti, Rumania. Vol. 2, no. 7, Nov./ Dec. 1958

Monthly list of East European Accessions (EEAI) LC, Vol. 8, no. 8, Aug. 1959

Uncl.



RUMJIL/Radiophysics - Generation and Conversion. Radio Frequency Oscillations 1-3

Abs Jour : Ref Zhur - Fizika, No 4, 1959, No 6332

Author : Nicolau E., Lotru S.

Inst :

Title : Frequency Standards

Orig Pub : Metrol. apl., 1958, 5, No 3, 97-102, 143-144

Abstract : Survey article. The author considers quartz and cesium frequency standards and standards based on an ammonia molecular beam. Typical block diagrams are given along with data concerning the stability of the above standards. Author's resume

Count : 1/1

RUMANIA/Electronics - Photocells and Semiconductor Device.

H

Abs Jour : Ref Zhur Fizika, No 4, 1960, 9279

Author : Nicolau Edm., Belis, M.

Inst : ~~Metrol. apl.~~

Title : Measurements of the Parameters of Transistors

Orig Pub : Metrol. apl., 1959, 6, No 2, 49-54, 95-96

Abstract : A brief description is given of the operating principles of transistor devices. The static characteristics of transistors, different equivalent circuits, and circuits for the measurements of transistor parameters are considered.

Card 1/1

9.3700

196/62/000/011/003/009  
E200/E185

AUTHOR: Nicolau, Edmond.

TITLE: Electromagnetic power and momentum for harmonic time dependence

PERIODICAL: Referativnyy zhurnal, Elektrotehnika i energetika, no.11, 1962, 5, abstract 11 A17. (Bul. Inst. politehn. Bucuresti, v.21, no.2, 1959, 117-121. English, abstracts in Russian, French and German).

CONTENT: With the aid of the complex Umov-Poynting vector  $\vec{S} = \vec{E} \times \vec{H}$  two formulations are derived for the general theorem on the conservation of power associated with an electromagnetic harmonically time varying field:

✓  
B

$$\vec{S} = -j2(\omega\vec{T}) - (\omega\vec{U}) + \vec{q}'_e - \vec{q}'_m - \vec{p}'_e - \vec{p}'_m$$

or

$$\vec{S} = -j2\omega_r(\vec{T} - \vec{U}) + 2\omega_i(\vec{T} + \vec{U}) - \vec{q}'_e - \vec{q}'_m - \vec{p}'_e - \vec{p}'_m$$

where:  $T = 1/2\vec{\mu}H^2$  is the density of the electromagnetic energy:  
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Electromagnetic power and ., .

S/196/62/000/011/003/009  
E200/E185

✓  
B

$\bar{U} = 1/2 \bar{\epsilon} E^2$  is the density of the electrostatic energy;  
 $\bar{p}_e = \bar{E} \bar{T}_{ei}$  is the density of the power developed by the super-  
imposition of electric currents;  $\bar{p}_m = H \bar{J}_{mi}$  is the power  
developed by the superimposition of magnetic fluxes;  $\bar{q}_e = \bar{\gamma}_e E^2$   
and  $\bar{q}_m = \bar{\gamma}_m H^2$  are the heat density developed by the electric  
and magnetic currents, respectively. The theorem on the  
conservation of momentum is expressed in the form

$\text{div} (\text{Re } \bar{T}) = \text{Re } f_e + \text{Re } f_m + J_m (2\omega \bar{q})$ . The quantities entering  
in the right-hand member of this expression are not defined in  
the article.

ASSOCIATION: Utdeleniye elektroniki. Bukharestskogo politekhnich.  
in-ta RNR (Department of Electronics of the Bucharest  
Polytechnical Institute RPR).

Abstractor's note: Complete translation.

Card 2/2

24261  
R/005/60/000/001/003/004  
D264/D301

3.2300  
24.6100

AUTHOR: Nicolau, Edmond, Professor, Engineer  
TITLE: Study of the Earth's upper atmosphere and the cosmos  
by Soviet space rockets and artificial satellites  
PERIODICAL: Telecomunicații, no. 1, 1960, 20-25

TEXT: The article presents some of the methods used in exploring the ionosphere and results obtained by data, supplied from Soviet space rockets and sputniks. Data on the horizontal structure of the ionosphere and on the effects of latitude could only be supplied by artificial satellites. One of the methods used for determining the ionosphere's properties was based on the Faraday effect. The presence of Faraday rotation was proved by the signals from the first two Soviet satellites. Another method was worked out by Soviet scientists A. Alpert, F.F. Dobriakova, Ye. F. Chudesenko and B.S. Shapiro (Ref. 1: Doklady akad. nauk SSSR, 120, 1958, no. 4, pp 743-746). The method consists in denoting the distance "r<sub>m</sub>" from the observer to the point right below the satellite, the mom-

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R/005/60/000/001/003/004

Study of the Earth's upper atmosphere... D264/D301

ent the satellite's signals began to be detected. The method tries to explain the differences which appear between the real propagation and that which corresponds to propagation in vacuum. The properties of the ionosphere were also determined by the method of radio wave refraction. This method requires simultaneous measurements by optical and radiointerferometrical means. The first direct measurements of the concentration of electrons in the upper atmosphere were accomplished by an ion trap installed in Sputnik III. Another method for ascertaining the characteristics of the ionosphere consisted in determining the effects produced by the ionosphere on the transmission of waves from the satellite to the ground station. When the satellite passed through a region of high electron concentration, a frequency change was produced, especially caused by electrons around the satellite. If the concentration of the electrons in the regions penetrated by the satellite is smaller than that of the regions penetrated by the satellite-Earth radius, a frequency change is produced by the integrated effect of the electrons located along the radius. The method is based on the Doppler effect. Important information on the horizontal non-homogeneity of the ion-

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21261

R/005/60/000/001/003/004

Study of the Earth's upper atmosphere... D264/D301

osphere was obtained during the IGY by Soviet satellites. By installing special measuring instruments in the sputniks, the electromagnetic waves and corpuscular radiation of the sun were studied as well as cosmic dust, the interplanetary gaseous medium, the interplanetary magnetic field, cosmic radiation and other values which reach the Earth in an altered state. One of the main problems is determining the energy sources and the heating of the upper atmosphere. V.I. Krassovskiy's hypothesis (Ref. 3: Proc. I.R.E., 47, 1959, no. 2, pp. 289-296) is that it is due to heat developed by electric currents in the ionosphere. Important results were obtained on cosmic radiation. Great intensities of cosmic radiation were recorded by the second artificial satellites at a time when nothing exceptional appeared on Earth. This phenomenon was explained by the fact that the increase was produced by small energy particles which did not reach the Earth's surface. Luminescence counters were installed on the third Soviet sputnik. Penetrating the northern and southern geomagnetical latitude of 55 - 60°, the instruments detected an increase in Roentgen radiation intensity. Important data were gathered by the space rocket launched January 2,

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D264/D301

Study of the Earth's upper atmosphere...

1959. At a distance of 4 - 10 Earth radii, the existence of two zones of high radiation intensity was proved. The origin of the Aurora Borealis was also explained. The third Soviet satellite also proved the existence of heavy nuclei in the cosmic rays. A Cherenkov detector recorded a particle of 300 Mev. Another result was the detection of the antipodes effect, observed at the Mirnyy station by satellites having 20 Mc transmitters. A mass spectrometer was installed in the third sputnik to determine the chemical composition of the upper atmosphere at an altitude of 226 - 1000 km. Ions with a mass number of 16 predominate at an altitude of 226 - 800 km and the main gaseous component is oxygen. However, ions with a molecular weight of 28 - 30 units were also recorded. Compared with atomic oxygen, the concentration of atomic nitrogen is 1 - 10%, depending on height, latitude and time. The third sputnik was also provided with a pressure gage, which recorded at an altitude of 260 km a density of  $10^{-13} \text{ g cm}^{-3}$ , and at an altitude of 355 km, a density of  $9 \times 10^{-15} \text{ g cm}^{-3}$ . To determine the positive ions per volume unity, the third sputnik was equipped with ion traps. The terrestrial magnetic field anomaly increases at an alti-

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24261

R/005/60/000/001/003/004

Study of the Earth's upper atmosphere... D264/D301

tude of 22,000 km. This may be explained by the existence of some important currents at this altitude. The Soviet Union was able to study by its three space rockets the magnetic field in the immediate vicinity of the moon. It was established that there is no magnetic field near the moon's surface which could be measured by the magnetometers on board. Data collected by the third Sputnik on micrometeorites at an altitude of 150 - 300 km showed that the number of impacts with micrometeorites is  $50 / m^2/sec$ . The apparatus measured impulses between  $10^{-1}$  and  $10^3 g cm s^{-1}$ . There are 8 figures and 10 Soviet-bloc references.

Card 5/5

NICOLAU, Edm., prof. univ.; BALACEANU, G., dr.

The neuron is not a relay. Stud. Ter. Bur. 24 no. 11, 1949, p. 102.

17/01/82/056/056/056/056  
A065/A126

AUTHORS: Nicolau, Edmond, Bălăceanu, Constantin (Bucharest)

TITLE: Contributions to neuron cybernetics

PERIODICAL: Automatica și electronica, v. 6, no. 6, 1962, 251 - 257

TEXT: The authors study the transmission and processing of signals by neurons and synapses, to contribute to the understanding of the mechanisms developed in neurons. They first determine the law of information transmission through the synapse, referring only to those synapses in which acetylcholine is the chemical intermediate agent; they establish the equation permitting the evaluation of the intermediate agent concentration at the level of the postsynaptic membrane, explain the ionic migrations produced by the postsynaptic membrane, as well as the variation in time of the postsynaptic potential which is complex and depends on an external factor, i.e., the input signal, and on a series of internal factors, and they present the expression which gives the state of excitation or central inhibition of the neuron as defined by Sherrington. The actual state of the neuron also depends on the earlier state of the respective neuron, which presumes

Card 1/2

Contributions to neuron cybernetics

R/011/02/000/006/003/004  
A065/A126

the existence of other memory devices in the neuron. A first conclusion is that the receiving pole behaves not like a simple relay station, but as a complicated analog computer. The authors then establish a relation between the intensity of excitation and the impulse repetition in the axon, considering only the law which gives the time variation of the refractory period. The repetition of the impulses varies approximately directly with the intensity logarithm of the excitation of the neuron at the axon origin. However, the method given by the authors does not explain the exponential variation in time of the threshold during the refractory time. But admitting it as an experimental fact, the connection between the potential and the T period can be established. The expression may only be used for signals which are smaller than the threshold value P, but larger than the minimum threshold  $P_m$ . An important conclusion is that the neuron can be considered in no case as a digital system but as an analog one. The authors finally describe the impulses propagated through the axon from its origin to the presynaptic membrane, and establish a logical diagram of the neuron. In spite of many data on neurons, the transfer function of the neuron and the characteristics of the terminal decoding device are not yet known. There are 6 figures.

Card 2/2

NICOLAU, Edm., ing., prof.; BALACEANU, G., dr.

Contributions to the study of learning systems. Automatica  
electronica 7 no.3:100-106 My-Je '63.

1. Institutul politehnic, Bucuresti (for Nicolau).
2. Policlinica "Dr. Cantacuzino" (for Balaceanu).

NICOLAU, Edm.; BALACEANU, C.

The neuron as an analogic element. Probleme automatiz  
127-141 5 N '62.

NICOLAU, Edm.; WEBER, I.; GAVAT, St.

Apparatus for automatic recognition of the vowels. Automatica  
electronica 7 no.6:255-261 N-D'63.

NICOLAU, Edm., prof. ing.; ADAMACHE, I., ing.

Electronic modeling of deep well pumping. Automatica  
electronica 8 no. 1: 8-12 Ja-F '64.



NICOLAU, E.

"The modern theory of systems" by G. Wunsch. Reviewed by  
E. Nicolau. Automatica electronica 8 no. 1:44 Ja-F '64.

"Technique of calculation and its use for statistical  
studies and automatic control systems" by V.V.Solodovnikov,  
P.S. Matveev, I.S. Valdenberg, V.M. Baburin. Reviewed by  
E. Nicolau. Ibid.:45.

NICOLAU, Edmond

On nonhomogeneous plane waves. Bul Inst Politeh 26 no.4.115-120  
Jl-Ag '64.

1. Chair of Radio Communications, Polytechnic Institute,  
Bucharest.

M 11

R/016/02/007/004/001/002  
E191/E135

AUTHORS: Arcan, M., and Nicolau, Ed.

TITLE: Investigations of load carrying building structures  
by means of plastic models

PERIODICAL: Revue de mécanique appliquée, v.7, no.4, 1962, 751-760

TEXT: The work of the INCLRC with models made of plastics for the stress analysis of building structures is reported. The diversity of the methods used is emphasised since every method is limited. Models of up to 1 m size are used in spite of differences of behaviour on account of the unsuitability for destructive testing. Model laws have been studied to determine the choice of materials and techniques and the interpretation of results. The conditions of similarity are obtained from the equilibrium of an elementary slab, the geometric relations between the deformations and displacements and the physical relations between the stresses and strains. The similarity factors are hereby determined only in part: the remaining factors being chosen from the test conditions, including space available and adequate deflections of the measuring devices.

Card 1/4

Investigations of load carrying ... R/016/b2/007/004/001/002  
E191/E135

The inexpensive investigation of many design variants is made possible by model techniques. Examples are discussed, including several arch constructions, a circus roof structure, a multi-arch factory roof and a restaurant structure. Distribution of load carrying in complex statically indeterminate structures is among the main features discoverable by models. Structural elements made of composite materials have been examined by model techniques including reinforced and pre-stressed concrete structural elements, pressure distributions when two bodies with a different Young's modulus are in contact (for instance, a foundation on soil), and the simplification of models by the replacement of cavities with a material of low modulus. For example, the neutral axis of reinforced concrete beams was examined on the assumption of an ideal bond. Reinforced concrete beams in the condition of incipient cracking, owing to a loss of bond in the section between the cracks, have been tested by model techniques. Reinforced models with artificial cracks were used, made from a material specially developed at the Institute with a high optical activity, a reduced edge effect, and a capacity to be bonded with adhesives

Card 2/4

investigations of load carrying .. R/G16/62/007/004/001/002  
E191/E135

to the reinforcement consisting of high tensile steel wire. Two types of crack were tested, namely with and without the capacity to transmit compressive stresses. For large crack heights it was found that the neutral axis coincides with the tip of the crack so that the crack does not propagate with an increase in the load. Generally, photoelastic models were found to behave in close agreement with actual full-scale structures. Pre-stressed complex structures, such as the dome of the Bucharest State Circus building, were model tested with strain gauges. Cavities can be replaced by a material with a low equivalent shear modulus. A wider range of materials is called for with Young's modulus between 20 and 40 000 kg/cm<sup>2</sup>. Practical hints are given on model making including pre-stressed models; method of pre-stressing with cables and its inspection by sound frequency measurement; strain and deflection measurements. There are 24 figures and 1 table.

Card 3/4

Investigations of load carrying... R/016/62/007/004/001/002  
E191/E135

ASSOCIATION: Nauchno-issledovatel'skiy institut po  
stroitel'stvu i ekonomike stroitel'stva - INCERC -  
Bukharest (Scientific Research Institute of  
Building and Building Economics - INCERC - Bukharest)

Card 4/4

ARCAN, M.; NICOLAU, Ed.

Structural strength of buildings studied with plastic models.  
Studii cerc mec apl 13 no.3:621-649 '62.

1. Institutul de cercetari in constructii si economia constructiilor  
INCERC, Bucuresti. 2. Membru al Comitetului de redactie, "Studii  
si cercetari de mecanica aplicata" (for Arcan).

NICOLAU, Eduard

Torsion in cylindrical bars with the diametral cracks of variable depth, as studied with the aid of membrane analogy. Studii cerc mec apl 13 no.5:1301-1307 '62.

1. Institutul de cercetari in constructii si economia constructiilor (INCERC), Bucuresti.



NICOLAU, Eduard

Resin microconcrete with epoxy binder for construction models. Studiul cercetarii nr. 14 no. 488-807 '69.

1. Institutul de cercetari in constructii si economie constructiilor, Bucuresti.

NICOLAU, Eduard

Epoxidized binding microconcrete used for studying construction models. Rev mac appl Roum 9 no.6:1415-1437 '64.

1. Institute of Building Research and Construction Economics, Bucharest.

SAUVARD, Sanda; MOLNAR, I.; STEPESCU, N.; NICOLAU, Elena; GEORGESCU, S.M;  
WINTER, Janeta; MARTINA, S.

Evaluation of the delayed effect of some hormonal preparations.  
Stud. cercet. endocr. 15 no.2:97-105 '64.

RUMANIA

NICOLAU, Elena, MURESAN, V., VOICU, V., Major, Medical Corps; and DOINA, Anania

"Reaction of the Autonomic Nervous System to Some Biogenic Amines and to Nicotine"

Bucharest, Revista Sanitara Militara, Vol 16, Special No., 1965; pp 487-490

Abstract: Dogs were given 2 micrograms per kilogram of epinephrine or nor-epinephrine, 5 micrograms per kilogram of acetylcholine or 5 to 10 micrograms per kilogram of nicotine, then exposed to X-irradiation of 800 r. Results indicated that a non-specific "neurosympatholytic" endogenous agent is present and circulating in radiation sickness. 2 graphs.

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RUMANIA

NICOLAU, Cl., Conf. Dr.; MAURESAN, V.; CHRISTEA, Al.; NICOLAU, Elena; MIU, C., Lieutenant-Colonel, Pharmacist; VOICU, V., Lieutenant-Major, Medical Corps; and STROESCU, Eugenia

"Correlation Between Changes in Structure and Changes in Pharmacodynamic Activity of Acetylcholine and Some Derivatives of Irradiated Compounds"

Bucharest, Revista Sanitara Militara, Vol 16, Special No., 1965; p 498

Abstract: X-irradiation with  $10^5$ ,  $2 \times 10^5$ ,  $5 \times 10^5$  r of acetylcholine, acetylcholine iodide, benzenesulfonate and paratoluene-sulfonate of acetylcholine; paramagnetic resonance spectral calculation of density of labile electrons were correlated with nicotinic effect changes.

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RUMANIA

POPESCU, Gh., Lieutenant-Colonel, Medical Corps; VOICU, V., Lieutenant-Major, Medical Corps; NICOLAU, Elena; and MURESAN, V.

"Electrocardiographic Disturbances in the Acute Radiation Sickness and Their Influence Ability by Strophanthin and Tolazoline"

Bucharest, Revista Sanitara Militara, Vol 16, Special No., 1965; p 509

Abstract: In 10 dogs exposed to 800 r, electrocardiogram before, during and 24 hours and 4 days after the irradiation; response to Tolazoline and Strophanthin of the changes following radiation. Both drugs affected irradiation-induced changes to a greater degree than they affected the heart in non-irradiated animals.

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- 64 -

L 30158-66 : RO

ACC NR: AP6020332

SOURCE CODE: RU/0012/65/061/001/0113/0117

AUTHOR: Muresan, V. (Doctor); Nicolau, Elena (Doctor); Cavulea, O. (Veterinarian; Major); Stoicescu, Rbdica (Biologist)

ORG: none

TITLE: Pharmacodynamic action of trimethylene bis-4-hydroxy-iminomethyl-pyridine bromide

SOURCE: Revista sanitara militara, v. 61, no. 1, 1965, 113-117

TOPIC TAGS: pharmacology, organic phosphorus compound, antidote, organic imine compound, toxicity, rat, pyridine

ABSTRACT: The authors studied the pharmacodynamic action of TMB<sub>4</sub> on normal animals. (The compound is used as antidote for organophosphorus intoxications, and previous studies refer to its action in intoxicated animals.). They found an index of toxicity, DL<sub>50</sub> = 63 mg/kg ± 2.5 in rats, and found a dose of 5 mg/kg to have the following effects: nicotinolytic action; ganglioplegic action; excitation of respiration; and potentiation of ether anesthesia. Orig. art. has: 7 figures and 2 tables. [JPRS]

SUB CODE: 06, 07 / SUBM DATE: none / ORIG REF: 001 / OTH REF: 009

Card 1/1 ULR

1/1

RUMANIA

VOICU, V., Dr, Lt-Maj, MURESAN, V., and NICOLAU, Elena [affiliation not given]

"The Dynamics of Radiocalcium in the Heart of the Irradiated Animal."

Bucharest, Revista Sanitara Militara, Vol 62, No 2, Mar-Apr 66, pp 299-301.

Abstract: The authors studied the behavior of calcium in the heart of irradiated frogs, using radioactive  $Ca^{45}$ . They found that the fixation of calcium in frog hearts irradiated with 3000 centgen units is smaller than in normal frog hearts, with the difference becoming noticeable starting 10 minutes after administration of the radioactive calcium.

Includes one figure, one table and 7 references, of which one Russian, 2 German and 4 Western. -- Manuscript submitted 18 May 1965.

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85088

R/003/60/011/008/CO4/002  
A125/A026

5.2400

AUTHORS: Nicolau, Fl.; Engineer, Mozes, Gh.; Grigorovici, E., ChemistsTITLE: High-Purity Silicon for Semiconductors in Rods and Granular Shape by Silicon Decomposition. Report II.

PERIODICAL: Revista de Chimie, 1960, Vol. 11, No. 8, pp. 468 - 476.

TEXT: The article is based on a paper presented at the Meeting "Semiconduc-  
toare si aplicatiile lor" (Semiconductors and Their Application), held on December  
9 - 11, 1959. Silicon is more and more used in the production of semiconductors  
Pure silicon can be obtained by different methods, but the most efficient method  
proved to be the thermal decomposition of silane, which has a number of advantages  
(Refs. 1, 2, 3,). Silane can be obtained either by the reduction method of A. E  
Finholt, or by the method of starting from  $\text{HSiCl}_3$  (Ref. 2). The authors used the  
second method, studying it in two variations: a) Passing  $\text{HSiCl}_3$  through  $\text{SiH}_4$ ,  
and b) Direct thermal decomposition of  $\text{HSiCl}_3$  or reduction with hydrogen (Ref. 3).  
Trichlorosilane was prepared following the methods by Buff and Wöhler; Combes;  
Gattermann; Kahler; Stock and Zeidler (Ref. 4); Kraus and Nelson; Broth and Still-  
well; Witmore and Pitsusza-Sommer (Ref. 5). The authors produced trichlorosilane

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85088

R/003/60/011/002/004/005  
A125/A026

High-Purity Silicon for Semiconductors in Rods and Granular Shape by Silicon Decomposition. Report II

by direct synthesis, by passing dry HCl over Si granules at 280°C in the apparatus shown in Fig. 1. In contradiction to previous works, the reaction pipe was located vertically. Brief reference is made to the apparatus and the production procedure. The authors then studied the production of granule-shaped silicon by thermal decomposition of  $\text{HSiCl}_3$  without  $\text{H}_2$  addition in the quartz tube, at atmospheric pressure. This method has the disadvantage of leading to a contamination of the silicon by impurities such as boron. Reference is made to Stock and Zeidler (Ref. 4), Wilson (Ref. 1) and Theurer. Figure 3 shows the installation for thermal decomposition of  $\text{HSiCl}_3$  on quartz tube. Rods or granule-shaped silicon can also be obtained by catalytic disproportioning of triethoxysilane to silane and the decomposition of silane. For preparation and purification and triethoxysilane, the authors adapted the method of Havill, Joffe and Post (Ref. 9). The catalytic disproportioning of triethoxysilane to silane and tetraethoxysilane was observed by Friedel and Ladenberg for the first time. Kreshevnikova, Pokrovskiy and Rumiantseva (Ref. 2) used this reaction for the preparation of silane and its thermal decompositions with the purpose of producing Si for semiconductors. They decomposed silane on a tantalum wire, obtaining polycrystalline Si bars. For the

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R/003/60/011/008/004/001  
A125/A026

High-Purity Silicon for Semiconductors in Rods and Granular Shape by Silicon Decomposition. Report II

production of Si bars, the authors used the installation shown in Figure 5. Reference is made to the installation and the procedure. The efficiency of the Si deposited in bars is 70%, the other Si being deposited on the walls of the installation. Si deposited on the quartz tube contains less than  $10^{-3}\%$  of B. Si deposited on tantalum wire contains the following impurities: Mg, Al, Cu, Fe, and B. The Si rod is treated for 48 hrs with concentrated HF in order to dissolve the tantalum wire and is then pickled with  $HF+HNO_3$ . This polycrystalline Si rod is physically purified by a zonal melting and passed over to monocrystal. The resistivity had a value of 50 ohm/cm. The boron impurity in the Si rods is a result of the "diboran" content of the silane, or the influence of the glass of the installation. The authors finally mention the elimination of "diboran" from the silane. There are 6 figures, 1 photograph, 2 tables and 14 references: 5 Soviet, 2 Rumanian, 5 English and 2 German. X

Card 3/3

R/003/62/013/011/002/002  
D272/D307

AUTHORS:

Roman, P., and Nicolau, P.

TITLE:

The preparation of high purity silicon bars by the reduction of trichlorosilane with hydrogen

PERIODICAL:

Revista de Chimie, no. 11, 1962, 653-660

TEXT:

Results are presented of a study of the reduction of trichlorosilane with hydrogen, carried out at the Institutul de cercetari electrotehnice (Electrotechnical Research Institute) in 1960-1961.  $\text{HSiCl}_3$  was prepared by the method described earlier (Nicolau, P. this journal, no. 8, 1960, 463), and was then purified by distillation on a Cu-packed, 35 theoretical plates column to eliminate  $\text{SiH}_4$ , metallic impurities, and any S compounds, and was further distilled on a Ni-packed, 10 theoretical plates quartz column. Hydrogen purification was by adsorption in an alumina-packed column. Final oxidation and retention of organic and reducing matter in  $\text{KMnO}_4$ ,  $\text{CO}_2$ -elimination with NaOH, drying with  $\text{CaCl}_2$ , retention of O on Cu depo-

Card 1/2

The preparation of high purity ...

R/003/62/013/011/002/002  
D272/D507

sited on diatomite and palladized asbestos, passing through a trap with active carbon or silica gel cooled with solid  $\text{CO}_2$  acetone, elimination of  $\text{N}_2$  in  $\text{Hg-CaO}$  (1:1), passing through a second trap, and a second mist eliminator. The  $\text{H}_2\text{SiCl}_3$  was entrained by part of the  $\text{H}_2$  and was then reduced in a special unit upon a thin Ta filament, obtaining at  $\text{H}_2/\text{H}_2\text{SiCl}_3$  60:1 and  $1150^\circ\text{C}$  a yield of 47% polycrystalline Si, at a productivity of 8 g Si/hr. Si enveloping the Ta filament thickened to 8-14 mm in diameter as a function of the time of reaction, and the current for heating the filament increased from 50 to 120 a and the voltage from 35 to 50 v. After 12-20 hours bars 300-400 mm in length were obtained. Increasing the  $\text{H}_2/\text{H}_2\text{SiCl}_3$  ratio increased the productivity but reduced the yield of Si. The Ta filament was dissolved rapidly in 40% HF and after a sequence of washings the bar was submitted to floating zone purification, when the n-type polycrystalline Si changed into p-type monocrystals, with 50-100 ohm cm resistivity (portions with max. 350 ohm cm were obtained). There are 15 figures and 3 tables.

SUBMITTED: December 30, 1961

Card 2/2

M. G. ... ..

Note of interest ... ..  
deformity. Information ... ..

R/503/61/010/030/001/001  
1059/1259

AUTHORS: Angelescu, E. and Nicolau, G.

TITLE: Inclusion compounds with tyrosine

SOURCE: Bucharest. Universitatea. Analele. Seria stiintele  
naturii: Chimie. v.10, no.30. 1961. 73-77

TEXT: The authors describe a new group of clathrates, molecules combining in such a way by their Van der Waals' forces that they produce holes in the form of closed cells, which are able to hold other smaller molecules. The clathrates described here consist of tyrosine as the host molecule, containing glycine in its lattices. These compounds are formed by letting mixtures of glycine and tyrosine crystallize out from aqueous solutions. The optimum pH for this crystallization is 11-11.5. The total weight of the compounds obtained varies with the ratio glycine/tyrosine, and becomes constant when this ratio is higher than 2 moles/1 mole. The results are the same, whether the crystallization is slow,

Card 1/2

R/503/61/010/030/001/001  
1059/1259

Combinations of insertion with...

giving big crystals, or rapid, giving small crystals. The ratio in the crystals is 3 moles tyrosine/1 mole glycine at ratios from 2 moles glycine/1 mole tyrosine upwards. The combinations have the crystalline characteristics of tyrosine. When the ratio glycine/tyrosine is not too high, no glycine is found in the filtrate after the crystals of the compound are filtered off. When the crystals are decomposed by water, glycine as well as tyrosine, is found. Similar phenomena are obtained with alanine-tyrosine, but not with molecules larger than alanine. The group responsible for the clathrate properties of tyrosine is the phenolic OH group. There are 2 figures and 2 tables.

ASSOCIATION: *Laboratorul de Chimie Organică, Facultatea de Chimie*  
*(Laboratory of organic chemistry, Faculty of Chemistry)*

Card 2/2



MARINESCU, G.; GALEA, I.; IONESI, I.; TUDOR, V.; DOGARU, D.; NICOLAU, G.  
MIKHAILESCU, F.

Study of the elimination of 17-ketosteroids in mumps. Stud. cercet.  
inframicrobiol. 13 no.2:197-201 '62.

1. Comunicare prezentata la Institutul de inframicrobiologie al  
Academiei R.P.R.  
(MUMPS urine) (17-KETOSTEROIDS urine) (ADRENAL CORTEX physiology)

RUFIANLA

TUDOR, V., Colonel, Medical Corps; DOGARU, D., Lieutenant-Colonel, Medical Corps; DEDIU, St., Medical Corps; NICOLAU, Gh., Lieutenant-Colonel, Medical Corps; MIHAILESCU, Florica, Medical Corps; and ENACHE, Tudorache, Medical Corps.

"Epidemiologic, Clinical, Biochemical and Morphologic Study of Patients in a Focus of Viral Hepatitis in Military Units"

Bucharest, Revista Sanitara Militara, Vol 16, Special No., 1965; pp 319-325

Abstract: Epidemiology and clinical data on a small epidemic among 21 soldiers in 4 weeks in October 1964. Apparent inoculation by a lot of TAB vaccine was the agent of spread, but puzzling epidemiologic contradictions are noted and discussed. 2 tables.

RUMANIA

TUDOR, V., Colonel, Medical Corps; NICOLAU, Gh., Lieutenant-Colonel, Medical Corps; and DOGARU, D., Lieutenant-Colonel, Medical Corps.

"Criteria of Identification of Methods of Hospitalization in Patients with Epidemic Hepatitis in Military Units"

Bucharest, Revista Sanitara Militara, Vol 16, Special No., 1965; p 325

Abstract: Brief data on 250 cases of epidemic hepatitis in soldiers hospitalized during the period of June 1963 to June 1965. Close medical supervision and convalescence with limited duties for 4 to 6 months is urged.

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LUNGU, Al.; TACHE, Alina; BERLESCU, Elena; CRISTOVEANU, Ana; NICOLAU,  
Gratiela; SCHULLER, A.

Hormonal changes during physiotherapy of patients with excess  
weight. Studii cercet. endocr. 16 no.2:175-180 '65.