

PHASE I BOOK EXPLOITATION

CZECH/4879

Petržílka, Václav

Metody pro detekci a registraci jaderného záření (Methods Used to Detect and Record Nuclear Radiation) Prague, Nakladatelství Československé akademie věd, 1959. 260 p. 2,450 copies printed.

Scientific Ed.: Zdeněk Plajner, Doctor of Natural Sciences; Scientific Reviewer: Jan Urbanec, Master of Pharmacy; Ed.: Antonín Burda.

PURPOSE: This book is intended for students at technical and nuclear-physics departments and personnel working with nuclear radiation, particularly in radioactive isotopes.

COVERAGE: The book describes equipment and methods used for the measurement of nuclear radiation. Phenomena occurring in materials subjected to nuclear radiation and the design principles of nuclear-radiation indicators and detectors are described. Emphasis is given to the processing of numerical data, the use

Card 179

Methods Used to Detect (Cont.)

CZECH/4879

of a field of saturated current in ionization chambers, proportional counters, types of Geiger-Mueller counters, spark counters, crystal counters, scintillation counters, and Cherenkov counters. Electrical and electron-tube circuits used for radiation detection and recording devices are described, and procedure for estimating numerical values and measurement errors is outlined. The final chapters discuss detection methods based on the photochemical effects of nuclear radiation (nuclear emulsions), ionization effects and the condensation of saturated vapors on ions formed along the particle path (cloud chambers), and bubble formation along the particle path (bubble chambers). The book is based on lectures given by the author at Charles University, Prague, and is intended to add to the published literature in Czech on devices and equipment of Czech or Soviet manufacture used in working with radioisotopes. The table of elementary particles is based on data from the Alvarez report read at the Kiyev conference on the physics of high-energy particles in June 1959. The amplifier and coincidence circuits were developed at the Ustava jadernych výzkumů

Card 2/9

Methods Used to Detect (Cont.)

CZECH/4879

of the ČSAV (Institute of Nuclear Research of the Czechoslovak Academy of Sciences). No personalities are mentioned. There are 253 references: 97 English, 72 Soviet, 38 Czech, 23 German, 13 Italian, 9 French and 1 Hungarian.

TABLE OF CONTENTS:

Ch. 1. Introduction	11
Ch. 2. Characteristics of Nuclear Radiation	15
2.1. Nuclear processes accompanied by emission of nuclear radiation	15
1. Low-energy nuclear reactions	16
2. Interaction of particles with atomic nuclei at low energies	17
3. Radioactive changes of atomic nuclei	18
4. Review of particles emitted during interaction of particles with atomic nuclei	23
2.2. Interaction of nuclear radiation with matter	23
1. Energy losses undergone by heavy particles when	

Card 3/9

FENYVES, Ervin; FRENKEL, Andor; PETRZILKA, V.; SEDLAK, J.; VRANA, J.

Investigation of high-energy electron-photon cascade in emulsion.
Koz fiz kozl MTA 7 no.4:183-188 '59. (EAI 9:8)

1. A Magyar Tudomanyos Akademia Kozponti Fizikai Kutato Intezete,
Kozmikus Sugarzasi Osztaly (for Fenyves, Frankel and Telbisz). 2.
Csehszlovak Tudomanyos Akademia Fizikai Intezete, Karoly Egyetem
Muszaki es Magfizikai Fakultasa (for Pertzilka, Sedlak, Vrana)
(Electrons) (Photons) (Cascades)

JEZEK, Vl. Technicka spoluprace: PETRZILKOVA, J.; KROUZKOVA, L.

Hemodynamic effects of some drugs acting on the tone of vegetative nerves. I. Effect of sympathomimetics and parasympatholytics. Sborn. lek. 66 no.3:75-84 F'64

Hemodynamic effect of some drugs acting on the tone of vegetative nerves. II. Effect of parasympathomimetics and sympatholytics. Ibid:85-91

*

PETRZHILKA, V.

34601

8/09/60/010111 X 118
R04, B070

Belikov, L. A., Vasilenko, V. V., Vainov, L. L., Galanov, A. V., Lyubchev, B. K., Mironov, G. G., Petelin, E. V., Petelinov, G. V., Petelinov, L. A., Sit, M. V., Stoyanov, L. S., and Vasilenko, L. S.

TITLE: Elastic Interactions of 7 Bev Protons and Neutrons
PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960, Vol. 39, No. 4(10), pp. 937-947

NOTE: The inelastic interaction of 7 Bev protons with neutrons is studied in this paper. The preliminary results were communicated to the Physics of High Energy Laboratory of the Institute of Atomic Energy of the USSR Academy of Sciences at the 1959 International Conference on High Energy Physics in Geneva. The angular distributions of secondary particles were analyzed (Table 1). The theoretical distribution of the charged particles was calculated by V. S. Nishchenko. Significant scattering was obtained by special measurements (Table 2). 459 pages and 134 pictures

Card 1/3

... were identified. The angular distribution of pions and the total distribution of all stars (in c.m.s.) are shown in Fig. 1. For smaller number of charged particles, the asymmetry increases strongly. This is principally due to pions with large momenta (Fig. 2). Therefore, the angular distributions are very different for fast and slow pions. Pions with momenta < 0.5 Bev show an almost isotropic distribution. From the angular and total distributions of protons (Fig. 4) it is seen that the protons conserve their initial direction. From the azimuthal distribution of pions and neutrons, the authors conclude that the on the momenta of the nucleus and of the charged pions does not depend on the number of charged particles. The same result follows from the data of Fig. 3. These results are in good agreement with a function of the number of charged particles. The results are interpreted only partly by the statistical theory. The asymmetry of the angular distribution of the secondary pions can only be explained by a peripheral collision of the pion with a pion of the nucleus shell (Figs. 6 and 7). An estimate of the radius of the nucleus core gave the

Card 2/3

... maximum value of $4.10 \cdot 10^{-14}$ cm. The authors summarize the results as follows: Average composition of protons = (0.91 ± 0.04) Bev. Average transverse momenta = (0.37 ± 0.04) Bev. Degree of asymmetry of angular distributions of all pions = 1.96 ± 0.01. Pions with p > 0.5 Bev are emitted in the forward direction, with average momenta equaling 0.57 ± 0.02 Bev and average transverse momenta equaling 0.22 ± 0.01 Bev. The authors thank A. A. Nikhilenko and L. L. Vasilenko for discussions. References: 3 Soviet, 6 US, 1 British, 9 German, 4 Italian, 1 Japanese, and 1 Polish.

ASSOCIATION: Ob'yedinennyy Institut Yadernykh Issledovaniy (Joint Institute of Nuclear Research)

SUBMITTED: May 17, 1960

Card 3/3

PETRZYK, Igancy

Difficulties and errors in diagnosis of chronic appendicitis.
Polski prsegl.chir.27 no.10:965-970 Oct. '55.

1. Z II Kliniki Chirurgicznej A.M.w Krakowie. Kierownik: prof.
dr K. Michejda Krakow, ul. Kopernika 21.

(APPENDICITIS, diagnosis,
difficulties & errors)

PETRZILKA, V.A.; TEICHMANN, J.

One possibility of h. f. sealing of magnetic trap with cusped field. Chekosl fiz zhurnal 14 no. 7:485-500 '64.

1. Institute of Plasma Physics, Czechoslovak Academy of Sciences, Prague 1 Na Smolynska 600.

L 48104-55 EWT(d)/EWT(1)/EWP(1) Po-4/Pq-4/Pg-4/Pk-4/Pl-4 IJP(c) EC

ACCESSION NR: AT5006354

S/3141/63/123/012/0109/0111

AUTHOR: Medvedev, L. N.; Pets, L. B.

54
51
BH

TITLE: A servo-system for magnetic suspension of a spinning rotor

SOURCE: Kazan. Universitet. Uchenyye zapiski, v. 123, no. 12, 1963. Gravitatsiya i teoriya otноситel'nosti; tematicheskiy sbornik. (Gravitation and the theory of relativity), 109-111

TOPIC TAGS: magnetism, magnetic field, servomechanism, centrifuge, gravity

ABSTRACT: The article deals with a system designed to maintain steady rotation of a rapidly spinning rotor suspended in a magnetic field and driven by rotation of the field. The authors describe it as a modification of a system described by Beams in 1954 (Beams, *Electronics*, March, 152, 1951 [sic]). The amplitude of a compensating oscillator is modulated by vertical oscillations of the rotor through detection and vacuum tube amplifier circuits. Similar compensation for horizontal oscillations may be required, but is said to be unnecessary for small rotors. Several problems in ensuring stability are discussed, including relative location of solenoids and signal strengths. Some specifications are given on such matters as number and dia-

Card 1/2

L 48104-65

ACCESSION NR: AT5006354

3

meter of windings, wire sizes and frequencies. Circuits are described, with one comprehensive schematic. Applications noted include use as an ultra-high-speed centrifuge (acceleration to several million g is claimed), elimination of seismic disturbances in a device for registry of gravitation waves and precise measurement of ultra-low gas pressures. The authors propose to use it to measure energy losses in a rotating sphere or cylinder due to gravitational effects, taking advantage of the almost complete absence of other energy losses by the rotor when rotating in a vacuum. "In conclusion the authors consider it their duty to express gratitude to machinists M. Kuzovkin and F. Al'bekov for help with the work, and also to A. G. Shagidullin for valuable comments." Orig. art. has: 1 figure, 1 formula.

ASSOCIATION: none

SUBMITTED: 00

ENCL: 00

SUB CODE: EM, ME

NO REF SOV: 002

OTHER: 003

Card 2/2

YEREMEV, L.N.; PPTS, L.N.

servosystem for the magnetic suspension of a rotorless motor.
zap. Kaz. un. 123 no.12:109-111. 1963

L 36181-66 EWT(m)/EWP(t)/ETI 1JP(c) JU/JG

ACC NR: AP6014260

SOURCE CODE: UA/015 / 10 01/01/0000/0006

AUTHOR: Pets, L. I.; Aleskovskiy, V. B.

ORG: Analytical Chemistry Department, Leningrad Technological Institute in Leningrad

TITLE: Concentration of trace amounts of tantalum by coprecipitation with collectors

SOURCE: IVUZ. Khimiya i khimicheskaya tekhnologiya, v. 9, no. 1, 1966, 22-26

TOPIC TAGS: tantalum, chemical precipitation, trace analysis, cadmium sulfide, calcium carbonate

ABSTRACT: A technique applicable to hydrochemical prospecting is proposed for concentrating tantalum from dilute solutions and natural waters. It involves coprecipitation of tantalum with cadmium sulfide, calcium carbonate, and ferric hydroxide collectors. The influence of a number of factors on this coprecipitation was studied. The coprecipitation was increased by introducing third components (0.1 mg-eq of iron or aluminum salt), and varied with the initial pH of the solution in the case of Fe in the presence of iron salts. Changes in the time of contact between the precipitate and the solution, the presence of extraneous electrolytes (coprecipitation in sea water), a change in the ionic strength of the solution and in temperature from +4 to +70°, and aging of the collector with the trace element for 14 days had no effect on the extent of coprecipitation of tantalum with the collectors. It is postulated

UDC: 543.3:546.883

Card 1/2

L 36181-66

ACC NR: AP6014260

that the coprecipitation involves the formation of tantalate-type compounds in the alkaline range. It is shown that the proposed method can be successfully used to determine microgram quantities of tantalum under field conditions. Orig. art. has: 2 figures and 5 tables.

SUB CODE: 07/ SUBM DATE: 13Mar64/ ORIG REF: 011/ OTH REF: 002

Card 2/2/11/11

KVETINA, Yaroslav [Kvetina, Jaroslav]; GROSSMANN, Voytekh [Grossmann, Vojtech];
tekhnicheskoye sotrudnichestvo. PETA, O. [Peta, O.]

Effect of pethidine and thiopental on the survival of irradiated animals. Cesk. otolaryng. 12 no.6:101-103 D'63.

1. Kafedra farmakologii Meditsinskogo fakul'teta Karlova universiteta v Gradse Kralove (rukovoditel': prof.dr.med.Voytekh Grossmann)

*

PROCESS AND PROPERTIES INDEX

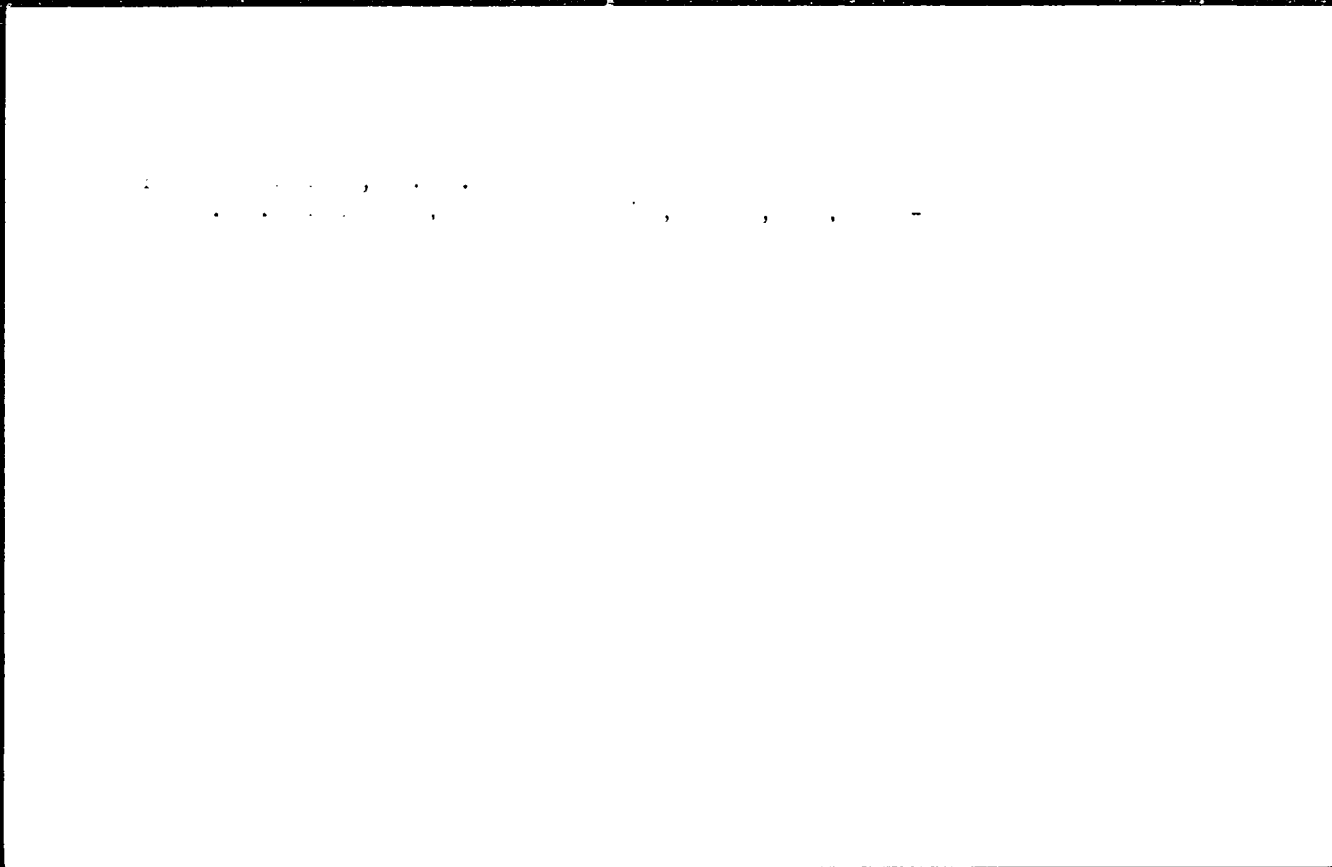
A 1

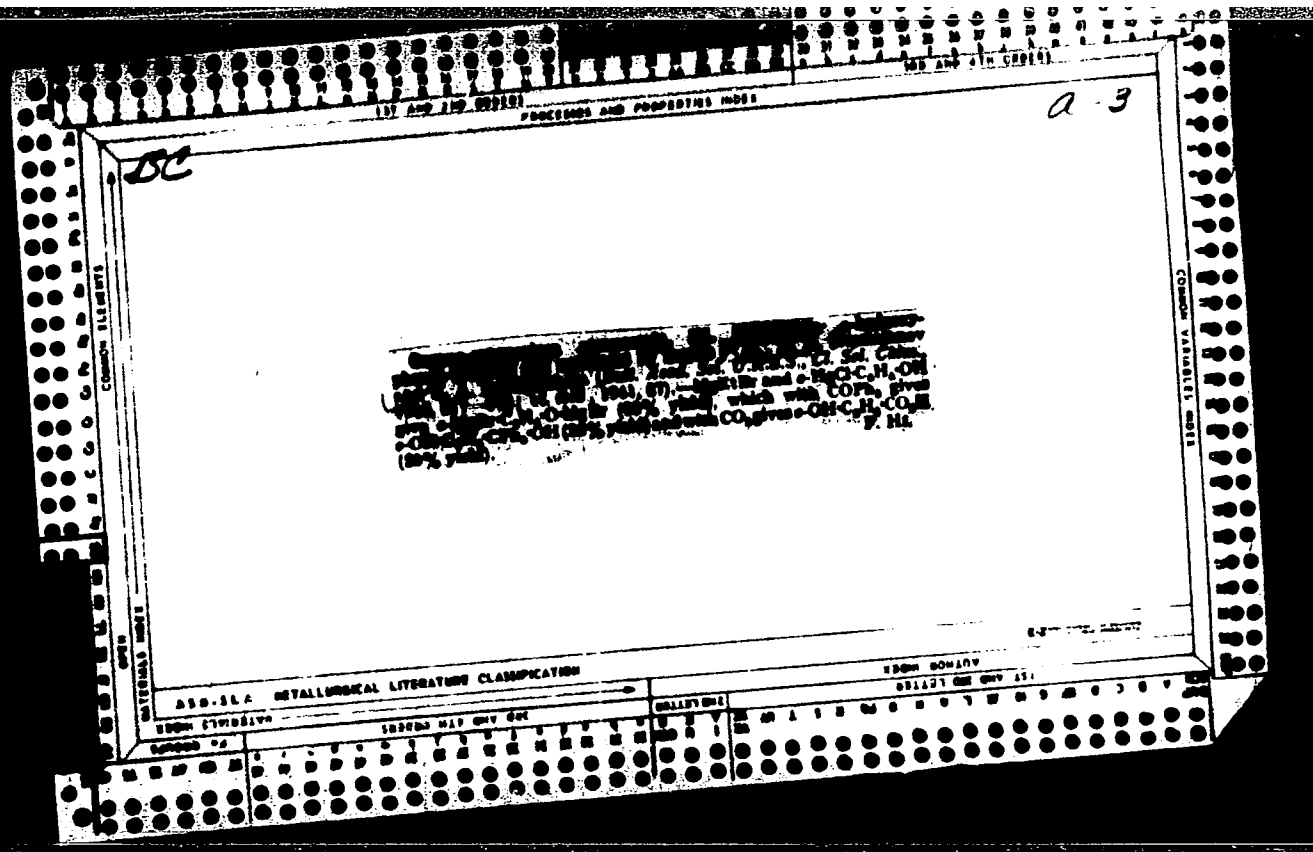
BC

Effect of neutral salts on the rate of hydrolysis of ethyl acetate in presence of strong acids, and the theory of Debye-Hückel. N. V. BARDAMITROVA and E. A. PRIGONINA. *S. Phys. Chem. U.S.S.R.*, 1954, 8, 119-123. The effects of NaCl, KCl, NaCl, and NaCl+KCl in 0.1N-HCl, and of Na₂SO₄, K₂SO₄, KCl+K₂SO₄, and NaCl+Na₂SO₄ in 0.1-0.5M-H₂SO₄ were studied. The rise in reaction velocity continues for each addition of chloride. With sulphates in acid solution the velocity decreases with each addition of sulphate to approx. 1M, further additions being almost without effect. *Cu. Ans. (c)*

METALLURGICAL LITERATURE CLASSIFICATION

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100





PROCESSES AND PROPERTIES INDEX

ca

Distribution of gold between mat and slag. F. M. Lezhnev and M. S. Priachina. *Tsvetnaya Met.* 10, No. 21, 23-8 (1941). (*Chem. Zvest.* 1944, 11, 1007). Cu_2S is shown to be a very good collector for Au. By fusion with Cu_2S a concn. of the Au in the mat of up to 1000 g/ton was obtained. The slag contained only traces of Au. When analogous fusions were carried out under operating conditions, slags rich in Au were obtained. This was probably due to an incomplete sepn. of the slag from the mat. The Cu_2S concn. in the mat varied between 2 and 20%.

FeS is a less effective collector than Cu_2S . When the slag was fused with pure FeS a Au concn. in the mat of 300-600 g/ton was obtained. The slag contained about 2 g/ton. When fusions were carried out with Pb-contg. mats (5-10% Pb) Au-free slags were likewise obtained. The fusions were carried out in a radiation furnace at 1250° using a synthetic concentrate contg. SiO_2 12.6, Fe 34.75, Al_2O_3 2.08, S 30.01, As 0.25%, and Au 32.0 g/ton.

M. G. Slonim

ASB SLA METALLURGICAL LITERATURE CLASSIFICATION

GROUP	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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PETSEK, F.

Device for transporting insulation shells. [Suggested by]
F. Petsek. Na stroi. Mosk. 2 no.3:25 Mr '59. (MIRA 12:5)

1. Glavnny inzhener tresta Mospodzemstroy No.3.
(insulating materials--Transportation)

L 20640-66 EWT(1)/EWP(●)/EWT(■)/T IJP(c) WW/GG/WH
ACC NR: AP6012188

SOURCE CODE: UR/0386/66/003/008/0327/0329

AUTHOR: Akanayev, B. A.; Petselt, Ya.

ORG: Physics Department, Moscow State University im. M. V. Lomonosov (Fizicheskiy fakul'tet Moskovskogo gosudarstvennogo universiteta)

TITLE: Parametric interaction of infrared waves in a medium in which intense molecular oscillations are excited

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki. Pis'ma v redaktsiyu. Prilozheniye, v. 3, no. 8, 1966, 327-329

TOPIC TAGS: hydrogen, ruby laser, laser application, ir phenomenon, ir spectrum, parametric converter, molecular interaction

ABSTRACT: Preliminary results are reported of an experiment aimed at observation of parametric light interaction in the far infrared region (Fig. 1). The pumping was with intense molecular oscillations (excited by using stimulated Raman scattering (SRS), in the visible part of the spectrum). Coherent molecular oscillations were excited in hydrogen at 130 atm by the focused beam of a Q-switched ruby laser of 100 Mw power and 15 nsec pulse duration (when SRS was produced in the working medium). One of the interacting infrared waves was the third Stokes component of the SRS in hydrogen. The parametric-interaction effect was registered by means of

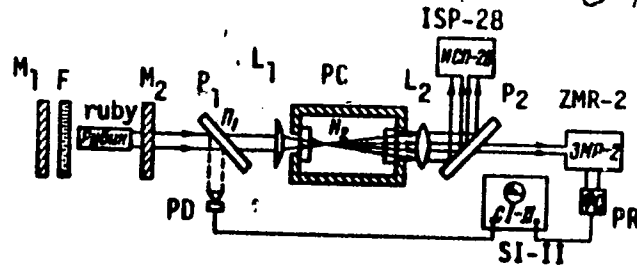
Card 1/3

L 20640-66

ACC NR: AP6012188

Fig. 1. Block diagram of the experimental setup

M_1 and M_2 - Resonator mirrors; P_1 - plane-parallel glass plate; L_1 - quartz lens; L_2 - fluorite lens; PC - chamber with hydrogen; PD - photodiode; ISP-28 - quartz spectrograph; P_2 - plane-parallel germanium plate; ZMR-2 - mirror monochromator with LiF prism; PR - photoresistor of germanium doped with gold; SI-II - high speed oscilloscope.



a monochromator, to the output of which was connected a germanium photoresistor doped with gold. The signal from the photoresistor was further fed to a high-speed oscilloscope. Pulses of infrared radiation with wavelengths 4.50 and 5.16 μ (corresponding to the difference frequency and to the third Stokes frequency) were recorded with approximately identical intensity, demonstrating the sufficiently large parametric interaction. The weakness of the dispersion, and by the same token the large coherent-interaction length, are evidenced by observation of 5 lines in the

Card 2/3

L 20640-66

ACC NR: AP6012188

6

anti-Stokes region: 5388, 4403, 3723, 3217, and 2844 Å, the local intensity of the fifth anti-Stokes line amounting in the best case to 5% of the intensity of the first anti-Stokes line. It is concluded that self-excitation at infrared frequencies by selecting resonators for these frequencies is feasible. The authors thank I. L. Fabelinskiy and his co-workers for supplying the pressure chamber, D. P. Krindach and V. Samonatin for help with the experiment, and S. A. Akhmanov, V. T. Platonenko, and R. V. Khokhlov for interest, advice, and a discussion of the results. Orig. art. has: 1 figure and 2 formulas. [02]

SUB CODE: 20/ SUBM DATE: 01Mar66 ORIG REF: 003/ OTH REF: 001
ATD PRESS: 4225

Card 3/3 BK

SIMOVA, P.; POPOVA, M.; DIMITROV, Kh., PETSEV, N.

Studies in alkyl phenol spectra. Pt.1. Doklady BAN
17 no.2:113-116 '64.

1. Submitted by Corresponding Member E.Dzhakov.

DIMITROV, Khr.; STOILOVA, Kr.; PETSEV, N.

Chemical composition of the gasoline obtained through
the toking of the asphalt of the Tylenovo aromatic naphtha.
Pt.3. Godishnik khim 55 no.3:23-32 '60/61 (publ.'62).

DIMITROV, KH.; SIMOVA, ...; BE. KHANOVA, IS.; SAVATIN-VA, I.

Chemical composition of the heavy Dutek petroleum. Doklady BAN
no. 3:45-48, 1964.

1. Chair of Organic Chemistry, University of Sofia, and Institute
of Physics and Atomic Sciences, Attachment Station, Bulgarian
Academy of Sciences. Directed by Academician I. Ivanov.

SIMOVA, P.; POPOVA, M. ...
Study of alloys ...
'64.
1. Predstavleniya ...

SIMOVA, I.; POPOVA, M.; DIMITROV, Kh.; PETSEV, N.

Study of alkyl phenol spectra. Pt. 3. Doklady BAN 17 no. 1:352-357
1964.

1. Predstavleno shil.-korr. E. Dzhakovym.

DIMITROV, Kh.; PETSEV, N.

Dealkylation of O-isopropylphenol, and its kinetics. Doklady
BAN 16 no.5:525-528 '63.

1. Sofiyskiy universitet, Kafedra org. khimii. Predstavleno
akad. D. Ivanovym.

DIMITROV, Khr.; PETSEV, N.

On the chemical composition of the benzine obtained through the
coking of the asphalt of the Tyulenovo naphthene aromatic naptha.
1. Chromatographic separation of benzine. Godishnik khim 54 no. 3:
47-54 1959/60 (pub. '61) (EEAI 10:9)

(Ligroine) (Asphalt) (Naphthenes)

BULGARIA/Organic Chemistry Synthetic Organic Chemistry.

3-2

Abs Jour: Ref Zhur-Khim., No 24 1958, 31608

Author : Marekov N., Petsev N.

Inst : AN Bulgaria

Title : The Preparation of Aryl Substitutes of β -Arylamino-ethansulfonic Acid from the Schiff's Base and the Sodium Salt of α -Lithium-Toluene- χ -Sulfonic Acid.

Orig Pub: Dokl. Bolg. AN, 1957. 10. No 6, 473-476

Abstract: From the reaction between $C_6H_5-CH(Li)SO_2Na$ (I) and $ArN=CHAR'$ (II) $ArN(Li)CH(Ar')CH(C_6H_5)SO_2Na$ were synthesized by the hydrolysis of which were obtained the corresponding $ArNHCH(Ar')CH(C_6H_5)SO_3H$ (III). I with $(C_6H_5)_2CO$ (boiling for 6 hours) gives 72-81% of $(C_6H_5)_2C(OH)CH(C_6H_5)SO_3H$. I was obtained

Card : 1/3

of III-a from which III-a was separated by acidifying.

APPROVED FOR RELEASE: 06/15/2000

CIA-RDP86-00513R001240630009-6"

28

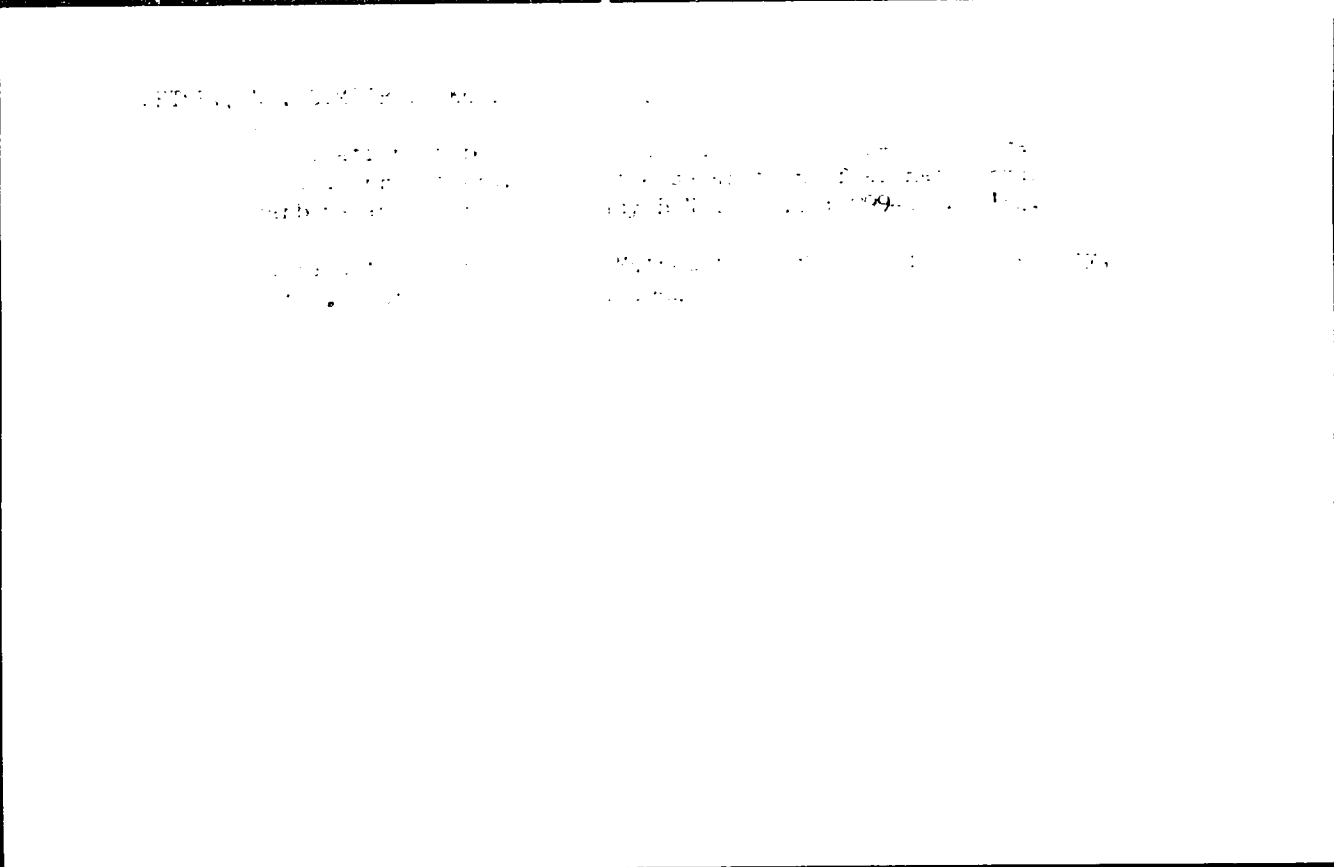
BULGARIA/Organic Chemistry Synthetic Organic Chemistry.

3-2

Abs Jour: Ref Zhur-Khim., No 24 1958, 31608

m.p. 300°C. (with decomposition; from alcohol);
 3-benzyl isothiuronium salt (BS) m.p. 201-202°C
 In the same way, the others III are prepared:
 - are given: Ar, Ar' yield in % of III m.p. in
 - C with decomposition from alcohol, yield
 in % of the ammonium salt of the III and m.p. in
 C of BS: C_6H_5 p-CH $_3$ OC $_6$ H $_4$ 53, 314 (from
 alcohol) 63, 177-178, p-CH $_3$ OC $_6$ H $_4$, C $_6$ H $_5$ 65, 256
 64, 139-190, C $_6$ H $_5$, C $_6$ H $_5$ 57, 252 58 201-202;
 C $_6$ H $_5$ C $_6$ H $_5$ 68, 252, 49, 70-80

Card : 3/3



PETSEVA, O.

2 cases of invagination of the appendix. Khirurgiia 15 no. 7:
651-653 '62.

1. Iz Katedrata po bolnichna khirurgiia pri ISUL [Institut
za spetsializatsiia i usuvurshenstvuvane na lekarite].
(INTUSSUSCEPTION) (APPENDIX)

1. TO: [illegible] FROM: [illegible] DATE: [illegible]

[illegible]

[illegible]

STANCHEV, G.; PETSEVA, O.

On cases of echinococcosis of the intrahepatic bile ducts.
Khirurgia, Sofia 14 no.1:84-85 '61.

1. Klinika po bolnichna khirurgia pri Instituta za spetsializatsiia
i usuvurshenstvuvane na lekarite.

(HEPATIC DUCTS dis) (ECHINOCOCCOSIS case reports)

PETSEVA, O.

A case of diverticulum of the duodenum. Khirurgia, Sofia 12
no 10:907-908 '59.

1. Iz Klinikata po bolnichna khirurgia - ISUL.
(DUODENUM dis.)

PETSEVA, O.

Diverticula of the gastrointestinal tract. Khirurgia, Sofia 12
no.2:126-137 1959.

(DIVERTICULOSIS, surgery
(Bul))

PETSEVA, O.

Spontaneous rupture of the spleen. *Khirurgiia*, Sofia 10 no.10:892-897
1957.

1. Institut za spetsializatsiia i usuvurshenstvuvane na lekarite - Sofia
Klinika no bolnichna khirurgiia Direktor: prof. K. Stoianov.

(SPLEEN, rupture
spontaneous, case reports)

DIMITROV, I.; PETSEVA, O.; GRUEV, Iv.; TENEV, St.; STOIANOV, I.

~~XXXXXXXXXXXX~~
Street accidents and their control. Khirurgia, Sofia 8 no.1:
75-80 1955.

(ACCIDENTS,
traffic, prev. & control)

DR. DZHIAN, A. Present: PETROVA, O.

... ..
... ..

... .. by Institute
... .. e,

PETSHAUF, A.M., inzh.; MAYLIAN, V.A., inzh.; KORENYUK, Yu.M., inzh.

Welding under flux of 45x50mm copper rings. Svar.proizv. no.5:35-36
Mg '65. (MIRA 18:6)

1. Dagestanskiy zavod elektrotermicheskogo obrabotvaniya (for
Petshauf, Maylian). 2. Institut elektrosvarki im. Ye.O.Istona
(for Korenyuk).

NEVYAROVICH, A. [Niewiarowicz, A.]; PETSHIKOVSKI, V. [Pietrzykowski, W.]

Establishing the aging factors of pigskins in preserving and
storage. Mias.ind.SSSR 32 no.6:53-54 '61. (MIRA 15:2)

1. Institut khozhevennoy promyshlennosti, Pol'skaya Narodnaya
Respublika.

(Hides and skins--Storage)

SECRET

SECRET

Author : [illegible]

Abstract : [illegible]

Author : [illegible]

Abstract : [illegible]

Author : [illegible]

Abstract : [illegible]

RESEARCH &
DEVELOPMENT

TECHNOLOGY

SYNTHESIS OF POLYMER ALKYLATED WITH VINYL MONOMERS

Abstract: Use of polyethylene and polyvinyl chloride as wrapping material of food products. 1. 14

Monthly list of "East European Accessions" (WEA) LC Vol. 9, No. 1
April 1959, "Inclass"

ROZENFEL'D, B.A.; KLIMANOVA, T.M.; PETSKO, N.D.

Projective vector theory. Part 1. Izv.vys.ucheb.zav.; mat.
no.2:130-141 '62. (MIRA 15:8)

1. Kolomenskiy gosudarstvennyy pedagogicheskiy institut.
(Geometry, Non-Euclidean)

ROZENFEL'D, B.A.; KLIMANOVA, T.M.; PETSKO, B.D.

Projective vector theory. Part 2. Izv. vys. ucheb. zav.;
mat. no.3:122-130 '62. (MIRA 15:9)

1. Kolomenskiy gosudarstvennyy pedagogicheskiy institut.
(Vector analysis)

PETSKO, N.D.

Biquaternion algebras and their application in non-Euclidean geometries. Dokl. AN Arm. SSR 36 no.5:257-261 '63 (MIRA 17:7)

1. Kolomenskiy pedagogicheskiy institut. Predstavleno akademikom AN Armyanskoy SSR A.L.Chaginyanov.

ROZENFEL'D, B.A.; KLIMANOVA, T.M.; PETSKO, N.D.

Equivalent systems of vectors in quasi-elliptical spaces.
Dokl.AN Azerb. SSR 16 no. 6:531-534 '60. (MIRA 13:10)

1. Kolomenskiy pedagogicheskiy institut. Predstavleno
akademikom AN Azerbaydzhanskoy SSR Z.I. Khalilovym.
(Spaces, Generalized) (Vector analysis)

KALER, I.B.; YAMKOVAYA, A.G.; PETSKO, P.A.

New types of canned food. Kons. i ov. prom. 16 no.9:20-21 S '61,
(MIRA 14:8)

1. Belorusskiy nauchno-issledovatel'skiy institut promyshlennosti
prodovol'stvennykh tovarov.
(Vegetables, Canned) (Fruit, Canned)

KALER, L.B.; PETSKO, V.A.; ZARUBKINA, A.K.

Refractometric method for determining sugar content of apple butter
and cranberry and apple jams. Trudy BNI IPPT no.4:57-61 '61.
(MIRA 17.10)

KALER, I.B.; ZARUBKINA, A.K.; PETSKO, V.A.

Refractometric method of determining the sugar content of
apple sauce, cranberry, and apple jams. Kons. i ov.rom. 15
no.2:39-40 F '60. (MIRA 13:5)

1. Belorusskiy nauchno-issledovatel'skiy institut pishchevoy
promyshlennosti.
(Jam--Analysis) (Sugars--Analysis)

PETSKIY, P. G.
Vertebrate Embryology

Dissertation: "Embryonal Parabiosis and Fertility of Farm Animals." Dr Biol Sci,
Moscow Fur and Pelt Inst, 29 Mar 54. (Vechernyaya Moskva, Moscow, 17 Mar 54)

SO: SUM 213, 20 Sep 1954

PETSKO, N.D.

Projective metrization and complex numbers. Dokl. AN Arm. SSR
36 no.3:137-140 '63. (MIRA 16:10)

1. Kolomenskiy pedagogicheskiy institut. Predstavleno
akademikom AN Aryanskoy SSR A.L. Shaginyanom.

PETSKOY, P.G.

Conditions of intrauterine development of *Bos taurus* causing phenomenon of freemartinism. Doklady Akad. nauk SSSR 90 no.4:693-695 1 June 1953. (CML 25:1)

1. Presented by Academician A. I. Abrikosov 4 April 1953. 2. Institute of Animal Morphology imeni A. N. Severtsov of the Academy of Sciences USSR.

PETSKOY, P. G.

Concept and types of embryonal parabiosis. Doklady Akad. nauk SSSR
89 no.6:1123-1126 21 Apr 1953. (CLML 24:4)

1. Presented by Academician A. I. Abrikosov 15 February 1953. 2. Institute of Animal Morphology imeni A. N. Severtsov of the Academy of Sciences USSR.

PETSKOY, P.G.

Embryonal parabiosis and fertility in farm animals. Trudy Inst.
morf.shiv. no.14:44-206 '55. (MIRA 9:1)

(Parabiosis) (Birth, Multiple) (Domestic animals)

ZENCHENKO, M.A.; PETSYNA, I.H.; SEMENOVA, L.A., starshiy nauchnyy sotrudnik

Nonwoven filter fabrics made from chlorine. Tekst. prom. 24 no.9:
43-45 S. 102. (MIRA 17:11)

1. Nachal'nik otdela netkanykh tekstil'nykh materialov Kalininskogo nauchno-issledovatel'skogo instituta tekstil'noy promyshlennosti (KNIITP) (for Zenchenko) . . . Iaveduyushchiy laboratoriyey netkanykh tekstil'nykh materialov Kalininskogo nauchno-issledovatel'skogo instituta tekstil'noy promyshlennosti (for Petsyna). 3. (tdel netkanykh tekstil'nykh materialov Kalininskogo nauchno-issledovatel'skogo instituta tekstil'noy promyshlennosti (for Semenova).

L 27230-66 EWT(m)

ACC NR: AM6002131

Monograph

UR/ 22

Frolov, Nikolay Prokhorovich; Bessonov, Valeriy Georgiyevich; Zalogo, Vitaliy
Fedorovich; Petsol'd, Timofey Maksimovich; Smekh, Ivan Vasil'yevich

B+1

Mesh-reinforced concrete¹⁵ constructions (Armoementnyye konstruktsii) Minsk, Nauka i
tekhnika, 1965. 90 p. illus., biblio. 2000 copies printed.

TOPIC TAGS: construction material, reinforced concrete, engineering technology

PURPOSE AND COVERAGE: The book recommends technology to be used in manufacturing reinforced-concrete structures. It summarizes the results of the investigations of rigidity and crack-resistance of reinforced concrete and analyzes some particular features of its work and design. In addition, an example of the design of a reinforced concrete structure is given, and the results of an experimental investigation of its performance are outlined. The book is intended for engineers and technicians working in building and designing organizations, as well as for students specializing in construction and research workers in this field. There are 46 references, of which 26 are Soviet.

TABLE OF CONTENTS:

Introduction -- 3

Ch. I. Use of reinforced concrete in construction -- 5

Card 1/2

L 27220-66

ACC NR: AM6002131

Ch. II. Materials and techniques in making reinforced concrete structures -- 12

Ch. III. Investigation of the physical and mechanical properties of reinforced concrete -- 22

Ch. IV. Features in the performance of reinforced concrete -- 47

Ch. V. Design of reinforced concrete structures -- 73

Bibliography -- 89

SUB CODE: 11/ SUBM DATE: 09Jul65/ ORIG REF: 029/ OTH REF: 017/

APPROVED

Card 2/2 CC

FROLOV, Nikolay Prokhorovich; BESSONOV, Valeriy Georgiyevich;
ZALOGO, Vitaliy Fedorovich; PEISGL'D, Timofey Maksimovich;
SMEKH, Ivan Vasil'yevich; ATAYEV, S.S., doktor tekhn. nauk
prof., nauchn. red.

[Mesh-reinforced concrete products] Armotsementnye kon-
struktsii. Minsk, Nauka i tekhnika, 1965. 90 p.
(MIRA 18:8)

PETSJ, J.

Cina par augstam zalu seklu razam; Igaunijas PSR Antslas rajona kolchoza "Edasi" sasniegumi salu seklu audzesana. Riga, Latvijas valsts izdevnieciba, 1956. 48 p. (Kolchoznieka biblioteka) (Fight for a high grass-seed yield; achievements in growing grass seed on the Edasi Collective Farm in the Antslas District of Estonia.

DA

Not in DLC

SO: Monthly Index of East European Accession (EEAI) LC Vol. 7, No. 5, 1958

PETSUKEVICH, I.N.

Check-on-the-ground for stereotopographic surveys at the
scale of 1:10,000. Geod. i kart. no. 11:36-39 N '60.

(MIRA 13:12)

(Aerial photogrammetry)

3 (4)

AUTHOR:

Petsukevich, I. N.

SOV/6-59-11-6/21

TITLE:

On the quality of the Triangulation Work of 2nd and 3rd
Order in the Moscow Aerogeodetic Enterprise

PERIODICAL:

Geodeziya i kartografiya, 1959, Nr 11, pp 17-20 (USSR)

ABSTRACT:

A table lists the mean triangle misclosure and the root mean square error at the measured angle of triangulation of 2nd and 3rd order in the years 1952 - 1958. The errors found with different observers are shown and compared. T. V. Kosimenko and Z. Ya. Grishina, team Nr 95, as well as S. G. Fomin and A. F. Shvetsov, team Nr 20, did a very thorough job. Low degree of accuracy was found with V. A. Khanov and Ye. I. Zhukova, from team Nr 95 and with V. Ya. Zakharov and M. I. Danilin from team Nr 20. In connection with the above, measures to be taken are listed, which should improve the degree of accuracy on surveys. Surveying must be carried out by highly qualified engineers. The marks should be neither too low nor too high. A cross-country vehicle must be at disposal as well as a special ladder as for example the one designed by N. V. Shreyber. Since 1959 triangular signals, 10 to 39 m high, are being constructed since 1959. They have to be properly fixed. All

Card 1/2

PETSUL', K.S., inzh.

Spillway hydroelectric power station with horizontal "capsule-
type" units. Gidr. stroi. 32 no.6:25-27 Je '62. (MIRA 15:6)
(Hydroelectric power stations)

PEKSULEV, Sp.

Tracking of heterodyne and input circuits in using continuously adjustable capacitors with variable top capacity. Godishnik mash stroit. no.2:85-104 [1951. 14]

PETSULEV, Spiro, inzh.

On the incorrect use of some radiotechnical terms. Radio i televiziia
10 no.11/12:331 '61.

PETSULEV, S., inzh.

Computing the elements of heterodyne disks while using
continuously adjustable capacitors with variable maximum
capacity. Radio i televiziia 12 no. 12:360-261 '63.

PETSUEV, S.K.

Computing the long-wave inlet systems with correcting elements.
Godishnik mash elekt 9:71-78 '61. [publ. '62]

ZOR'KIN, L.M.; PETSUYUKHA, Yu.A.; STADNIK, Ye.V.; YAKOVLEV, Yu.I.

Gas saturation in the formation waters of the Lower
Carboniferous and Upper Devonian carbonate sediments in the
southeastern part of the Russian Platform. Trudy VNIIGAZ
no. 25:88-94 '65. (MIRA 18:12)

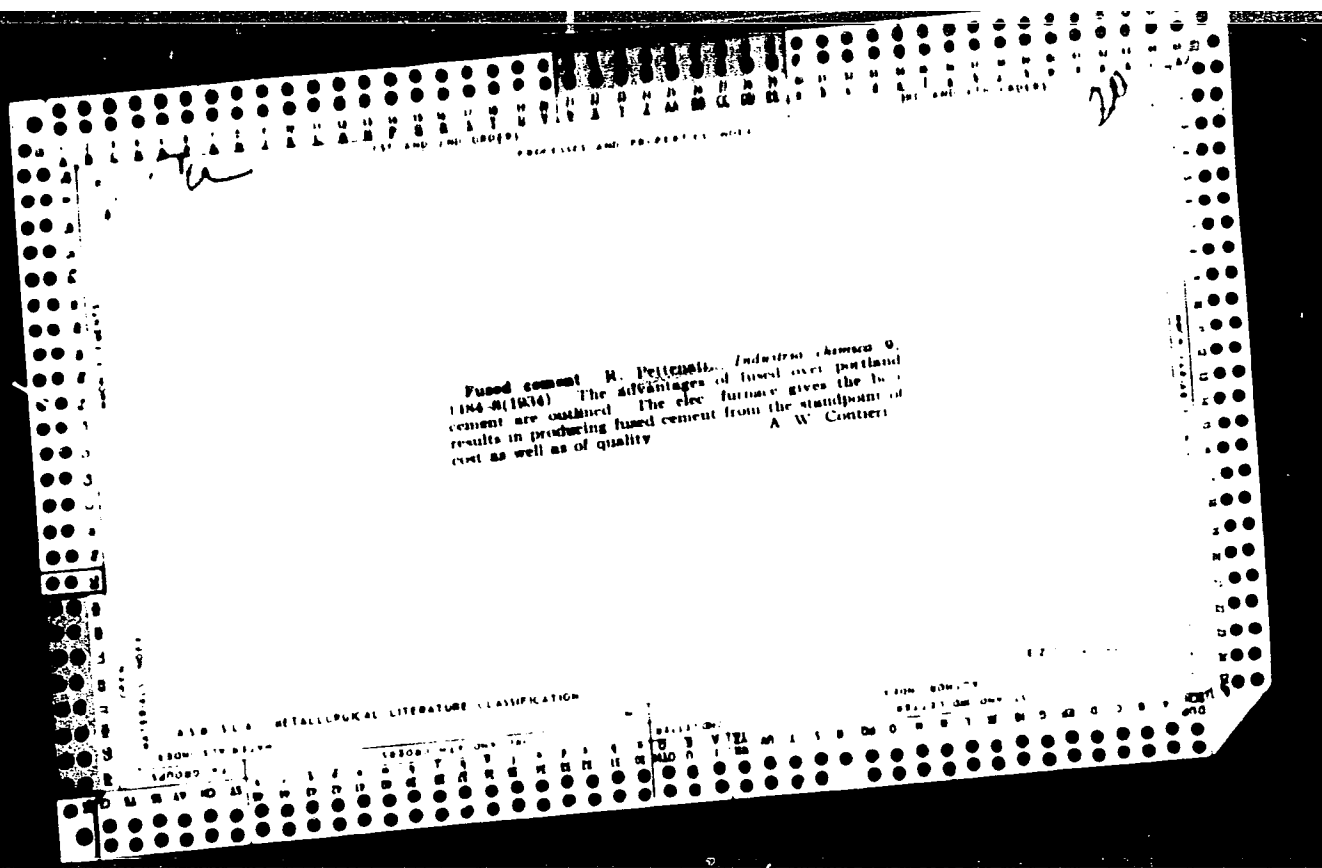
PETIAKOV, I.S. (Reutovo, Moskovskaya oblast')

Pedagogic lectures at the Moscow Regional Institute for Advanced
Teacher Training. Mat.v shkole no.2:88-89 Mr-Apr '57. (MLRA 10:5)
(Mathematics--Study and teaching)

PETTE, J.

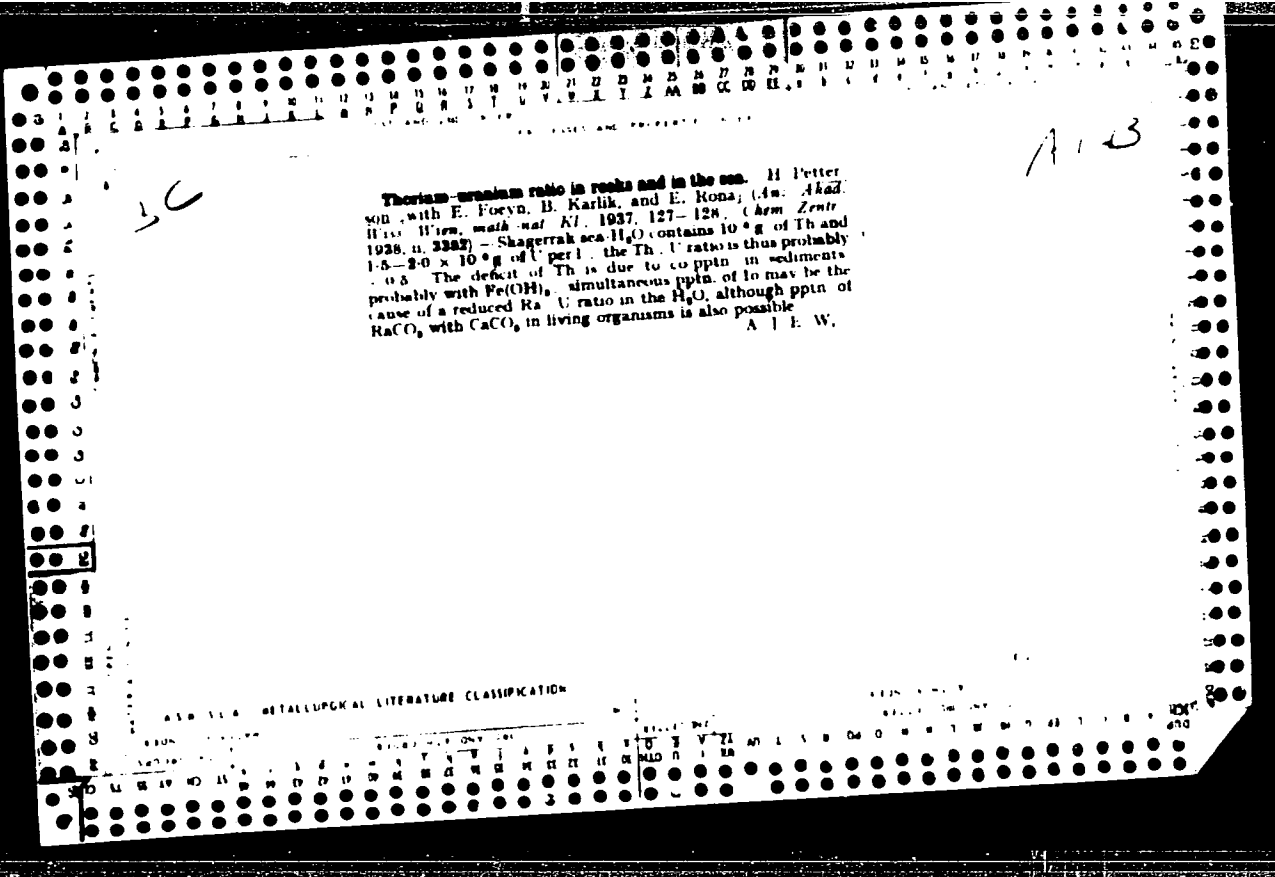
On enteropathies in animals, especially in swine. Stud. cercet.
inframicrobiol. 13 no.5:513-518 '62.

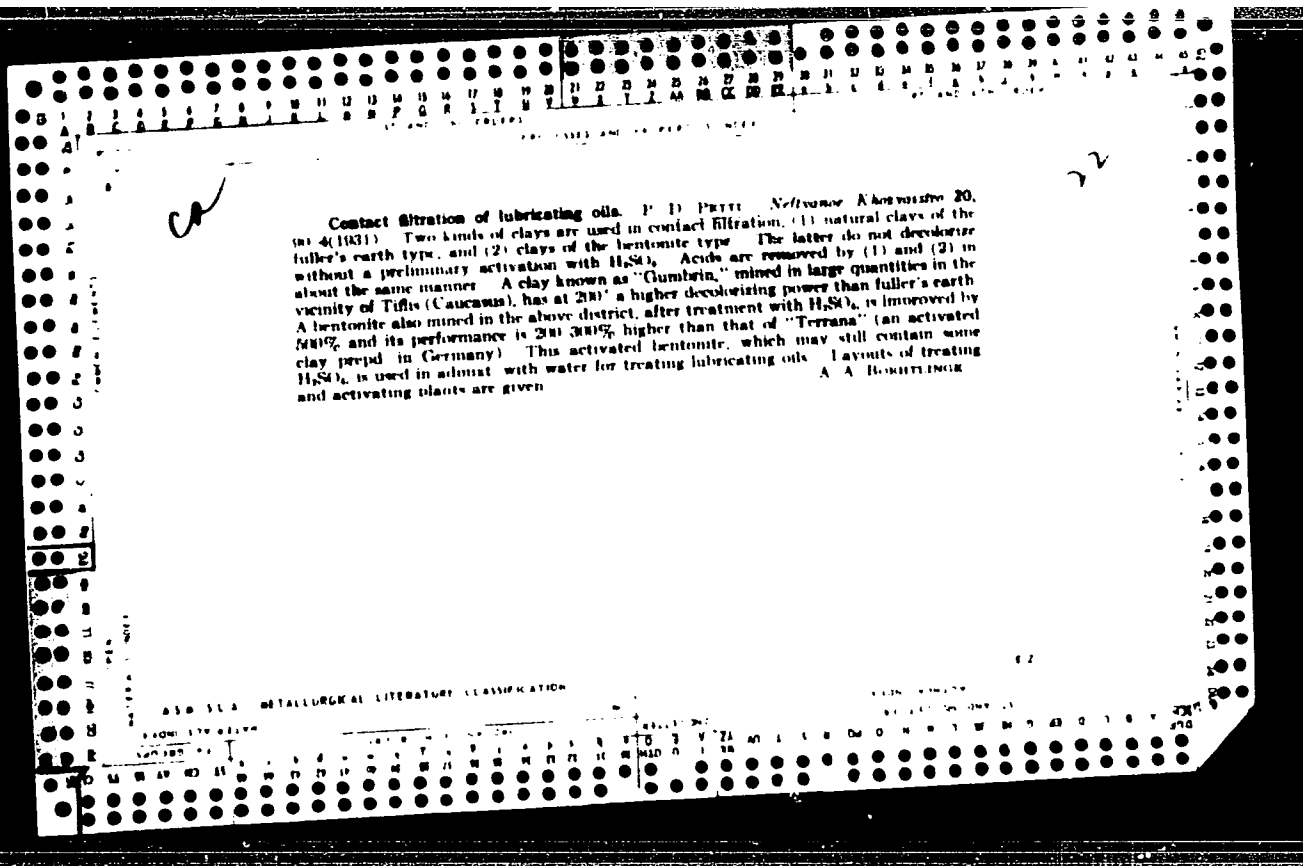
1. Institutul de microbiologie si boli infectioase ale animalelor,
Munchen. Director: profesor dr. A. Meyn.
(ENTEROVIRUS INFECTIONS) (ECHO VIRUSES)
(SWINE DISEASES) (ANIMAL VIRUSES)



TILTON, G.; ~~PETERSON, K.~~; BRAUN, G. [Brown, N]; INGRAM M. [Inghram, M];
HAYDEN, R. [Hayden, R]; HESS, D. [Hess, D]; LARSEN, Ye. [Larsen, E. Jr.]

Isotopic state and occurrence of uranium, thorium, and lead in Pre-
Cambrian granite. *Biul. Kom. po opr. abs. vozr. geol. form.* no. 2: 90-97
'57. (MLRA 10:4)
(Uranium--Isotopes) (Thorium--Isotopes) (Lead--Isotopes)





Contact filtration of lubricating oils. P. D. PRYI. *Neftevoz Khimichesko* 20, (1943). Two kinds of clays are used in contact filtration, (1) natural clays of the fuller's earth type, and (2) clays of the bentonite type. The latter do not decolorize without a preliminary activation with H_2SO_4 . Acids are removed by (1) and (2) in about the same manner. A clay known as "Gumbria," mined in large quantities in the vicinity of Tiflis (Caucasus), has at 200° a higher decolorizing power than fuller's earth. A bentonite also mined in the above district, after treatment with H_2SO_4 , is improved by 200% and its performance is 200-300% higher than that of "Terrana" (an activated clay prep'd in Germany). This activated bentonite, which may still contain some H_2SO_4 , is used in admixt. with water for treating lubricating oils. Layouts of treating and activating plants are given. A. A. BOKHIMSK

USSR/General Biology. Genetics. Plant Genetics.

Ref Source: Ref Zhur-Biol., No. 17, 1958, 76339.

Author : Pettevich, E. D.

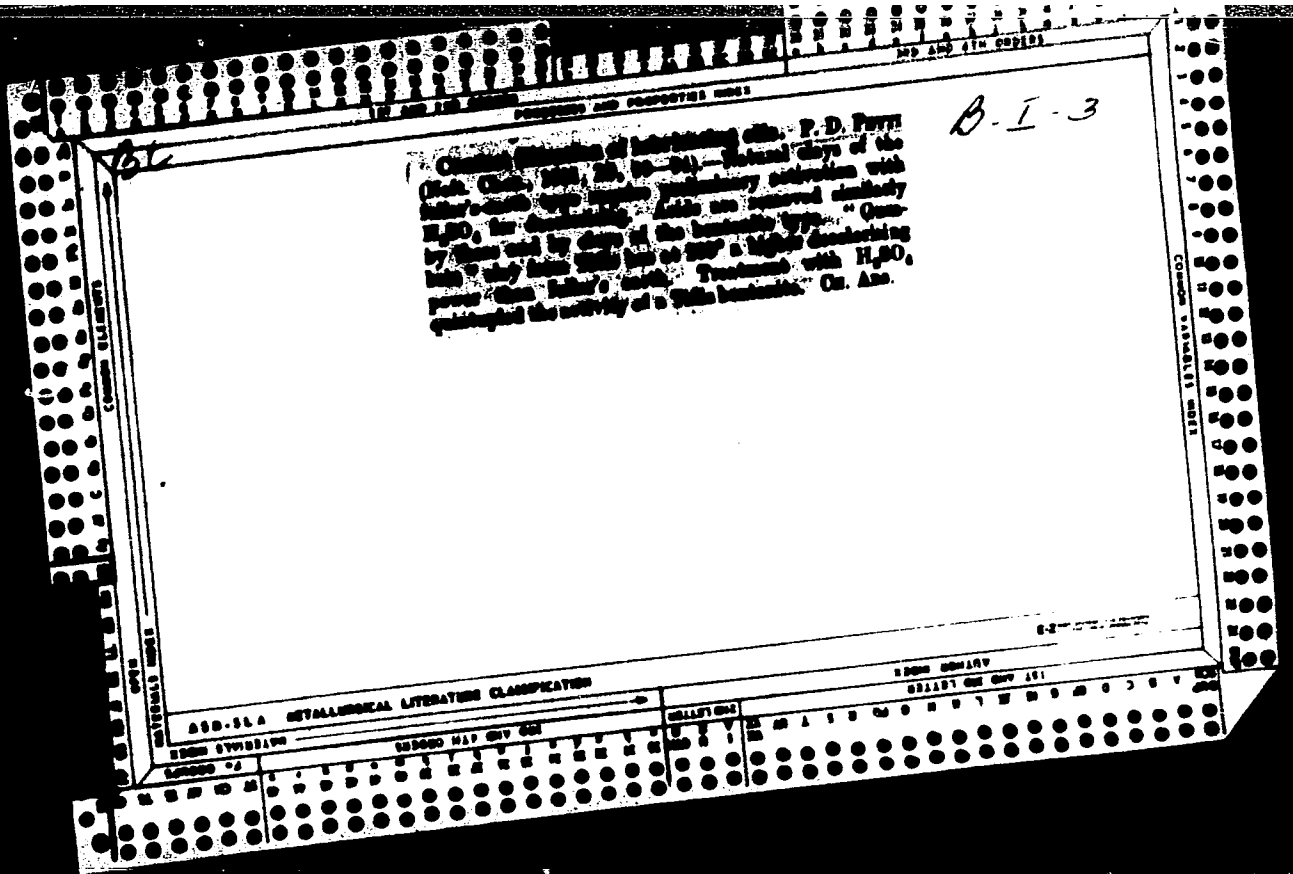
Institution :

Title : Experiment on Vegetative-Sexual Hybridization of Buckwheat.

Orig Pub: Seleksiya i semenovodstvo, 1957, No 6, 47-50.

Abstract: No abstract.

Card : 1/1



AFANAS'YEV, Dmitriy Konstantinovich; PETTINE, G.A., red.

{Cranes over the city; sketches; Krany nad gorodom;
oчерki. Petrozavodsk, Kareli'skoe knizhnoe izd-vo,
1974. 70 p. (MIRA 18:3)

POLESZCZUK, Mikolaj, technik; CZARNOTA, Zbigniew, technik; CZYZEWSKI,
Witold, mgr. inz. PETTKE, Norbert, technik

Two-stage turboset for milling chalky marl sludge. Gosp paliw
11 Special issue no.(95):51-52 Ja'63.

1. Zjednoczenie Przemyslu Cementowego, Sosnowiec (for Poleszczuk
and Czarnota). 2. Cementownia, Wejherowo (for Czyzewski and
Pettke).

POLESZCZUK, Mikolaj, technik; CZARNOTA, Zbigniew, technik; CZYZEWSKI, Witold, mgr.inz.; PETTKE, Norbert, technik

Two-stage turboset for milling chalky marl sludge. Gosp
paliw 11 Special issue no. (95):51-52 Ja '63.

1. Zjednoczenie Przemysly Cementowego, Sosnowiec (for
Poleszczuk and Czarnota). 2. Cementownia, Wejherowo (for
Czyzewski and Pettke).

CZYZEWSKI, Witold, mgr., inż.; ZAKRZEWSKI, Tadeusz, inż.; ROHDE, Wladyslaw,
technik; RETTKE, Norbert, technik; CYWINSKI, Stefan, inż.; KOZICWSKI,
Tadeusz, technik; CZARNOTA, Zbigniew, technik

Use of cone shaped white cast iron grinders for cement grinding.
Energetyka przem 10 no.3:106-107 '62.

BACHRACH, Dönes; LASZLO, Aranka; B. SZABO, Eva; PETTKO, Emma;
KORPASSY, Bela

Effect of the protracted dosage of the posterior nypothalamus
extract on the thyroid gland. Biol orv kozl MTA 13 no.4:
297-303 '62.

1. Szegedi Orvostudományi Egyetem Korbonctani es Korszovettani
Intezete, Borgyogyaszati Klinkiaja es Orvosi Vegytani Intezete.

KOSZEGI, Denes, dr., igazgato; MORVAY, Jozsef; PETTKO, Emma

Application of the juice of sweet sorghum for the fermentation of
feed and baker's yeast. Biol kozl 11 no.1:51-57 '63.

1. Szegedi Orvostudományi Egyetem Gyógyszereszi Vegytani
Intézete (for Koszegi and Morvay). 2. Szegedi Orvostudományi
Egyetem Vegytani és Biokémiai Intézete. Igazgato: Dr. Kramli
Andras (for Pettko).

PETTKO, Emma,

HUNGARY

HACHRACH, Denez; LASZLO, Aranka; B. SZABO, Eva; Pettko, Emma; and KORPAASSY, Bela, of the Institute of Pathological Anatomy and Pathological Histology (Korbonctani es Korsovetteni Intezet), Dermatological Clinic (Borgyogyaszati Klinika) and Institute of Medicinal Chemistry (Orvosi Vegytani Intezet) of the Szeged College of Medicine (Szegedi Orvostudományi Egyetem).

"Effect of Prolonged Administration of Posterior Hypothalamus Extract on the Thyroid Gland"

Budapest, A NYA Biologiai es Orvosi Tudomanyok Osszefoglalasok Kozlonyei, Vol. 13, No. 4, 1962; pp 297-303.

Abstract: [Authors' Hungarian summary, modified] Physiological saline suspension of extract prepared from rat-, bovine- and rabbit posterior hypothalamus was administered over a prolonged period of time to female rats. It was found that the weight of the animals' thyroid glands increased as a result of the treatment to a moderate but nevertheless statistically significant degree. No such effect was noted with suspensions prepared from the middle- or anterior portion of the hypothalamus or from the cerebral cortex. In rats pretreated with thyreo-

1/2

HUNGARY

Budapest, A MTA Biológiai és Orvosi Tudományok Osztályának Közleményei.
Vol 13, No 4, 1962; pp 297-303.

tropic hormone, administration of a suspension prepared from the posterior hypothalamus over a period of ten days inhibited the return to normal of the hyperplastic thyroid changes. The effect of the suspension is noticeable also in very young animals, while in older animals it is reduced or absent. No iodine-concentrating ability is demonstrable along with the weight increase of the thyroid, in fact the 24-hour radioactive-iodine uptake of the thyroid is lower in terms of unit weight than is the case with the group treated with cortical extract. Taking into consideration the latter phenomenon it seems that one is dealing with an inhibition analogous to that of geriter-producing agents. [Six references, all Western].

2/2

16

HUNGARY/Microbiology - General Microbiology

F-1

Abs Jour: Ref Zhur - Biol., No 18, 1958, 81410

Author : Kramli, A. Pettko, E., Turay, P.

Inst : -

Title : Effect of Thioglycollic Acid on the Metabolism
of Yeast Cells.

Orig Pub: Biol. kozl., 1957, 5, No. 1, 45-49

Abstract: The fermenting power and caroxylase activity of yeasts is increased by thioglycollic acid under aerobic conditions, while the dehydrase activity is unchanged. The quantity of acetaldehyde, which represents an intermediary product in the fermentation process, is increased in relation to the quantity of alcohol formed. It is assumed that the acetaldehyde remaining after oxidation into acetic acid

Card 1/2

BACHRACH, Denes, dr.; LASZLO, Aranka, dr.; B. SZABO, Eva, dr.; PETTKO, Emma, dr.;
KORPASSY, Bela, dr.

Effect of a prolonged administration of posterior hypothalamic extract
on the thyroid. Orv. hetil. 102 no.48:2276-2277 26 N '61.

1. Szegedi Orvostudományi Egyetem Korbonctani és Korszovettani Intézet,
Borgyógyászati Klinika és Orvosi Vegytani Intézet.

(THYROID GLAND pharmacol) (HYPOTHALAMUS extracts)

1. F. V. ...; ...; ...

2. ...; ...; ...

Effect of heavy metal on the respiration
and redox potential of a Spirillum volutans
culture. ...

Vol. 3, No. 1/2, 1968
ACTA MICROBIOLOGICA
TECHNOLOGICA
Budapest, HUNGARY

So: East European Accession, ...

PETTKO, E.

Change in the metabolism of microorganisms grown on irradiated culture medium. A. Krámlj, E. Pettkó, and M. Sipos (Med. Univ., Szeged, Hung.). *Nature* 178, 1237 (1956). Cultures of *Serratia marcescens* were inoculated into medium irradiated with ultraviolet rays. Growth of the cultures only started on complete exhaustion of the oxidation-reduction capacity, which had increased on the irradiation. Thereafter the growth of the cells and the oxidation-reduction potential of the cultures corresponded to that of the controls. Prodigiosin production, however, decreased significantly. A. B. Teeri

13

Pettko, E.

1ST AND 2ND QUARTERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH QUARTERS

The composition and polymerization of actin. G. Reuer, M. Mohr, E. Pettko, and F. B. Straub. *Berg. Akad. Physik.* 1, 156-69 (1948).--To prep. actin, 100 g. of ice-cooled, fresh rabbit muscle is minced, suspended in 300 ml. ice-cold 0.3 M KCl soln. contg. sufficient 0.15 M K-phosphate buffer soln. to maintain pH = 6.5, stirred for 10 min., treated with 1200 ml. distd. water, filtered, the residue suspended in 5 vols. of 0.4% soln. of NaHCO₃ at 22-5°, kept at this temp. with continuous stirring for 30 min., filtered, the residue suspended in 1 vol. of a soln. 0.01 M in NaHCO₃ and 0.01 M in Na₂CO₃, the temp. being kept below 10°, stirred for 10 min., dild. with 10 vols. of water at 22-5°, and filtered. For every 100 g. of residue is added 300 ml. of acetone at 22-5°, the mixt. stirred for 10 min., filtered, the residue treated with 1/2 the previous quantity of acetone, stirred 10 min., pressed out, and dried at room temp. One g. of the dry powder is treated with 20 vols. of CO₂-free water at room temp. for 15-20 min., and filtered. The soln. contains 4-8 mg. actin per ml. If an actin soln. free of salts is dild. with 10 vols. of acetone and a few drops of an acetate buffer of pH 4.8 is added, actin is pptd., and the bodies remain in soln.

After polymerization the actin soln. had an apparent sp. viscosity of 1.7. The amino acid contents (N contents of the respective amino acid as percentages of the total N content of amino acids) were tryptophan 9.22, tyrosine 1.45, phenylalanine 0.0, arginine 1.00, histidine 2.98, lysine 11.48, cystine 1.41, glutamic acid 5.40, aspartic acid 10.07, proline 8.08, hydroxyproline 1.22, glycine 8.30, and methionine 0.0; imide N was 11.50, ureidic N 40.0%. The Ca content of actin averaged 0.218%, the Mg content 0.006%. Since the soln. just passes a 10% collodion membrane prepd. according to Bechhold its mol. wt. cannot be higher than 70,000. The polymerization of actin observed on addn. of various salts caused no appreciable changes in the absorption spectrum. The rate of polymerization under the effect of univalent cations had a max. at concns. of 0.10-1.6 M. The effect of Mg ions apparently was due not so much to an increase in the velocity of polymerization as to a reduction of the time lag. Without Mg there seems to be no polymerization. Polymerization seems to be a series of reactions in which Mg affects the first step, without which reaction KCl cannot affect the polymerization of actin. Ca alone showed effects similar to those of Mg. In the presence of divalent ions, as K⁺ or Na⁺, Ca

11a

1/2

COMMON ELEMENTS
MATERIALS INDEX

COMMON VARIANTS INDEX

A33-31A METALLURGICAL LITERATURE CLASSIFICATION

8-27-50

decreased the rate of polymerization. Oxidizing agents prevented the polymerization of actin, and even destroyed polymerized actin. If this oxidation is not too drastic the effect is reversible, i.e., on addition of reducing substances the original polymerized actin can be reconstituted. The reconstitution decreased the stability. Mg ions seemed to combine with the oxidizable group and thus take part with this group in converting the particles of globular actin into particles of fibrous actin. Mg ions stabilized the products of polymerization against mechanical forces but seemed to make them more accessible to oxidizing agents. Actin gradually loses its ability to polymerize and to form actomyosin. This can be prevented by dialyzing against a soln. of boiled actin or against a diln. boiled muscle juice, or by washing the isoelec. ppt. of actin with a dil. acetate buffer soln. John A. Finlay

2/20 G. Finlay, Philadelphia
G. L. P. & F. B. Stenard

PETTKO, E.F.; KISS, P.; KRAMLÍ, A.

The effect of heavy metals on the respiration and redox potential of streptomyces. Acta microb. hung 3 no.1-2:35-39 1955.

1. Chemisches und Biochemisches Institut der Medizinischen Universität, Szeged.

(STREPTOMYCES

aureofaciens, eff. of heavy metals and on respiration & redox)

(METALS, eff.

heavy metals, on resp. & redox potential of Streptomyces aureofaciens)

PETI NO, E. F.

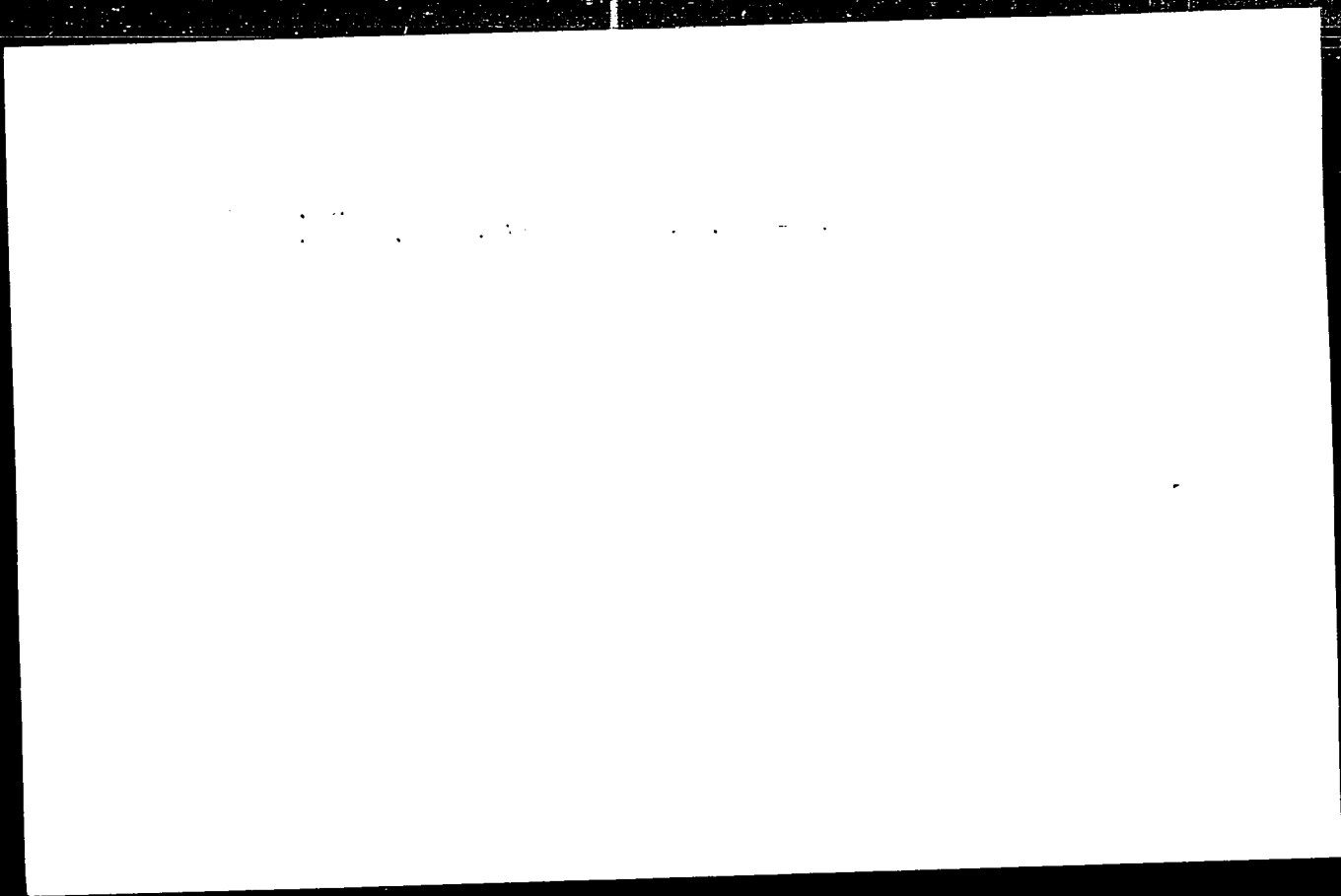
RUNS

Effect of heavy metals on respiration and oxidation-reduction potentials of *Streptomyces griseus* cultures. A. Kohn, E. F. Pettko, and P. Kies (Sooch Univ.). *Acta Microbiol. Trans. SV. Hung.* 2, 39-49 (1964) (in German). 2

When cultures were raised on medium lacking trace elements, the oxidation-reduction potential stayed at approx 300 mv. With 10 γ /ml. Mn or Mn + Fe, the oxidation-reduction potential underwent a max, while the respiration underwent a minimum. Respiration was increased by 20-60 γ /ml. Fe and most strongly by 100 γ /ml. V⁵⁺, which inhibited streptomycin production. The oxidation-reduction potential was raised by adds. of V⁵⁺ and relatively unaffected by Zn, Mn, Fe, and vanadate ions, except transiently. It was raised by adds. of metallic V and Mn, reduced by Cu, and unaffected by Fe, Ni, Co, and Cr. E. W. B., Jr.

"APPROVED FOR RELEASE: 06/15/2000

CIA-RDP86-00513R001240630009-6



APPROVED FOR RELEASE: 06/15/2000

CIA-RDP86-00513R001240630009-6"

CA

112

The active substance of muscle extracts increasing the performance of the hypodynamic frog heart: adenosine triphosphate. B. Pettko and F. B. Straub (Univ. Sieged, Hong K. *Hung. J. Physiol.* 2, 114-116 (1949) (in English).

An isolated frog heart suspended on a Straub cannula was made hypodynamic by treating with a quinine-contg. Ringer soln. and the effect of dilid muscle exts. studied. Adenosine diphosphate (ADP) in doses of 0.5 mg. restored the normal amplitude of the hypodynamic heart and was as effective as adenosine triphosphate (ATP). *Actin solns.* restored the normal amplitude of the Ca-deficient frog heart far above that expected on the basis of total Ca content. A boiled actin soln. contg. 4 mg. protein/ml. was effective in a diln. of 1:100, even when the Ringer soln. contained only 15% of the normal Ca content. ATP was isolated from actin solns. and the ATP content of actin was about 1.0% (calcd. on the basis of its protein content). A boiled actin muscle ext. had effects on the frog heart similar to those of a boiled actin soln. Other expts. proved that ATP in muscle tissue is strongly bound to proteins and is not decomposed by the adenosinetriphosphatase system. The active substance was sepd. from horse muscle tissue by a

special procedure. From 2.5 kg. muscle tissue 90 mg. of a product contg. adenine 30.1, ribose 34.0, total P 10.5, and inorg. P 1.15% was obtained. The inorg. P content was 4.2% after a 30-min. hydrolysis in 0.25 N H₂SO₄ at 100°. The ratio of hydrolyzable P to total org. P was 1:3.06. The absorption spectrum of the product was identical to that of adenine. The high ribose and adenine content and the ratio of hydrolyzable P to total P suggest that the substance consists of a mixt. of adenylic acid, ADP, and possibly ATP. Its activity is definitely due to its ADP content. The calcd. content of act stored horse muscle tissue is 0.2-0.3 mg./g. ADP. ADP in the tissues is never completely decomposed. A consid. percentage of the total ATP content in skeletal muscle, heart muscle, liver, and kidney is not split by the enzymes of tissues, even if they are exposed for a long time to their effect. This fraction of ATP is probably bound to proteins as ADP. The active substance in muscle exts. and actin solns. which restores the normal function of the quinine-treated isolated frog heart is definitely identical with ATP.

CA

Adenosinetriphosphat content of the heart of frogs.
Katalin S. Biró and Emma Peitkó. *Kísérlet Orvostudományi* 1, 11-13(1949) --From Jan. 7 through March 17, 16 frogs with body wts. of 18-31 g. showed adenosinetriphosphate contents of 46 mg./g. in the heart, 2.31 in the

gastrocnemius, and 1.4 in the liver. A quinine soln. 1.0 X 10⁶ showed no impeding effects on the heart. From March 29 to April 7 the contents were 0.134-0.400 (mean 0.35) in the heart and 2.14-4.20 (mean 2.95) in the gastrocnemius. On May 2 frogs with body wts. 48-85 g. gave values 0.122-0.200 (mean 0.170) in the heart, 2.25-3.20 (mean 2.95) in the gastrocnemius, and 1.20-1.01 (mean 1.43) in the liver. Istvan Fialy

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Effect of heavy metals on respiration and redox potential of
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(METALS, eff.

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(STREPTOMYCES, eff. of drugs on
heavy metals on resp. & redox potential)

(OXIDATION-REDUCTION
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Effect of metals on respiration and oxidation-reduction potential of *Streptomyces aureofaciens*. E. F. Pettko, P. Kim, and A. Kramel (Med. Univ., Sopot). *Ann. Microbiol. Acad. Sci. Hung.* 9: 26-4(1966) (in German).—Respiration of a 3-day-old mycelium of *S. aureofaciens* increased by the addition of 60 γ Fe or Mn/ml., decreased by the addition of 20-60 γ Cd, Cr, Pb, or Zn/ml., and was completely inhibited by 60 γ Cu/ml., while Al, Co, Mg, Mo, Ni, Si, and V were without effect. Oxidation-reduction potential increased in the presence of Cd, Cu, Fe, and Pb, decreased in the presence of V and Zn, and was unaffected by Al, Co, Mg, Mn, Mo, Ni, and Si. Fe and Cu acted as oxidation-reduction buffers. Aluminum formate was recommended for the large-scale production of chlorotetracycline. *Ch. CA 49, 1774c.*

1110

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