

USSR

UDC 547.963.3

BRAUDE, N. A., and ZAMCHUK, L. A., Institute of General Genetics, Academy of Sciences USSR, Moscow

"Immunological Specificity of DNA of the Phage SPO1 of Bac. subtilis"

Moscow, Molekulyarnaya Biologiya, Vol 5, No 6, Nov/Dec 71, pp 892-897

Abstract: The immunological properties of DNA from the phage SPO1 of Bac. subtilis were studied in order to evaluate the role of 5-hydroxymethyluracil as a specific antigenic determinant. Rabbits were immunized with a combination of denatured DNA from the phage SPO1 plus methylated bovine serum albumin, and this resulted in the appearance of antibodies capable of reacting with the DNA of the SPO1 phage, particularly with denatured DNA. The antibody titer, increased during the course of the immunization cycle and continued to rise even after the completion of immunization, achieving a maximum on the thirteenth day. The number of antibodies decreased noticeably within 1 to 2 months; within 3 months, no antibodies at all were observed. It was also established experimentally that the ability of the antibodies to react only with DNA that contains 5-hydroxymethyluracil does not depend on the presence of glucose in the DNA. Thus, 5-hydroxymethyluracil acts as a specific antigenic determinant in DNA from the SPO1 phage. The results obtained are compared with results cited in the literature, and an attempt is made to explain discrepancies.

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UDC 523.164.42

BRAUDE, S. YA., ZHUK, I. N., LEBEDEVA, O. M., MEN', A. V. and RYABOV, B. P.,
Institute of Radiophysics and Electronics, Academy of Sciences UkrSSR, Khar'kov

"Time Changes in the Flux Densities of Discrete Sources in the Decameter Range"

Kiev, Ukrainskiy Fizicheskiy Zhurnal, Vol. 15, No. 2, Feb 70, pp 177-190

Abstract: Two series of experiments were conducted to clarify the problem of the flux variability of sources in the decameter range. The purpose of the first series of experiments was to determine the type of fluctuations in signals occurring in 5-10 consecutive measurements of sources with first and third types of spectra. The second group of experiments was to determine the change in the average flux density with time for 30 sources, each of which was measured for several months. The first group of experiments indicated that fluctuations in signals received from the sources are associated with the ionosphere and not with processes occurring in the sources. The following sources were selected for the second series of experiments to determine whether the average flux densities of different sources vary over time: 3C10, 3C111, 3C196, 3C218, 3C274, 3C353, 3C123, 3C405, 3C461, 3C84, 3C98, 3C144, and 3C348 in Cassiopeia-A. Experiments show that spectra of the majority of these sources were stable and independent of time. Some typical results of measurements made during 1966-1968

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BRAUDE, S. YA., et al., Ukrainskiy Fizicheskiy Zhurnal, Vol 15, No 2, Feb 70, pp 177-190

are given for several of these sources. The data showed, however, that-as distinct from the majority of discrete sources where the average spectra remained unchanged over a considerable time period within the accuracy of measurement, time changes in intensity exceeding the natural spread of data and error of measurement were observed in the spectra of three discrete sources: 3C84, 3C144, and 3C461. The data were insufficient to establish the period of variability of these sources. A discussion of the question indicates that this variability cannot be explained within the framework of existing models, and the physical processes responsible for this flux variability at low frequencies remain an open question. It was concluded that since a systematic increase in the flux of Cassiopeia-A at low frequencies was not observed, one would expect that in an injection of particles with a total energy of $W_e = 10^{47}$ ergs, which is about 10% of the relativistic particles of the entire Cassiopeia-A, the variability observed during 1966-1967 must be a relatively rare phenomenon. Further systematic studies of these and other sources in the decameter range are recommended.

2/2

Acc. Nr: **046564**
APC

Abstracting Service: **5/70**
INTERNAT. AEROSPACE ABST.

Ref. Code: **UR0185**

A70-23189 # Spectra of discrete radio sources in decametric wavelength range (Spektry diskretnikh dzherel v dekametrovomu diapazoni dovizhin khvil'). S. Ia. Brauns, I. M. Zhuk, O. M. Lebedeva, A. V. Men', and B. P. Riabov (Akademiia Nauk Ukrain's'koi RSR, Institut Radiofiziki i Elektroniki, Kharkov, Ukrainian SSR). Ukrains'kii Fizichnii Zhurnal, vol. 15, Jan. 1970, p. 1-32. 118 refs. In Ukrainian.

The analysis was carried out of the spectra measurements of discrete sources of cosmic radio waves in a decametric wavelength range. The spectral indices are presented of 113 discrete sources measured at the Radio Observatory of the Institute of Radiophysics and Electronics of the Academy of Sciences of the Ukrainian SSR in Grakovo. A new classification of decametric spectra of discrete sources was introduced. According to this classification 59 sources were related to type I (linear spectra), 8—to type II (negative curvature), 29—to type III (positive curvature) and 3 sources—to the type IV (variable curvature). Different problems connected with generation and absorption of radio waves in the discrete sources were discussed and used to interpretation of various types of spectra. The analysis of preliminary data on the radio wave absorption of remote metagalactic hydrogen was discussed together with the question on possible values of temperature and density of the latter. (Author)

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REEL/FRA
19781828

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1/2 018 UNCLASSIFIED PROCESSING DATE--090CT70
TITLE--TIME VARIATIONS IN THE DENSITIES OF FLUXES FROM DISCRETE SOURCES
IN THE DECAMETER WAVELENGTH RANGE -U-
AUTHOR--(05)-BRAUDE, S.YA., ZHUK, I.M., LEBEDEVA, U.M., MEN, A.V., RYABOV,
B.P.
COUNTRY OF INFO--USSR **B**
SOURCE--UKRAINS'KII FIZICHNII ZHURNAL, VOL. 15, FEB. 1970, P. 177-190
DATE PUBLISHED-----70

SUBJECT AREAS--ASTRONOMY, ASTROPHYSICS
TOPIC TAGS--ELECTRON FLUX, RADIO EMISSION, CRITICAL WAVELENGTH, SIGNAL
ANALYSIS

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--159170323 STEP NO--UR/0185/70/015/000/0177/0190
CIRC ACCESSION NO--AP0110211
UNCLASSIFIED

2/2 018

UNCLASSIFIED

PROCESSING DATE--0900T70

CIRC ACCESSION NO--AP0110211

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THEORETICAL AND EXPERIMENTAL STUDY OF THE TIME VARIABLE INTENSITIES OF RADIATION FLUXES FROM RADIO EMISSION SOURCES IN THE DECAMETER WAVELENGTH RANGE. THE STUDY IS BASED ON OBSERVATIONS OF THE FLUCTUATIONS IN RADIO SIGNAL SEQUENCES AND ON LONG PERIOD OBSERVATIONS OF THE MEAN VALUES OF THE DENSITIES OF RADIO EMISSION FLUXES FROM A LARGE GROUP OF DISCRETE RADIO SOURCES. THE RADIO EMISSION SPECTRA OF MOST OF THESE SOURCES SHOWED ONLY SLIGHT VARIATIONS WITH TIME, WITH THE EXCEPTION OF 3C84, 3C144 AND 3C461. THE TIME VARIABLE FLUCTUATIONS IN THE RADIO EMISSION SPECTRA OF THESE SOURCES ARE FOUND TO BE GREATER AT LOWER FREQUENCIES. POSSIBLE PHYSICAL CAUSES OF THESE TIME DEPENDENT FLUCTUATIONS ARE DISCUSSED. FACILITY: AKADEMIIA NAUK UKRAINS'KOI RSR, INSTITUT RADIOFIZIKI I ELEKTRONIKI, KHARKOV, UKRAINIAN SSR.

UNCLASSIFIED

1/2 019

UNCLASSIFIED

PROCESSING DATE--16OCT70

TITLE--FLUX DENSITIES OF SOME RADIO SOURCES IN THE FREQUENCY RANGE 12-25

MHZ -U-

AUTHOR--(05)-BRAUDE, S.YA., LEBEDEVA, O.M., MEGN, A.V., RYABOV, B.P., ZHOUCK, I.N.

COUNTRY OF INFO--USSR

B

SOURCE--ASTROPHYS. LETTERS (G8), VOL. 5, NO. 3, P. 129-32 (MARCH 1970)

DATE PUBLISHED----MAR 70

SUBJECT AREAS--ASTRONOMY, ASTROPHYSICS, NAVIGATION

TOPIC TAGS--ELECTRON FLUX, RADIO TELESCOPE, COSMIC RADIO SOURCE/(U)UTRL
RADIO TELESCOPE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--1992/0539

STEP NO--UK/0000/70/005/00370129/0132

CIRC ACCESSION NO--AP0111732

UNCLASSIFIED

2/2 019

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0111732

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THIS PAPER PRESENTS MEASUREMENTS OF THE FLUX DENSITIES OF 33 DISCRETE RADIO SOURCES, MADE WITH THE RADIO TELESCOPE UTR-1 IN GRAKOVO, AT FREQUENCIES RANGING FROM 12.6 TO 25 MHZ. FACILITY: ACAD. SCI. UKRAINIAN SSR, KHARKOV, USSR.

UNCLASSIFIED

2/2 020 UNCLASSIFIED PROCESSING DATE--02OCT70
CIRC ACCESSION NO--AM0110369
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PREFACE 3. CHAPTER I THE
COMPOSITION AND STRUCTURE OF A COMPLEX OF FREQUENCY FERRODYNAMIC
EQUIPMENT 4. II UNIFIED NODES, UNITS AND ELEMENTS 14. III
PRIMARY MEASURING INSTRUMENTS AND COMPLEXES 100. IV SECONDARY
INSTRUMENTS AND MECHANISMS 169. V REGULATORS AND AUXILIARY
MECHANISMS 207. LITERATURE 221. EXAMINED ARE COMPOSITION,
STRUCTURE, PRINCIPLES OF DESIGN AND BASIC TECHNICAL CHARACTERISTICS OF A
COMPLEX OF EQUIPMENT DESIGNED AT THE SPECIAL CONSTRUCTION BUREAU OF
SYSTEMS OF AUTOMATIC CONTROL IN KHAR'KOV FOR THE CONSTRUCTION OF VARIOUS
AUTOMIZED SYSTEMS OF CONTROL AND REGULATION IN VARIOUS BRANCHES OF
INDUSTRY. THE BOOK IS FOR SPECIALISTS IN THE FIELD OF AUTOMATION OF
PRODUCTION DESIGNING SYSTEMS OF AUTOMATION IN THEIR INDUSTRIAL
OPERATION.

UNCLASSIFIED

USSR

UDC 621.376:530.145.6

BRAUDE, V. B.

"Separation of the Manipulation Frequency of an Optical Signal using a High Q-Factor Resonance Circuit"

Materialy nauchno-tekhn. konferentsii. Leningr. elektrotekhn. in-ta svyazi. Vyp. 2
(Materials of the Scientific and Technical Conference. Leningrad Electrotechnical
Communications Institute, Vyp. 2), Leningrad, 1970, pp 107-111 (from RZh-Radio-
tekhnika, No 8, Aug 70, Abstract No 8 D274)

Translation: This report contains an investigation of the problems of separating the manipulation frequency of an optical signal using a resonance circuit with high Q-factor when an ideal photoconverter is used as the receiver. An expression is obtained for the signal/noise ratio at the circuit output, and the conditions for maximizing it are defined.

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USSR

UDC: 621.376.55

BRAUDE-ZOLOTAREV, Yu. M., TSIRLIN, V. M.

"A Positional Code Modulated Signal Decoder"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obratzsy, Tovarnyye Znaki, No 32, Nov 71, Author's Certificate No 319064, Division H, filed 19 Feb 70, published 28 Oct 71, p 174

Translation: This Author's Certificate introduces a code-position modulated signal demodulator which contains a pulse-position modulation decoder at the output. As a distinguishing feature of the patent, the demodulator is designed for improved interference suppression and better utilization of the traffic-handling capacity of the communications channel. Connected to the input of the decoding matrix of the pulse-position modulation decoder is the output of the signal source, and connected to each of the n outputs of the decoding matrix are the controlling inputs of n selector switches, and the n inputs of an OR gate. The output of the OR gate is connected to the input of a sectionalized delay line whose outputs are connected to the second signal inputs of selector switches connected at the output of the module for shaping and decoding the pulse-position modulated pulses.

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Communications

USSR

UDC: 621.376.55

BRAUDE-ZOLOTAREV, Yu. M., TSIRLIN, N. M.

"A Positional Code Modulated Transmitter"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 32, Nov 71, Author's Certificate No 319063, Division H, filed 19 Feb 70, published 28 Oct 71, p 174

Translation: This Author's Certificate introduces a positional code modulated transmitter which contains a pulse-position modulator and a coding module. As a distinguishing feature of the patent, the design provides for more efficient utilization of the traffic-handling capacity of the communications channel and improves interference suppression. Connected to the input of the device is a series circuit comprised of a pulse duration modulator, a sectionalized delay line, a phase pulse shaper, and the coding module. In addition, n outputs of the delay line are connected to n control inputs of the phase shaper and n inputs of the coding module. The coding module output serves as the output for the device.

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USSR

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UDC 621.372.543.2(088.8)

BRAUDE-ZOLOTAREV, YU. M., ORLOV, V. V.

"Band Filter"

USSR Author's Certificate No 248858, Filed 3 May 67, Published 15 Jan 70
(from RZh-Radiotekhnika, No 9, Sep 70, Abstract No 9D41P)

Translation: This author's certificate introduces a band filter (for example, for intermediate frequency amplifiers of TV-receivers) containing rejector circuits (rejectors), coupling circuits, resistive capacitors and resonance matching circuits at the input and output. In order to improve the selectivity when decreasing the number of regulated elements, the filter (\bar{F}) is executed in the form of two rejectors included in parallel in the middle of the filter and connected via a nonregulatable coupling capacitance with a low-frequency rejector at the filter input and via an unregulated coupling inductance with a high frequency rejector at the filter output. Resistors are included between the matching circuits at the input and output of the filter and the parallel rejectors.

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Food Technology

USSR

UDC 612.392.9:612.398.3-083

SLONIMSKIY, G. L., BRAUDO, Ye. Ye., YERTANOV, I. D., TOLSTOGUZOV, V. B.,
BONDAREVA, E. S., and FLASHCHINA, I. G., Laboratory of Physics of Polymers,
Institute of Elementoorganic Compounds, Academy of Sciences USSR

"Susceptibility of Proteins in New Food Products to Attack by Proteolytic
Enzymes"

Moscow, Voprosy Pitaniya, No 6, 1970, pp 25-31


Abstract: The susceptibility of proteins in different kinds of synthetic caviar (based on casein, evaporated milk, etc.) and synthetic groats to attack by proteolytic enzymes of the gastrointestinal tract in vitro was compared with the susceptibility of the original protein mixtures used to make the caviar and groats. The susceptibility of proteins to attack by pepsin in all the kinds of caviar studied was higher than that of the proteins in the original mixture. The degree of trypsin and chymotrypsin proteolysis of the pepsin-digested proteins in the caviar was equal to or higher than the degree of proteolysis of the pepsin-digested original protein mixtures. The degree of pepsin proteolysis of proteins in the synthetic groats was equal to or lower than the degree of proteolysis of
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SLONIMSKIY, G. L., et al, Voprosy Pitaniya, No 6, 1970, pp 25-31

the original protein mixtures. The degree of trypsin proteolysis of the pepsin-digested proteins in the groats was equal to the degree of proteolysis of the pepsin-digested original protein mixtures.

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1/1 019 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--VOLUMETRIC TECHNIQUE FOR STUDYING SWELLING AND SYNERESIS AND ITS
APPLICATION TO PROTEIN GELS -U-
AUTHOR--(02)-BRAUDO, YE.YE., TOLSTOGUZOV, V.B. 
COUNTRY OF INFO--USSR
SOURCE--VYSOKOMOL. SOEDIN., SER. A 1970, 12(2), 474-6
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES, CHEMISTRY
TOPIC TAGS--PROTEIN, GEL, FLUORINATED ORGANIC COMPOUND, CHLOROFLUOROCARBON
COMPOUND, VOLUMETRIC ANALYSIS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1995/1222 STEP NO--UR/0459/70/012/002/0474/0476
CIRC ACCESSION NO--AP0116684
UNCLASSIFIED

USSR

UDC: 612.46.014.3:612.6-06.612.275.1

BRAUN, A. A., and SHARIPOV, F. Kh., Chair of Histology, Tadzhik Medical Institute

"Mitosis in a Kidney Undergoing Compensatory Hypertrophy in a High-Mountain Region"

Moscow, Byulleten' Eksperimental'noy Biologii i Meditsiny, Vol 70, No 12, Dec 70,
pp 76-79

Abstract: A left nephrectomy was performed on rats 2 and 31 days after they were taken to a mountain area (3379 m above sea level) and on other rats in a valley (820 m above sea level) in order to study mitotic activity in the surviving hypertrophic kidney. In the kidney of the nonadapted rats, mitotic activity began to increase on the 2nd day following the operation, reaching a peak on the 5th day and remaining high for 2 months thereafter. The maximum increase was by a factor of 2.5 less than that in the kidney of the valley rats. Thirty days' adaptation to high-altitude conditions markedly affected mitosis in the surviving kidney. The mitotic index on the 5th day following the operation was close to that in the valley. However, the maximum increase was also observed on this day, as in the nonadapted animals.

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USSR

UDC 612.014+612.11

TADZHIYEV, K. T., BRAUN, A. A., and SHARIPOV, F. Kh., Tadzhik State Medical
Institute imeni Abualli Ibn-Sino

"Effect of High Altitude on Animal Reactivity"

Dushambe, Izvestiya Akademii Nauk Tadzhikskoy SSR, No 4, 1972, pp 81-86

Abstract: The survival time, weight, and peripheral blood were studied in rats subjected to whole-body X-irradiation (400 r) at various times after being brought to an altitude 3,379 m above sea level. The control animals were irradiated in the city of Dushambe, 820 m above sea level. The mortality rate was higher in the mountains than in the valley, but the longer the animals remained in the mountains prior to irradiation the lower the mortality rate afterward. The weight loss after irradiation was more pronounced in the mountains than in the valley, the amount being inversely related to the length of the adaptation period. Changes in the composition of peripheral blood after X-irradiation of rats not adapted to the altitude factor were of the same nature as in the animals irradiated with the same dose in the valley, but they were somewhat more pronounced. A month after irradiation the number of erythrocytes, thrombocytes, and leukocytes was much higher in the adapted rats than in the unadapted animals.

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UNCLASSIFIED

PROCESSING DATE--04DEC70

TITLE--IRON ORE BASE OF FERROUS METALLURGY IN THE USSR. SEC. ED. REV. AND
EXP -U-

AUTHOR--BRAUN, G.A.

COUNTRY OF INFO--USSR

SOURCE--IRON ORE BASE OF FERROUS METALLURGY IN THE USSR. SEC. ED. REV. AND
EXP. (ZHELEZNORUDNAYA BAZA METALLURGII SSSR. IZD. VTOROYE, PERER. 1
DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS, EARTH SCIENCES AND OCEANOGRAPHY

TOPIC TAGS--ECONOMICS, IRON ORE, MINERAL DEPOSIT, GEOGRAPHIC LOCATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3003/1231

STEP NO--UR/0000/70/000/000/0001/0310

CIRC ACCESSION NO--AM0130241

UNCLASSIFIED

2/3 010

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AM0130241

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TABLE OF CONTENTS: INTRODUCTION
 3. PART I, SECTION I. CHAPTER I THE PREDOMINATING ROLE OF IRON 7.
 II THE ECONOMIC SIGNIFICANCE OF IRON ORE BEDS 13. III
 CLASSIFICATION INDICATIONS OF IRON ORE RESOURCES 19. SECTION II.
 CHAPTER I IRON ORE RESERVES IN THE USSR BY 1967 29. II GEOGRAPHICAL
 DISTRIBUTION AND INDUSTRIAL UTILIZATION OF IRON ORE RESOURCES 50.
 III THE QUALITY OF BALANCE RESERVES OF IRON ORE 59. IV THE GENETIC
 CLASSIFICATION OF IRON ORE DEPOSITS IN THE USSR 64. V THE QUANTITY,
 QUALITY AND ADOPTION OF INDUSTRIAL MINERALOGICAL TYPES OF IRON ORE 72.
 VI TECHNOLOGICAL (ENRICHMENT INDICATION) TYPES OF IRON ORE AND THEIR
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 RESOURCES OF THE URAL 159. VIII IRON ORE RESOURCES OF SIBERIA AND
 FAR EAST 183. IX IRON ORE RESOURCES OF THE KAZAKH SSR 208. PART
 II. CHAPTER I THE DEVELOPMENT OF THE IRON ORE INDUSTRY IN THE USSR BY
 1968 AND IN PROSPECT 220. II THE DYNAMICS OF EXTRACTION OF RAW IRON
 ORE AND THE GROWTH OF OPEN PIT MINING 231. III CONCENTRATION OF
 PRODUCTION IN THE IRON ORE INDUSTRY 234. IV THE DEVELOPMENT OF
 ENRICHMENT OF IRON ORES 235. V THE QUALITY OF COMMERCIAL IRON ORE
 243. VI ECONOMIC EVALUATION OF THE MAIN ORE BASES OF FERROUS
 METALLURGY 245.

UNCLASSIFIED

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PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AM0130241

ABSTRACT/EXTRACT--APPENDICES 249. LITERATURE 306. GIVEN IS A COMPLEX MINING GEOLOGICAL AND INDUSTRIAL EVALUATION OF IRON ORE DEPOSITS. CITED ARE THE CHEMICAL COMPOSITION OF ORES, INDEXES OF THEIR ENRICHMENT AND THE QUANTITY OF MINES (COMMERCIAL) IRON BY DEPOSIT, REGIONS AND THE USSR AS A WHOLE. THE BOOK IS FOR A WIDE RANGE OF SPECIALISTS IN MINING AND METALLURGY INDUSTRY AND ALSO FOR SPECIALISTS WORKING IN THE FIELD OF GEOLOGY, PROSPECTING AND ECONOMIC EVALUATION OF USEFUL MINERALS.

UNCLASSIFIED

USSR

UDC: 621.438:669.5:546.821

KOSTYRKO, O. S., BRAUN, M. P., MARTYNYENKO, A. P., ZELENAYA, L. A., and GRIGOR'YEV, V. P.

"Particularities Associated With Using Some Grades of Steel and Alloys at Low Temperatures"

V sb. Litye iznosostoyk. materialy (Cast Wear-Resistant Materials — collection of works), Kiev, 1972, pp 156-164 (from RZh-Turbostroyeniye, No 5, 1973, Abstract No 5.49.152)

Translation: The authors study changes in the casting expansion factor and the characteristics of strength, plasticity, and ductility within a broad temperature interval of up to -70° C for the 12 Kh 2NChA, 18KhNVA, 30 Kh Kh-GSA, 38 KhMYuA, 40 Kh NMA, 2 Kh13, Kh17 N2, EI698-M grades of steel and for the VTZ-1 alloy. Fatigue strength using smooth and cut specimens was also studied in the case of the Kh17N2 and EI961 grades of steel and the VTZ-1 alloy. Original article: 5 tables, 3 bibl. entries.

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USSR

UDC 669.15'26-194:546.261

BRAUN, M. P., GAYDUCHENKO, G. K., and VINOKUR, B. B., Institute of Casting Problems, Academy of Sciences Ukr SSR

"Formation of Carbides in a 3% Chromium Steel With Additional Alloying"

Kiev, Metallofizika, No 40, 1972, pp 85-90

Abstract: The composition of the carbide phase in a 3% chromium steel containing 0.3% carbon was studied by x-ray diffraction and chemical methods. It was established that chromium and manganese, entering into the cementite composition, destabilize it and lead to the formation of chromium carbide by the aging mechanism. In the Cr-Ni steel the chromium carbide forms at a lower tempering temperature by an "at point" mechanism. Additional alloying with molybdenum increases the temperature of Me_7Cr_3 formation. Here, for both steels, the carbide is precipitated by the aging mechanism. 1 figure, 3 table, 11 bibliographic references.

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USSR

UDC 669.245'26'293'27'28:620.18:620.17

BELINSKAYA, L. A., BRAUN, M. P., IONKINA, Ye. M., LEBEDEV, K. P., and
KHIL'CHEVSKAYA, T. V.

"Structure, Phase Composition, and Certain Properties of Cast Complex Nickel-
Base Alloys With Niobium"

Metallofizika. Resp. mezhved. sb. (The Physics of Metals. Republic Inter-
departmental Collection of Works), 1971, vyp. 33, pp 102-107 (from RZh-
Metallurgiya, No 1, Jan 72, Abstract No 11791 by authors)

Translation of Abstract: A study was made of structural changes and certain
properties of Ni-Cr-base alloys with a large Nb content (7.5-8%) when alloyed
with tungsten (3%) and molybdenum (5.10%). The alloys were smelted in open
induction furnaces, and specimens were made according to smelted models.
Phase composition was studied after isolation of precipitates in specially
selected electrolytes. The investigation of microstructure was made on
as-cast specimens after heat treatment consisting in hardening from 1200°
with subsequent tempering at 900° for 16 hours, Four illustrations. Three
tables. Bibliography with seven titles.

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USSR

UDC 669.245.018.28:669.018.44

MOZHARENKO, I. P., BRAUN, M. P.

"Factors of Thermal Fatigue of EP375 Alloy"

Liteyn. proiz.-vo (Casting Production), 1970, No 10, pp 24-25 (from RZh-Metal-
lurgiya, No 4, Apr 71, Abstract No 4I773)

Translation: Although the cast heat-resistant nickel-base alloy EP375 is superior to deformable alloys with respect to stress-rupture strength, it is inferior to them with respect to resistance to thermal fatigue as a result of large grain, microscopic chemical inhomogeneity, and interdendritic and intradendritic porosity. The resistance to thermal fatigue is increased by refining the dendritic cells by ultrasound and also by heating to 1,200° and holding for 4 hours before cooling in the air to remove supersaturation by the intermetallic phases. There are 3 illustrations.

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USSR

UDC 620.17.172

~~BRAIN, M. P.~~, VINOKUR, B. B., KHAUSTOVA, L. V., and GELLER, A. L.,
Kiyev, Institute of the Problems of Casting of the Academy of
Sciences of the Ukrainian Soviet Socialist Republic

"On the Tendency to Brittle Failure of Compositely Alloyed Steels"

Kiyev, Problemy Prochnosti, No. 9, Sep 71, pp 79 -83

Abstract : The tendency to brittle failure was experimentally investigated on a great number of compositely alloyed steels which contained Cr, Cr and Mn, Cr and Mn and additional alloying with Ni or Si, and on standard industrial steels 40KhN, 30KhGSA, 35KhNM, and 34KhN3M. A reduced softness coefficient in testing notched specimens is considered a brittleness criterion and the tendency of steel to brittle failure is rated by a coefficient β characterizing the notch effect and determined by a method of Davydenkov-Belyayev. The investigation results are discussed by reference to tabulated data and diagrams showing the character of tested specimens and effects of the notch form and depth on the brittleness of steel. Five illustr., three tables, ten biblio. refs.

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USSR

UDC 621.791.011:669.15-194

BRAUN, M. P., VINOKUR, B. B., BONDAR', V. T., Institute of Casting Problems, Academy of Sciences Ukrainian SSR, GELLER, A. L., Donets Scientific Research Institute of Ferrous Metallurgy, KONDRASHEV, A. I., PILYUSHENKO, V. L., TKACHEV, V. V., New Kramatorsk Machinery Plant imeni V. I. Lenin

"Strength and Embrittlement of Welded 25Kh2GMT Steel in Large Cross Sections"

Kiev, Avtomaticheskaya Svarka, No 3, Mar 71, pp 18-22

Abstract: A study was made of the tendency of 25Kh2GMT steel toward temper brittleness, cold brittleness, and notch sensitivity in various parts of the cross section of a large sample 1,000 mm in diameter. The relation of these characteristics to the metallurgical nature and structural conversions in the steel during heat treatment of large products was established. The tests showed the possibility of safe utilization of 25Kh2GMT steel in large cross sections.

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USSR

1970

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BRAUN, M. P., ARKADOV, S. P., VINOGRAD, N. I., KHRISTOV, N. G., STREKOVA, G. I.,
KHIL'CHEVSKAYA, T. V., and MILAT, A. Ye., Institute of Welding Problems, Academy
of Sciences UkrSSR

"Seam Zone Phase Composition of Complex Alloyed Steel"

Kiev, Avtomaticheskaya Svarka, No 10, Oct 70, pp 1-5

Abstract: A description is given of experiments performed to clarify the nature of the processes responsible for the embrittlement of the material near a welding seam. These experiments involved quantitative chemical analysis of the carbide deposit precipitated after welding, as well as other products of thermal treatment. Specimens 10 mm in diameter and 100 mm in length were dissolved in the course of an hour in an electrolyte made up of 50 g of glucose and 100 g of ammonium chloride in 800 ml of water. The current density for the electrolysis was 0.03 a/cm². The composition of the precipitate was determined by x-ray diffraction with direct photography in cobalt or chromium radiation, checked by the microdiffraction method, and subjected to chemical analysis. For the detection of titanium carbide, the precipitate was boiled in a 0.001 solution of hydrochloric acid for five hours. Other details are given. It is concluded that the titanium and molybdenum carbides are not responsible for the embrittlement of the steel.

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1/2 027

UNCLASSIFIED

PROCESSING DATE--23OCT70

TITLE--DUCTILITY OF HIGH STRENGTH CONSTRUCTIONAL ALLOY STEELS -U-

AUTHOR--(05)-BRAUN, M.P., BORISOV, G.P., KRUKOVSKAYA, G.N., MORZHARETTO,
A.A., SERGEYEV, I.V.

COUNTRY OF INFO--USSR

B

SOURCE--IZV. VYSSH. UCHEB. ZAVED., CHERN. MET. 1970, 13(2), 123-5

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--STRUCTURAL STEEL, IMPACT STRENGTH, STEEL HEAT TREATMENT, STEEL
HARDENING, METAL CASTING, ALLOY STEEL, CHROMIUM STEEL, MANGANESE STEEL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--1994/1787

STEP NO--UR/0148/70/013/002/0123/0125

CIRC ACCESSION NO--AT0115616

UNCLASSIFIED

2/2 027

UNCLASSIFIED

PROCESSING DATE--23OCT70.

CIRC ACCESSION NO--AT0115616

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE IMPACT STRENGTH OF THE CAST CONSTRUCTION STEEL WAS INCREASED BY APPLYING OPTIMAL ALLOYING AND HEAT TREATMENT WHILE MAINTAINING 36-37 HRC HARDNESS. EIGHT GRADES OF STEEL (CR 1.08-1.66, SI 0.40-2.79, MN 1.58-2.29PERCENT) WERE MELTED IN A BASIC INDUCTION FURNANCE DEOXIDIZED WITH 0.1PERCENT AL, AND CAST. THE CASTINGS WERE ANNEALED 6 HR AT 950DEGREES AND CUT INTO BARS WHICH WERE NORMALIZED AT 950DEGREES. BILLETS WERE (1) QUENCHED FROM 930-40DEGREES, (2) NORMALIZED AT 930-40DEGREES WITH SUBSEQUENT TEMPERING AT 200DEGREES, OR (3) HEATED 1 HR AT 300-320DEGREES AND QUENCHED IN MOLTEN SALTPETER. THE IMPACT STRENGTH AND HARDNESS WERE DETD. AFTER EACH OF THE 3 HEAT TREATMENT CONDITIONS: A STEEL AT GIVEN CONDITIONS AFTER LOW TEMP. TEMPERING MAY HAVE A LARGER OPTIMUM CONC. OF CR, MN AND SOME OTHER ALLOYING ELEMENTS THAN AFTER MEDIUM OR HIGH TEMP. TEMPERING. THE OPTIMUM CONCNS. OF THE ALLOYING INGREDIENTS ARE INTERRELATED.
FACILITY: INST. PROBL. LIT'VA, KIEV, USSR.

UNCLASSIFIED

1/2 022 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--MICROALLOYING OF STEEL 25KH2GML -U-
AUTHOR--(03)-BRAUN, M.P., DENISEVICH, YE.A., VINOKUR, B.B.
COUNTRY OF INFO--USSR
SOURCE--LITEINDE PROIZVOD. 1970, (1), 15-17 **B**
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--ALLOY DESIGNATION, MICROALLOYING, IMPACT STRENGTH, LOW ALLOY
STEEL, CHROMIUM STEEL, MANGANESE STEEL, MOLYBDENUM STEEL, TITANIUM
CONTAINING STEEL, ZIRCONIUM CONTAINING STEEL, VANADIUM CONTAINING STEEL,
NIOBIUM CONTAINING STEEL/(U)25KH2GML LOW ALLOY STEEL
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1995/1332 STEP NO--UR/0128/70/000/001/0015/0017
CIRC ACCESSION NO--AP0116792
UNCLASSIFIED

2/2 022

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0116792

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECT WAS STUDIED OF MICROAMTS. OF TI, ZR, V, AND NB ON THE STRUCTURE AND IMPACT STRENGTH OF STEEL 25KH2GML (C 0.26-0.29, SI 0.18-0.29, MN 1.35-1.60, CR 1.70-2.00, MO 0.58-0.70, S 0.016-0.022, AND P 0.017-0.023 WT.PERCENT). THE STEEL WAS MELTED IN AN INDUCTION FURNACE, DEOXIDIZED WITH FE-SI (500G-100KG) AND WITH AL (80G-100KG), AND ALLOYED WITH 0.05-0.5PERCENT OF ONE OF EACH OF THE ABOVE MENTIONED ELEMENTS. STEEL WAS NORMALIZED FOR 4 HR AT 920DEGREES, TEMPERED AT 650DEGREES, AND COOLED IN AIR. TI FORMED OXIDES, SILICATES, NITRIDES, AND SULFIDES AS WELL AS (FE, MN, TI) SULFIDES AND OXYSULFIDES TIS-TIO SUB2. ZR BEHAVED SIMILARLY TO TI EXCEPT THAT IT REACTED MORE ACTIVELY WITH S. NB FORMED SULFIDES, SILICATES, NITRIDES, AND CARBOSULFIDES, AND AFFECTED DISTRIBUTION OF CARBIDES. AT SMALLER THAN OR EQUAL TO 0.15PERCENT NB CARBIDES FORMED A NETWORK ALONG GRAIN BOUNDARIES, AND SMALLER THAN 0.35PERCENT NB CARBIDES BECAME COARSER WITH SIMULTANEOUS DECREASE OF IMPACT STRENGTH. AT 0.15-0.4PERCENT NB THE IMPACT STRENGTH WAS FAIRLY HIGH (5.5 KG,M-CM PRIME2). THE MOST FAVORABLE ADDITIVE WAS V, WHICH AT 0.15PERCENT SHOWED HIGHEST IMPACT STRENGTH OF ALL ADDITIVES (6.5 KG,M-CM PRIME2) AND UP TO 0.2-0.3PERCENT DID NOT AFFECT UNFAVORABLY THE STRUCTURE. THE ADDN. OF V 0.1-0.2PERCENT IS RECOMMENDED.

UNCLASSIFIED

BRAUN, S.M.

TECHNOLOGY OF PRODUCING NEW MATERIALS

JPRS 59873
23 August 1973

23

Translation of Russian-language collection: Tekhnologiya
Polucheniya Novykh Materialov, 1972, Kiev.

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BRAUN, S. M.

INVESTIGATION OF THE INTERACTION OF Nb-Ni ALLOYS WITH BORON

IPR 5-56001
16 May 72
UDC 669.193.15.128

Article by G. I. Zhurkova, S. M. Braun, Moscow, Izvestiya Akademii Nauk SSSR, Metallurgiya, No. 1, 1972, signed to press 7 December, 1970, pp 190-192

Along with the strength characteristics, one of the basic properties of Nb-Ni alloys is their capacity to resist the effect of various boron-, carbon-, nitrogen-, and oxygen-containing and other aggressive media. The interaction of niobium and molybdenum with boron has been studied in references [1-6], but we know of no such investigations for the alloys of these metals. Therefore it is of interest to investigate the behavior of alloys of the system Nb-Ni at high temperatures in contact with an active boron-containing medium.

Niobium and molybdenum from electron ray melting with a content of the base component of 99.9% were used as the initial components for preparing the alloys. Saturation was carried out in vacuum (5.10⁻³-1.10⁻³ mm Hg) in a medium of dry anorthous boron. According to data from preliminary investigations, this would guarantee maximum concentration of the active boron atoms on the surface of the samples and the absence of extrinsic impurities in the reaction space, and the can substantially distort the final test results.

The investigation was carried out by two methods. For the preliminary explanation of the rules governing the interaction, the alloys were made by long-term annealing of carefully prepared dense samples of niobium and molybdenum, brought into contact with a tungsten vise (similar to the method described in reference [9]). This permitted us to obtain an entire set of concentrations of the binary alloys in the diffusion zone (on a small segment in fact the entire state diagram

USSR

UDC:669.017

BRAUN, S. M., Kiev Polytechnical Institute, Department of Powder Metallurgy and Rare Metals

"Influence of Certain Alloying Additives on Polymorphic $\alpha \rightarrow \beta$ Conversion of Titanium"

Ordzhonikidze, Izvestiya Vysshikh Uchevnykh Zavedeniy, Tsvetnaya Metallurgiya, No 1, 1971, pp 109-110

Abstract: Iodide titanium (99.9% Ti) was used in a study of the influence of the addition of nickel, niobium, molybdenum, aluminum, and copper on the polymorphic α - β conversion of titanium. The temperature of the polymorphic conversion of titanium and its alloys was determined by the dilatometric method while the specimens were heated in a medium of pure argon at 2 and 6.5°/min. Specimens were studied in the cast state and annealed at 1200° in a vacuum for 5 hours. The

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UDC:669.017

BRAUN, S. M., Izvestiya Vysshikh Uchevnykh Zavedeniy, Tsvetnaya Metallurgiya, No 1, 1971, pp 109-110

isostructural factor cannot explain the change in the temperature of polymorphic conversions of the metal noted when the alloying additives were introduced. Since the degree of localization of atoms of Nb, Mo, Ni, and Cu is considerably greater than that of Ti, their addition causes a reinforcement of localization and therefore decreases the temperature of the polymorphic $\alpha \rightarrow \beta$ conversion. Aluminum, being an electron acceptor prevents localization of valence electrons and thereby increases the conversion temperature.

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1/2 018 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--SUBSTRATE SPECIFICITY OF SERINE SULFHYDRASE FROM CHICK LIVER AND
ITS RELATION TO SOME INHIBITORS -U-
AUTHOR--(03)-NGUYENDINH, L., GORYACHENKOVA, YE.V., BRAUNSHTEYN, A.YE.
COUNTRY OF INFO--USSR
SOURCE--BIOKHIMIYA 1970; 35(2). 270-7
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--SERINE, SULFUR COMPOUND, HYDROGEN SULFIDE, CYSTINE, CYSTAMINE,
METABOLIC INHIBITOR
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3007/0335 STEP NO--UR/0218/70/035/002/0270/0277
CIRC ACCESSION NO--AP0135828
UNCLASSIFIED

2/2 018

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0135828

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE FORMATION OF H SUB2 S BY A MIXT. OF SERINE SULFHYDRASE (I) AND L CYSTEINE INCREASED UPON THE ADDN. OF BETA MERCAPTOETHANOL, CYSTAMINE, OR HOMOCYSTEINE, WITH THE CONCURRENT FORMATION OF S HYDROXYETHYLCYSTEINE, S,(2,AMINOETHYL)CYSTEINE, AND CYSTATHIONINE. AS WITH CYSTEINE, I ALSO CATALYZED GENERAL TRANSFER TO THE BETA C OF SERINE. I SYNTHESIZED CYSTATHIONINE FROM SERINE AND HOMOCYSTEINE MORE RAPIDLY THAN CYSTEINE FROM SERINE AND S PRIME2. THE REACTION OF L CYSTEINE AND I WAS INHIBITED BY AMINOXYACETIC ACID, L SERINE, L THREONINE, OR L CHLOROALANINE. PREINCUBATION OF THE LAST COMPD. WITH I INHIBITED I IN PROPORTION TO THE TIME OF PREINCUBATION. DL CYCLOSERINE DID NOT INHIBIT I. FACILITY: INST. MOL. BIOL., MOSCOW, USSR.

UNCLASSIFIED

USSR

BRAVERMAN, E. M., LITVAKOV, B. N.

"Convergence of Algorithms for Detection and Adaptation"

Tr. IV Vses. Soveshch. po Avtomat. upr., 1968. Teoriya avtomat. upr. [Works of Fourth All-Union Conference on Automatic Control, 1968. Theory of Automatic Control], Moscow, Nauka Press, 1972, pp 434-442 (Translated from Referativnyy Zhurnal, Kibernetika, No 3, Moscow, 1973, Abstract No 3 V700 by the authors).

Translation: A number of theorems are presented, allowing convergence to be established and convergence rate to be estimated and for random processes arising when the method of stochastic approximation is used. The known theorems of Dvoretzkiy, Blum and Gladyshev can be produced as a result of the theorems presented in this report. Conditions are established under which the requirement of summability of the series of squares of compressing factors can be weakened in the Robbins-Monroe procedure, or replaced by the requirement that these factors tend toward zero.
16 Biblio. Refs.

1/1

USSR

UDC 51.155.001.57.681.3.06

AYZERMAN, M.A., BRAVERMAN, E. M., ROZONOER, L.I.

"Method of Potential Functions in the Theory of Machine Learning"

Metod. Potentsial'nykh Funktsiy v Teorii Obucheniya Mashin [English Version Above]
Moscow, Nauka Press, 1970, 384 pages (Translated from Referativnyy Zhurnal Kiber-
netika, No. 4, April, 1971, Abstract No. 4 V702K).

Translation: This monograph sums up the work of authors on development of the method of potential functions and its use in problems of pattern recognition, identification and automatic classification. Particular attention is given to mathematical problems related to the convergence of random processes, arising when the method is used, and its relationship to other methods of learning theory (in particular, methods of stochastic approximation). The reader must know mathematics as taught in a technical university; all other necessary information is provided by the authors. The book is designed for engineers and mathematicians working in the area of cybernetics, and also for students and graduate students specializing in this area.

The chapters are: Chapter I. Problem of Teaching Machines to Recognize Patterns (Statement of the Problem); Chapter II. Method of Potential Functions; Chapter III. Selection of a System of Functions $\psi_i(x)$ and Potential Function $K(x, y)$. IV. Convergence of Primary Procedure of Potential Functions Method;

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USSR

UDC 51.155.001.57.681.3.06

AYZERMAN, M. A., BRAVERMAN, E. E., ROZONOER, L. I., Metod. Potentsial'nykh Funktsiy v Teorii Obucheniya Mashin, Moscow, Nauka Press, 1970, 384 pages.

Chapter V. Application of Method of Potential Functions to Problem of Teaching Machines to Recognize Patterns (Deterministic Statement of Problem); Chapter VI. Application of Method of Potential Functions to Problem of Approximation of Functions on the Basis of Values of Output of Machine; Chapter VII. Probabilistic Problem of Teaching Machines to Recognize Patterns; Chapter VIII. Teaching Without a Teacher.

2/2

Acc. Nr: **AP0042253**

B

Ref. Code:

UR 0103

PRIMARY SOURCE: Avtomatika i Telemekhanika, 1970, Nr 1, pp 123-132

**METHODS OF EXTREMAL GROUPING OF PARAMETERS AND PROBLEM
OF APPORTIONMENT OF ESSENTIAL FACTORS**

E. M. BRAVERMAN

In the article presented there is formulated the problem of the partition into groups of the ensemble of interconnected random values in accordance with the connection among them, the ensemble defined by the matrix of covariance (or correlation), there are introduced the functionals the extremization of which provides for the best partition of the values into groups; the algorithms constructing such a partition is suggested. These algorithms for each group of random values simultaneously construct a random value which it is quite natural to interpret as an essential factor. The methods suggested are compared with the methods of component analysis.

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Acc. Nr: AP0047119

Ref. Code: UR 0246

PRIMARY SOURCE: Zhurnal Nevropatologii i Psikhatrii, 1970,
Vol 70, Nr 2, pp 276-274

PROTRACTED (UNAFFECTED BY CLUCOSE) INSULIN COMA,
ITS CAUSE, CLINICAL PICTURE AND TREATMENT

Lichko, A. Ye.; Braverman, L. B.

The paper concerns an analysis of 22 cases of protracted insulin comas, developing in the process of insulin shock therapy of psychoses. The main cause for protracted comas the authors consider an unjustified increase and prolongation of a usual medicative hypoglycemic coma. The presuppositional factors appear to be an overdosage of insulin and a sensitization to it. The combination of insulin with aminazine or barbiturates on the whole is not dangerous but makes difficult the diagnosis of the profoundness of an usual hypoglycemic coma. The clinical picture of protracted comas can be differentiated from the usual hypoglycemic ones by the absence of abundant perspiration, a development of hyperthermia and by signs of noncellular dehydration. Protracted comas are frequently complicated by decerebrated rigidity, disorders of respiration, lung oedema and pneumonia. The reason for lethal outcomes may be cerebral and subarachnoidal hemorrhages during severe tonic convulsions. During such conditions hyperglycemia which is usually connected with an abundant

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introduction of glucose and sugar should not be avoided. As a treatment method the authors recommend, despite the existence of hyperglycemia, an introduction of big dosages of glucose (intravenous and subcutaneously) and sugar through a probe. Against dehydration the authors advise a physiological (but not hypertonic) solution of NaCl. In clonic convulsions — an intravenous introduction of amytal sodium is recommended. The authors are against supplementary injections of small doses of insulin in hyperglycemia and against the use of amylnitrite and warn against the use of corazol and camphora.

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UDC: 543.544.25:537.084.2

BRAYDE, A. YU. and ROTIN, V. A.

"Detecting Electrically Negative Substances in a Unipolar Discharge"

Tr. Vses. n.-i. i proyekt.-konstrukt. in-t kompleks. avtomatiz. nef. i gaz. prom-sti (Works of the All-Union Scientific-Research and Design-Planning Institute for the Complex Automation of the Petroleum and Gas Industry), 1972, vyp.4, pp 174-179 (from RZh-32.Metrologiya i Izmeritel'naya Tekhnika, No 5, 1973, Abstract No 5.32.839)

Translation: Experimental study results are presented on the possibility of detecting the electrically negative components of a gas mixture in a unipolar discharge using a newly developed detector. The detector was tested on a chromatographic device designated for the eluent analysis of CCl_4 vapor in air. The stabilized BS-26 (0-30v) rectifier was used for warming up the cathode. A loading resistance made from nichrome was sequentially to vary the voltage from 0 to 10v. The unit makes possible parallel study under identical conditions using the unipolar discharge detector and an electron-capture detector with a radioactive source. The obtained results show that detection in a unipolar discharge is characterized by the same regularities

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BRAYDE, A. YU. and ROTIN, V. A., Tr. Vses. n.-i. i proyekt.-konstrukt. in-t kompleks. avtomatiz. neft. i gaz. prom-sti, 1972, vyp 4, pp 174-179

as in electron capture, i.e. electron-capture detection can be accomplished both in a unipolar and in a bipolar discharge at 100°C and higher. Original article: two illustrations and three bibliographic entries. V.S.K.

2/2

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USSR

UDC: 621.317.3:2

BRAYKO, V. V., KOTSYUBA, Ye. N., VIZHENSKIY, A. D., TARANOV, S. G.

"A Precision Device for Measuring Weak Signals of Primary Converters"

Dokl. Vses. nauchno-tekhn. konferentsii po radiotekhn. izmereniyam. T. 3 (Reports of the All-Union Scientific and Technical Conference on Radio Engineering Measurements. Vol. 3), Novosibirsk, 1970, pp 75-76 (from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1A307)

Translation: Excellent resistance to interference and high precision in this measuring device are achieved by virtue of the selective properties of the circuit, in which differential feedback is used. A block diagram of the device is given and its operation is described. The error of the device, excluding the error of the output instrument is no more than 0.05 percent in the range of signals up to 1 mV at a carrier frequency of 1 kHz. E. L.

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1/2 006 UNCLASSIFIED PROCESSING DATE-- ZONE 70
TITLE--UNIVERSAL ELECTRON POLAROGRAPH UPE 6124 -U-
AUTHOR--(02)-BRYKIN, I.YE., SALIKHDZHANOVA, R.M. **B**
COUNTRY OF INFO--USSR
SOURCE--ZAVCD, LAB. 1970, 36(3), 369-70
DATE PUBLISHED--70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--POLAROGRAPHY, POLAROGRAPHIC ANALYZER/(U)UPE6124 POLAROGRAPH
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--2000/1260 STEP NO--UR/0032/70/036/003/0369/0370
CIRC ACCESSION NO--AP0124911
UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0124911

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE POLAROGRAPH MAY BE USED FOR THE USUAL POLAROGRAPHY, OSCILLO POLAROGRAPHY, AND FOR THE METHODS USING STATIONARY ELECTRODES OR METHODS USING THE 3 ELECTRODE SYSTEM. IT HAS THE FOLLOWING CHARACTERISTICS. APPLIED VOLTAGE FROM PLUS 3 TO MINUS 3 V (PLUS OR MINUS 2 MV), LINEAR VOLTAGE REGULATION OF 2.5, 5, 10, 20, 40, 50, 100, 200, 400, 500, AND 1000 MV-SEC (PLUS OR MINUS 2PERCENT), AND SENSITIVITY 0.1-3000 MU A. THE BLOCK SCHEMATIC DIAGRAM IS GIVEN.
FACILITY: VNII AVTOMAT. CHERN. MET., USSR.

UNCLASSIFIED

BRAILOV, V. P.

power engineering

NEW BOOKS OF NAYKA PUBLISHING HOUSE

List of books: Moscow, Elektricheskaya tekhnika, Bank SSSR, Banstan, No 11, November 1971, pp 131-134

Mathematical, Physical and Engineering Sciences

Amolkin, M. P. and Kolesov, A. V.: Iskuzhennoye volnoye zvezdnoye zheni (Synthetic wave star-shaped antenna), Department of Nuclear Physics, Leningrad, 1971, 150 pages, 1500 copies, 1 r 30 k.

AVTONOMNAYA IYERARKHIYA DISTRIBUTSIVNOY SPOKOYNOY ELEKTROENERGIYI (Autonomous hierarchy of power distribution of stationary energy) (with illustrations and schematic diagrams), Institute of Machine Science, Moscow, 1971, 164 pages, 11 illustrated, 2500 copies, 52 k.

Gabanov, R. and Stizhova, P.: Nekotoryye teoriiya optimal'nykh protsessov (Some theories of optimal processes), Prilozheniya teoriiya optimal'nykh protsessov (Applications of the theory of optimal processes), Principy i Priklady (Principles and Applications), 509 pages, 8500 copies, 2 r.

Gel'fand, I. M.; Gladkova, Ye. G.; Shtal', E. E.; Punktsil i Nitalili (Points and Nitrites), Sovetskaya Tekhnika (Soviet Techniques), Moscow, 1971, 96 pages, 100,000 copies, 13 k.

Grebensky, Ye. A. and Ryabov, Yu. A.: Novyye kadivsiyemnye metody nabemnykh razvitiy (New qualitative methods in control mechanics), Moscow, 1971, 402 pages, 2000 copies, 2 r 02 k.

Grigoryan, A. Z.: Yazykanka ot antichnosti do nashikh dney (Mechanics from Ancient Times to the Present Day), Moscow, 1971, 512 pages, 1111 illustrations, 18,000 copies, 1 r 32 k.

Zakharin, A. G.; Prilozheniya k teoriiya optimal'nykh protsessov (Applications to the theory of optimal processes), Prilozheniya k teoriiya optimal'nykh protsessov (Applications to the theory of optimal processes), Principy i Priklady (Principles and Applications), Prilozheniya k teoriiya optimal'nykh protsessov (Applications to the theory of optimal processes), Institute of Machine Science, Moscow, 1971, 144 pages, 1500 copies, 64 k.

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STMS 54 013 25 Jan 72
Ustavik of the USSR Academy of Sciences
Vol. VI, No 11, 1971

USSR

UDC: 519.2

BRAILOVSKIY, B. L., LEBEDEVA, N. V.

"A Trial-and-Error Algorithm for Establishing a Relationship From a Sample,
and its Application"

Tr. in-t elektron. upravl. mashin (Works of the Institute of Electronic
Controllers), 1971, vyp. 16, pp 5-26 (from RZh-Kibernetika, No 5, May 72,
Abstract No 5V148)

[No abstract]

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- 7 -

BRAYNES, SAMUIL NATANOVICH

Biology

SEP 27 1965 54335
09 OCT 11

STIMULATION OF MEMORY

Article by Samuil Natanovich Braynes, Biologist and Cyberneticist, Professor
Soviet Academy of Sciences, Leningrad, No 4, 1971, pp 222-233

For many generations mankind has looked for the answer to the secrets of the brain and its most important function -- memory. A number of myths and fantastic legends about the nature of the psyche have arisen across the globe of which genuine scientific knowledge has built a path. For a long time, analogy revealed the only means of understanding the activity of the brain and the mechanisms of memory.

The nervous system was compared with a vast forest in which experience leaves traces, with the central bank of a complex navigable machine involving periodic influx of "vital records" into the network, with a telephone office unending from stationary connected lines and mobile switches, with a set of self-regulating systems and, finally, with the all-purpose computer. As we see, during the centuries the analogies have changed, but the riddle of memory still remains unsolved. I. M. Sechenov considered memory almost the greatest miracle of human organization.

At the present time we are on the threshold of new and exciting discoveries in biology, and the problem of memory obviously will be no exception. Biocyberneticists are faced with many problems in connection with this.

In characterizing the field and the goals of biocyberneticists, Academician V. V. Pavin wrote the following: "The theoretical field of this scientific discipline included the general laws of controlling the function of the organisms as self-organizing and self-regulating systems in complex interaction with the environment. The basic method of theoretical research is simulation primarily in the form of a mathematical description of the structure of a biological system and the laws of its behavior."

"The applied field of biological and medical cybernetics is called upon primarily to equip biology and medicine with improved methods of experimental data processing and analysis."

USSR

UDC 681.3.06:51

BRAYNES, S. N., SVECHINSKIY, V. B.

"Principles of Construction of Adaptive Search Algorithms in Biological and Technical Systems"

Tr. Mezhdunar. Simpoziuma po Tekhn. i Biol. Probl. upr., 1968. Raspoznaniye Obrazov. Adaptivn. Sistemy [Works of International Symposium on Technical and Biological Control Problems, 1968. Pattern Recognition. Adaptive Systems], Moscow, Nauka Press, 1971, Discussion 172, pp 164-172, (Translated from Referativnyy Zhurnal, Kibernetika, No 10, 1971, Abstract No 10 V774 by the author's).

Translation: The principles of construction of adaptive extreme search algorithms are described, which can be used as a model for phenomena of physiological adaptation. These algorithms are similar to recognition algorithms, so that we can speak of possible generality of the structure of control systems of the organism realizing various functions. The specifics of adaptive search algorithms and their capabilities are described in comparison with known algorithms. The dependence of the effectiveness of the operation of an algorithm on the values of its parameters is analyzed. Results are presented from experiments with adaptive digital computer search algorithms. The possibility is studied of using adaptive algorithms for the solution of problems of the control of production processes.

USSR

UDC 669.16:620.183

BRAYNIN, I. YE., and GUTOROVA, V. L.

"Mechanism of the Effect of Titanium on the Structure and Properties of Conversion Pig Iron Castings"

Moscow, Izvestiya Akademii Nauk SSSR, Metally, No 2, Mar-Apr 72, pp 139-143

Abstract: Titanium was added to molten iron at 1200 and 1300°C in the form of compact titanium (99.7% Ti) and grade TC-ChM titanium sponge (96-98% Ti). The resulting pig iron, containing 0.5-0.8% Ti, was studied and compared with samples of the same iron without titanium. It was established that there is an ambiguous effect of both forms of titanium on the size and nature of the graphite plates in the castings. Compact titanium facilitates development of an interdendritic spot and fine-plate graphite. The addition of titanium sponge increases the length of graphite inclusions, caused by the entry of a significant amount of hydrogen. The coagulation of graphite plates in the modified iron has been linked with the interaction of hydrogen with oxygen, adsorbed on submicroscopic graphite particles. This leads to removal of oxides from the surface layers, promotes segregation and achievement of critical sizes, and increases the rate of growth of the graphite particles.

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USSR

BRAYNIN, I. YE., and GUTOROVA, V. L., Izvestiya Akademii Nauk SSSR, No 2, Mar-Apr 72, pp 139-143

The resulting size increase of the graphite in the ferrite constituent of the iron treated with titanium sponge has a favorable effect on the iron's properties in determining the durability of heavy sheet molds and increasing their service life, Five figures, 13 bibliographic references.

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USSR

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UDC: 669.191.6-46:621.796.75

BRAYNEI, I.YE., CHUMBOVA, V.L., LUBSYAN, V.G., MULIKHOMINA, V.P., ISUMNER, YA.P.,
ZHURBEVA, N.D., and CHURSEINA, Z.S., Donetsk Polytechnic Institute and Donetsk
Scientific-Research Institute of Ferrous Metallurgy

"Nature of Nonmetallic Inclusions in Titanium-Modified Cast Iron"

Moscow, Izvestiya Vysshikh Uchebnykh Zavedeniy, Chernaya Metallurgiya, No 5,
1970, pp 141-143

Abstract: Investigations were conducted of the nature of nonmetallic inclusions in cast iron with various (from 0.05 to 0.76%) titanium supplements to determine the role of the latter in the graphitization of basic blast-furnace cast iron used for casting of large-mass ingot molds. Samples were taken from ingot molds, modified with brand TU-ChM (96-98% Ti) titanium sponge, and from cast iron ingots, remelted in an induction furnace from conversion cast iron of the following composition (%): 4.14 C, 0.67 Si, 0.42 Mn, 0.041 S, 0.074 P. A ballie titanium (99.7% pure) was introduced into the molten cast iron at a temperature of 2400°C. The nonmetallic inclusions were studied by x-ray structural analysis of electrolytically-separated deposits and also by a local x-ray method directly on slides. Metallographic investigation of the experimental samples indicated that the addition of titanium caused a whole series of inclusions, the amount of which

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USSR
BRAYNIN, I.YE., et al, Izvestiya Vysshikh Uchebnykh Zavedeniy, Chernaya Metallurgiya,
No 5, 1970, pp 141-143

increases with a rise in titanium content. The following compounds were detected: TiO , $FeO TiO_2$, TiO_2 , Ti_3Si_4 , $TiMn_2$, Ti_2O_3 , $Ti(C, N)$; titanium nitrides in pure form were seldom encountered. The absence of contact of titanium compounds with graphite and enlargement of dimensions of the latter were established. This confirms the work of V.L. Gutorova, in which it was postulated that nonmetallic titanium inclusions are not graphitization centers. The increased resistance of large-mass ingot molds, cast from basic blast-furnace cast iron modified with titanium sponge, is associated with the enlargement of graphite flakes and with the increase in the ferrite content in the metal base caused by the indirect action of titanium, (binding oxygen and nitrogen into stable compounds) and by the action of hydrogen, introduced by the titanium sponge.

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UNCLASSIFIED

PROCESSING DATE--30OCT70

TITLE--THE EFFECT OF MISHMETAL ON THE STABILITY OF ALLOYED CAST STEEL AT
LOW TEMPERATURES -U-

AUTHOR--(05)-BRAYNIN, I.YE., Pilyushenko, V.L., KHARCHENKO, V.A.,
KONDRA SHEV, A.I., GASHUTIN, V.P.

COUNTRY OF INFO--USSR

B

SOURCE--KIEV, TEKHNOLUGIYA I ORGANIZATSIYA PROIZVODSTVA, NO 1, 1970, PP
49-50

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--CHROMIUM ALLOY, MANGANESE ALLOY, MOLYBDENUM ALLOY, CAST STEEL,
IMPACT STRENGTH, DUCTILITY, MECHANICAL PROPERTY, LOW TEMPERATURE METAL,
MISCH METAL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--1999/1313

STEP NO--UR/0418/70/000/001/0049/0050

CIRC ACCESSION NO--AP0123272

UNCLASSIFIED

2/2 027

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0123272

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. RESEARCH RESULTS ARE GIVEN ON THE EFFECT WHICH MISHMETAL HAS ON THE PROPERTIES OF MANGANIFEROUS, CHROMMANGANESE, AND CHROMMANGANESE MOLYBDENUM GRADES OF STEEL AT TEMPERATURES BELOW ZERO. IT IS SHOWN THAT THE INTRODUCTION OF MISHMETAL INTO CAST ALLOYED STEEL RAISES ITS IMPACT DUCTILITY AT ROOM TEMPERATURE AND AT TEMPERATURES BELOW ZERO. THE BEST COLD STABILITY IS EXHIBITED BY STEEL ALLOYED WITH THE FOLLOWING COMPLEX OF ELEMENTS: CHROMIUM, MANGANESE, MOLYBDENUM, AND MISHMETAL.

UNCLASSIFIED

USSR

BRAYNIN, M. I.

"Limit Theorem for Characteristic Function of a Sum of Pairwise Independent Quantities"

Teoriya sluchayn. protsessov [The Theory of Random Processes -- Collection of Works], No 1, Kiev, Nauk. Dumka Press, 1973, pp 27-34 (Translated from Referativnyy Zhurnal - Kibernetika, No 8, 1973, Abstract No V28 by the author)

Translation: A limit theorem is proven for the characteristic function of the distribution of a sum of random quantities, each of which depends only the preceding and subsequent quantities. It is shown that in the case when the components satisfy a certain condition of smallness, the limit distribution of the sum is limitlessly divisible.

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USSR

UDC: 519.281

BRAYNIN, M. I.

"On Estimating the Error of One Method of Modeling Normal Noise"

V sb. Kibernetika (Cybernetics--collection of works), Vyp. 1, Kiev, 1970, pp 3-16 (from RZh-Kibernetika, No 12, Dec 71, Abstract No 12V341)

Translation: Let

$$f(t) = \frac{1}{A_n} \sum_{k=1}^N a_k \cos \lambda_k t, \quad |t| < T,$$

$$A_n^2 = \frac{1}{2} \sum_{k=1}^N a_k^2 = \frac{1}{2} N \sigma^2, \quad \frac{\sigma}{a} < \text{const}, \quad a = \max_{1 \leq k \leq N} |a_k|.$$

λ_k forms either a geometric progression with a rational denominator greater than unity or a sequence of linearly independent numbers. An estimate is found for $\sup_{|y| < \infty} |F_{NT}(y) - \Phi(y)|$, where

$$F_T(y) = (1/2T) \mu \{t: |f(t)| < y, |t| < T\},$$

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BRAYNIK, M. I., Kibernetika, vyp. 1, Kiev, 1970, pp 3-16

$\mu(\cdot)$ is a measure on $[-T, T]$, $\Phi(\nu)$ is a function of normal $(0,1)$ distribution.
Ye. Chepurin.

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1/2 018 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--CONCERNING THEORY OF GENERATORS OF GAUSSIAN SIGNALS -U-
AUTHOR--BRAYNIN, M.I. B
COUNTRY OF INFO--USSR
SOURCE--AVTOMATIKA I TELEMEXHANIKA, 1970, NR 2, PP 168-170
DATE PUBLISHED-----70
SUBJECT AREAS--ELECTRONICS AND ELECTRICAL ENGR.
TOPIC TAGS--SIGNAL GENERATOR, SIGNAL FREQUENCY, APPROXIMATION METHOD,
GAUSSIAN DISTRIBUTION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1983/1966 STEP NO--UR/0103/70/000/002/0168/0170
CIRC ACCESSION NO--AP0054764
UNCLASSIFIED

2/2 018

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0054764

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THERE IS ESTIMATED THE DEVIATION OF THE FUNCTION OF THE FIRST TIME DISTRIBUTION OF THE SIGNAL SET IN THE FORM OF TRIGONOMETRIC FUNCTIONS WITH LINEAR INDEPENDENT FREQUENCIES AND WITH FREQUENCIES THAT ARE THE RATIONAL APPROXIMATIONS OF LINEAR INDEPENDENT NUMBERS.

UNCLASSIFIED

BRAYNIN, Ye.

SO: JPRS 55933
04 MAY 72

Glinin

THIRD ALL-UNION CONFERENCE ON AUTOMATIC CONTROL SYSTEMS IN CONSTRUCTION IN
TASHKENT

(Article by E. Kozhikhan, V. Kozhikhanov, Ye. Kozhikhanov, Special Correspondent;
Moscow, Na Stroitel'stvo, Kholm, No 3, 1972, pp 12-14)

The Third All-union Conference on the Development and Application of Automatic Control Systems in Construction was held on the eve of October of last year in Tashkent. The conference was organized by the Central and Uzbek Republic branches of the Scientific and Technical Society of the Construction Industry, the Administration of Scientific Research Projects and New Technique and Equipment of the USSR State Construction Committee, the State Construction Committee of the Uzbek SSR, Gosobshchinstvo (Bureau of Main Construction Administration), and the Tekhnobit, the branch of the Ukrainian SSR State Construction Committee and the NIIESS of the Ukrainian SSR State Construction Committee Institutes. Approximately 300 people participated in the work of the conference -- representatives of the union and republic ministries and departments, construction, scientific research and design organizations, and so on.

Reports were presented at the conference by Acadzian of the Uzbek SSR Academy of Sciences, Director of the Central Institute of the Uzbek SSR Academy of Sciences V. Kadulov ("Automatic Construction Control Systems"); Chief Specialist of the Computer Engineering Department of the USSR State Construction Committee K. Nekrasov ("Prospects for the Development of Automatic Construction Control Systems"); Deputy Chief of Technical Administration of the Uzbek SSR Ministry of Construction O. Vasov ("Organization of the Development and Introduction of Automatic Construction Control Systems in the Uzbek SSR Ministry of Construction"). In addition to the Plenary Sessions, there were three sections at the conference.

State Committee of the USSR Council of Ministers for Construction.

1/2 022 UNCLASSIFIED
TITLE—CRYSTAL AND MOLECULAR STRUCTURE OF
TETRAKIS(CYCLOPENTADIENYL)ZIRCONIUM -U-
AUTHOR—(02)—KULISHOV, V.I., BRAININA, E.M.

PROCESSING DATE--30OCT70

COUNTRY OF INFO--USSR

B

SOURCE—J. CHEM. SOC. D. 1970, (8), 475

DATE PUBLISHED—70

SUBJECT AREAS--CHEMISTRY, PHYSICS

TOPIC TAGS--MOLECULAR STRUCTURE, CYCLOPENTANE, X RAY ANALYSIS, CHEMICAL
BONDING, URGANOZIRCONIUM COMPOUND, CRYSTAL LATTICE STRUCTURE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--2000/2099

STEP NO--UK/0000/70/000/005/0475/0475

CIRC ACCESSION NO--AP0125683

UNCLASSIFIED

2/2 022

UNCLASSIFIED

PROCESSING DATE--300CT70

CIRC ACCESSION NO--AP0125683

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AN X RAY STRUCTURAL ANAL.
INDICATES THAT ZR(C SUB5 H SUB5) SUB4 (C SUB5 H SUB5 EQUALS
CYCLOPENTADIENYL) BELONGS TO THE ORTHORHOMBIC SPACE GROUP P2 SUB1 2 SUB1
2 SUB1 WITH A 20.83, B 8.53, AND C 8.77 ANGSTROM; THE D. IS 1.50 AND Z
EQUALS 4. THE ZR-C DISTANCES FOR 3 C SUB5 H SUB5 RINGS VARY RANDOMLY
INDICATING THAT THESE RINGS ARE PI BONDED WITH THE ZR ATOMS OR FROM A
CENTRAL SIGMA BOND WITH IT. THE 4TH C SUB5 H SUB5 RING FORMS A
LOCALIZED 2 CENTER BOND WITH THE ZR ATOM. THE ZR ATOM COORDINATION IS
VERY SIMILAR TO THAT FOUND IN (C SUB5 H SUB5) SUB3 UCL, WHERE THE CL
ATOM ACTS AS A SIGMA BONDED LIGAND. AN X RAY STUDY OF HF(C SUB5 H SUB5)
SUB2 INDICATES THAT THE COMPLEX IS TETRAGONAL, SPACE GROUP P42 SUB1 M,
WITH A 9.80 AND C 8.22 ANGSTROM; Z EQUALS 4. FACILITY: INST.
ELEM.-ORG. COMPOS., MOSCOW, USSR.

UNCLASSIFIED

1/2 020 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--CONCENTRATION AND DETERMINATION OF TRACES OF COBALT IN NICKEL SALTS
BY FILM POLAROGRAPHY -U-
AUTHOR--(02)-KRAPIVKINA, T.A., BRAYNINA, KH.Z.
COUNTRY OF INFO--USSR **B**
SOURCE--ZAVOD. LAB., 1970, 36, (3), 263-265
DATE PUBLISHED-----70

SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY, CHEMISTRY

TOPIC TAGS--CHEMICAL ANALYSIS, COBALT, NICKEL COMPOUND, INORGANIC SALT,
THIOCYANATE, PHOTOGRAPHIC FILM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3004/0905

STEP NO--UR/0032/70/036/003/0263/0265

CIRC ACCESSION NO--AP0131491

UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0131491

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. METHODS OF CONCENTRATING TRACES OF CO FOUND IN NI SALTS AND DETERMINING THESE BY FILM POLAROGRAPHY ARE DESCRIBED. THE FILM POLAROGRAPHY TECHNIQUE FACILITATES THE DETERMINATION OF QUANTITIES DOWN TO 10 PRIME NEGATIVE 4 PERCENT. BY INCORPORATING PRELIMINARY EXTRACTION WITH DIANTIPYRYL METHANE AND PRESENTING THE CO IN THE FORM OF A THIOCYANATE COMPLEX, THE SENSITIVITY OF THE METHOD MAY BE INCREASED BY A FURTHER ORDER OF MAGNITUDE.

UNCLASSIFIED

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USSR

UDC 911.3:616.34(575.1)

SHATROV, I. I., POKROVSKAYA, M. P., KRASKINA, N. A., BRAYNINA, R. A.,
ELKIN, I. I., SKVORTSOV, V. V., KILESSO, V. A., BUNIN, K. V., NIKIFOROV,
V. N., POKROVSKIY, V. I., and STARSHINOVA, V. S.

"Current Status of Typhoid"

V sb. Materialy XV Vses. syezda epidemiologiv, mikrobiologov i infektsion-
istov, Tezisy Dokl. Ch. 1 (Proceedings of the 15th All Union Conference
of Epidemiologists, Microbiologists, and Infectious Disease Specialists,
Theses Reports, Part 1 -- collection of works), Moscow, 1970, pp 262-269
(from RZh-Meditsinskaya Geografiya, No 3, Mar 71, Abstract No 3.36.258)

Translation: During the last seven years, the incidence of typhoid has
decreased each year by 6-7% on the average in this country. Maximum drops
were observed in the Belorussian SSR, Kazakh SSR, Lithuanian SSR, Latvian
SSR, Armenian SSR, and Estonian SSR; minimum drops were found in the Uzbek
SSR and Kirghiz SSR. During the last two years, the incidence of typhoid
was 10% higher among rural residents than among urban residents. In com-
parison with 1964, a drop in incidence of approximately 40% was observed;
in rural locations, the drop was 23%. The leading significance of the
water factor in transfer and distribution of the agent of typhoid is:
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USSR

SHATROV, I. I., et al., Materialy XV Vses. syezda epidemiologiv, mikrobiologov i infeksionistov, Tezisy Dokl. Ch. 1 (Proceedings of the 15th All Union Conference of Epidemiologists, Microbiologists, and Infectious Disease Specialists, Theses Reports, Part 1 -- collection of works), Moscow, 1970, pp 262-269 (from RZh-Meditsinskaya Geografiya, No 3, Mar 71, Abstract No 3.36.258)

confirmed. Of decisive importance, particularly in recent years, is the nutritional (milk) factor of typhoid transfer and distribution.

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172 022 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--ON PATHOGENESIS OF PUPILLARY DISORDERS IN DIFFERENT FORMS OF
SYPHILIS OF THE NERVOUS SYSTEM -U-
AUTHOR--KOCHEKOV, V.D., BRAYSEV, A.V.
COUNTRY OF INFO--USSR **B**
SOURCE--VESTNIK DERMATOLOGII I VENEROLOGII, 1970, NR 3, PP 53-58
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--EYE, VENEREAL DISEASE, NERVOUS SYSTEM DISEASE

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1986/0627 STEP NO--UR/0206/70/000/003/0053/0058
CIRC ACCESSION NO--AP0102613
UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0102613

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PATTERN OF STRUCTURAL FUNCTIONAL CHANGES IN THE PUPIL AND OF PUPILLARY REACTIONS MAY BE USED TO A CERTAIN EXTENT FOR THE JUDGEMENT OF THE DURATION OF SYPHILITIC INFECTION OF THE FORM OF THE NERVOUS SYSTEM SYPHILIS (MESENCHYMAL OR PARENCHYMATOUS), AND OF THE LEVEL OF DISORDERS OF THE REFLECTORY ARCH OF PUPILLARY REACTIONS. PUPILLARY DISORDERS IN CONTAGIOUS FORM OF SYPHILIS ARE CHARACTERIZED BY MILD CLINICAL MANIFESTATIONS AND ARE DETERMINED BY THE INVOLVEMENT OF DISTAL AFFERENT AND EFFERENT FIBERS OF THE PUPILLARY REFLECTORY ARCH. IN EARLY MENINGO VASCULAR SYPHILIS OF THE NERVOUS SYSTEM A FURTHER INVOLVEMENT IN THE PROCESS OF ROOTS OF THE OCULOMOTOR NERVE OCCURS IN THEIR PASSAGE IN THE SUBARACHNOIDAL SPACE OF THE BASIS OF THE BRAIN. IN THIS FORM, AS IN CONTAGIOUS FORMS OF SYPHILIS, WEAKENING OF PUPILLARY REACTIONS WAS OBSERVED COMPARATIVELY RARELY. LATE FORMS OF MENINGO VASCULAR SYPHILIS ARE CHARACTERIZED BY DISORDERS OF PUPILLARY REACTIONS DUE TO THE INVOLVEMENT FIRST OF INSERTED NEURONS OF THE MIDBRAIN AND THEN OF ITS PARASYMPATHETIC NUCLEI. PUPILLARY DISORDERS IN LATE FORMS OF SYPHILIS OF THE NERVOUS SYSTEM ARE OBSERVED IN ALL PATIENTS, ARE CRUDE AND DUE MOSTLY TO THE AFFECTION OF PARASYMPATHETIC NUCLEI OF THE BRAIN STEM WHICH IS ACCOMPANIED, IN ADDITION TO THE LOSS OF PUPILLARY REACTIONS TO LIGHT, BY DISORDERS IN THE ACT OF CONVERGENCE AND ACCOMODATION.

UNCLASSIFIED

1/2 023 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--THE CLINICAL PICTURE AND X RAY DIAGNOSIS OF COMPLICATED
DIVERTICULOSIS OF THE LARGE INTESTINE -U-
AUTHOR-(04)-KHASPEKOV, G.E., BRAYTSEVA, M.D., GAZETOV, B.M., KHAZHINSKAYA,
G.M.
COUNTRY OF INFO--USSR
SOURCE--KLINICHESKAYA MEDITSINA, 1970, VOL 48, NR 6, PP 103-107
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--GERONTOLOGY, LARGE INTESTINE, DIGESTIVE SYSTEM DISEASE,
CANCER, SURGERY, RADIOLOGY, INTESTINAL OBSTRUCTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3002/1931 STEP NO--UR/0497/70/048/006/0103/0107

CIRC ACCESSION NO--AP0129280
UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--300GT70

CIRC ACCESSION NO--AP0129280

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DIVERTICULOSIS OF THE LARGE INTESTINE IS COMMONLY OBSERVED IN PERSONS OVER 50 YEARS OLD. IN ITS ORIGIN A LEADING ROLE IS PLAYED BY INCREASE OF THE INTRAIINTESTINAL PRESSURE AGAINST THE BACKGROUND OF CONGENITAL OR ACQUIRED WEAKNESS OF THE INTESTINAL MUSCULAR LAYER. THE CLINICAL PICTURE OF THE DISEASE IS NOT CHARACTERISTIC. COMPLICATIONS ARE NUMEROUS AND VARIED. THE AUTHORS COMMIT TO PAPER PERSONAL OBSERVATIONS OF COMPLICATIONS OF DIVERTICULOSIS BY PERFORATION, INTESTINAL OBSTRUCTION, FISTULAS, THE DEVELOPMENT OF MALIGNANT TUMORS. THE PAPER CONTAINS A DETAILED CLINICO ROENTGENOLOGICAL PICTURE OF THE DISEASE AND DISCUSSES PROBLEMS OF THE SURGICAL TREATMENT. FACILITY: RENTGENOLOGICHESKOYE OTDELENIYE TSENTRAL'NOY KLINICHESKOY BOL'NITSY IM SEMASHKO, MINISTERSTVA PUTEY SPOBSHCHENIYA SSSR I KURS PROKTOLOGII TSENTRAL'NOGO INSTITUTA USOVERSHENSTVOVANIYA VRACHEY.

UNCLASSIFIED

1/2 026 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--THE X RAY DIAGNOSIS OF TUMORS OF THE SMALL INTESTINE -U-
AUTHOR-(03)-TRETAKOVA, T.A., BRAYTSEVA, N.N., YAKUSHIN, V.I.
COUNTRY OF INFO--USSR
SOURCE--KLINICHESKAYA MEDITSINA, 1970, VOL 48, NR 6, PP 91-95
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--SMALL INTESTINE, TUMOR, X RAY, DIAGNOSTIC METHODS, BARIUM

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3002/1792 STEP NO--UR/6497/70/048/006/0091/0095
CIRC ACCESSION NO--AP0129160
UNCLASSIFIED

2/2 026

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--APO129160

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN OBSCURE GASTROINTESTINAL HEMORRHAGES X RAY INVESTIGATION OF THE SMALL INTESTINE IS ALWAYS RECOMMENDED. THE FOLLOWING TECHNIQUE OF INVESTIGATION IS PROPOSED: AFTER THE INTAKE OF A BARIUM MEDIUM THE PATIENTS ARE GIVEN A GLASS OF COLD WATER, WHICH IS A PECULIAR "ACCELERATOR" FOR THE RAPID FILLING OF THE ENTIRE SMALL INTESTINE. THEN THE PATIENTS ARE FED, CAUSING A GASTROILIAC REFLEX (AFTER YU. N. SOKOLOV), THIS ALSO BEING CONDUCIVE TO AN ACCELERATED MOVEMENT OF THE CONTRAST MEDIUM ALONG THE LOOP OF THE SMALL INTESTINE. THUS, FOR A PERIOD OF ONE TO TWO HOURS THE ROENTGENOLOGIST COULD STUDY THE ENTIRE SMALL INTESTINE AND TO DETECT EXISTING ORGANIC CHANGES. WITH THE AID OF THIS TECHNIQUE FOR A PERIOD OF FOUR YEARS IN 12 PATIENTS THE AUTHORS REVEALED TUMORS OF THE SMALL INTESTINE (7 BENIGN AND 5 MALIGNANT). OPERATIVE TREATMENT WAS PERFORMED IN 11 PATIENTS; 8 OF THEM ARE ALIVE. FACILITY: KAFEDRA KLINICHESKUY RENTGENOLOGII I 1-YA KAFEDRA KHIRURGII TSENTRAL'NOGO INSTITUTA USOVERSHENSTVOVANIYA VRACHEY NA BAZE MOSKOVSKOY KLINICHESKOY BOL'NITSY IM. BOTKINA.

UNCLASSIFIED

USSR

UDC 678.675'52'74

YAKUBOVICH, A. YA. (DECEASED), YAKUBOVICH, V. S., and BRAZ, G. I.

"Polybenzoxazoles -- Novel Thermally Stable Film- and Fiber-Forming Polymers"

Moscow, Plasticheskiye Massy, No 9, 1970, pp 17-19

Abstract: Polybenzoxazoles were obtained from aromatic bis-(o-hydroxyamines) and dicarboxylic acyl halides. Polyhydroxyamides were obtained from low temperature polycondensation in dimethyl acetamide or in N-methylpyrrolidone then converted to polybenzoxazoles by thermal treatment. Two representatives of the new class of thermally stable polymers were obtained by reacting 3,3'-dihydroxybenzidine with isophthallyl chloride and 4,4'-dihydroxy-3,3'-diaminodiphenylsulfone with tetraphthallyl chloride, yielding PB-1 and Sn-PB-T respectively. Both are yellow polymers, insoluble in most organic solvents, soluble in concentrated sulfuric acid. They begin to decompose in air at about 450°C. With respect to strength and thermal stability, PB-1 is comparable to polypyromellitimide. Films made from

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USSR

YAKUBOVICH, A. YA., et al, *Plasticheskiye Massy*, No 9, 1970, pp 17-19

PB-1 are also resistant to thermooxidative reaction. Both PB-1 and Sn-PB-T have high hydrolytic resistance and they appear to have good dielectric properties. The only problem with polybenzoxazole covers is that they are not sufficiently elastic.

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Acc. Nr.

AP0055633

Abstracting Service:

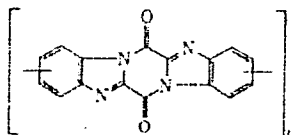
CHEMICAL ABST.

6-70

Ref. Code

4N0460

111955w Dependence of the properties of rigid-chain polymers on their structure. 2,2'-Dicarboxy-5,5 (6,6')-bibenzimidazole and its polymerization. Yakubovich, A. Ya.; Voznesenskaya, N. N.; Braz, G. I. (Fiz.-Khim. Inst. im. Karpova, Moscow, USSR). *Vysokomol. Soedin., Ser. B* 1970, 12(2), 156-8 (Russ). 5,5'(6,6')-Bibenzimidazole - 2,2'-dicarboxylic acid dichloride (obtained by treating the Na salt with SOCl₂) readily entered into autocondensation to give a double-chain polymer I, sol. in concd. H₂SO₄ and 5% NaOH soln. Ir absorption bands, characteristic of benzimidazoles and polybenzimidazoles, confirmed its



structure. I began to decomp. in the air at 350-400°.

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19840935

USSR

UDC: 621.787

BURNAKOV, K. K., SMIRNOV, M. A., BRAZGIN, I. A., BYPRYAZHKIN, V. P., NABIULLIN, N. M., TOLSTOV, A. M., Kurgan

"High Temperature Thermomechanical Treatment of EI 811 Stainless Steel"

Izvestiya Akademii Nauk SSSR, Metally, No 4, Jul-Aug 73, pp 129-131.

Abstract: This work studied the possibility of increasing the strength of EI 811 steel by high temperature heat and mechanical treatment. The studies were performed using a steel of the following composition: 0.13% C, 0.35% Mn, 0.37% Si, 0.023% P, 0.077% S, 5.7% Ni, 21.1% Cr, 0.43% Ti, Fe -- remainder. The material was plastically deformed by rolling at 1100-900° C, 30% compression, velocity 4.3 m/min. Specimens 20 mm in diameter and 150 mm long were heated to 1000 or 1100° C, held 30 minutes, then deformed at these temperatures with subsequent immediate quenching in water. Specimens heated to 1000° C were allowed to cool in air to 900° C, then rolled at that temperature and held 5 minutes at that temperature before quenching. It was found that the selection of the temperature mode for plastic deformation must be based on consideration of the different tendencies of the ferritic and austenitic components toward softening. The strength characteristics of this steel were increased significantly only after deformation at 900° C, which causes

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USSR

Burnakov, K. K., Smirnov, M. A., Brazgin, I. A., Bypryazhkin, V. P.,
Nabiullin, N. M., Tolstov, A. M., Izvestiya Akademii Nauk SSSR, Metally,
No 4, Jul-Aug 73, pp 129-131.

hardening of both the γ and α phases. The $\gamma + \alpha$ conversion occurring during
aging at 650-700° C has no significant influence on the hardening effect
achieved by high temperature heat and mechanical treatment.

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- 48 -

USSR

UDC 621.317.757:621.391.322

KUDABA, V. YE., PALENSKIS, V. I., KALITIS, R. I., BRAZDZHYUNAS, P. P.

"Spectral Analysis of Current Noise"

Liet. fiz. rinkinys, Lit. fiz. sb. (Lithuanian Physics Collection), 1970, Vol 10, No 4, pp 593-607 (from RZh-Radiotekhnika, No 4, Apr 71, Abstract No 4A275)

Translation: A device for spectral analysis of current noise in the 0.01 Hertz to 10 megahertz range is described. The correlation method of analysis on a computer is used in the infralow frequency range (0.01-1 Hertz). The errors in calculating the correlation function and spectral density as a function of the length of the realization were estimated. Low-noise high-frequency and low-frequency preamplifiers have been developed. A cascade cathode repeater was used at high frequencies to amplify the total input impedance. Stable narrow band amplifiers of the RC and LC type were developed. There are 10 illustrations and a 9-entry bibliography.

1/1

USSR

UDC: 621.372.061-538.56

BRAZDZHYUNAS, R. A., LESAUSKIS, V. P.

"Investigation of the Effect of a Periodic Process on a Synchronized Bridge Autodyne"

Lit. fiz. sb. (Lithuanian Physics Collection), 1970, 10, No 3, pp 467-473
(from RZh-Radiotekhnika, No 2, Feb 71, Abstract No 2A130)

Translation: An investigation is made of the reaction of a self-oscillating system to various periodic effects. The signal-to-noise ratio is calculated for the case where the useful signal in the system is produced by periodic modulation of attenuation of the high-frequency tank circuit in one of the arms of a high-frequency bridge. One illustration, bibliography of six titles. Authors' abstract.

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1A0040670

Brazhkin, Ye. T.

UR 0482

3-70

Soviet Inventions Illustrated, Section I Chemical, Derwent,

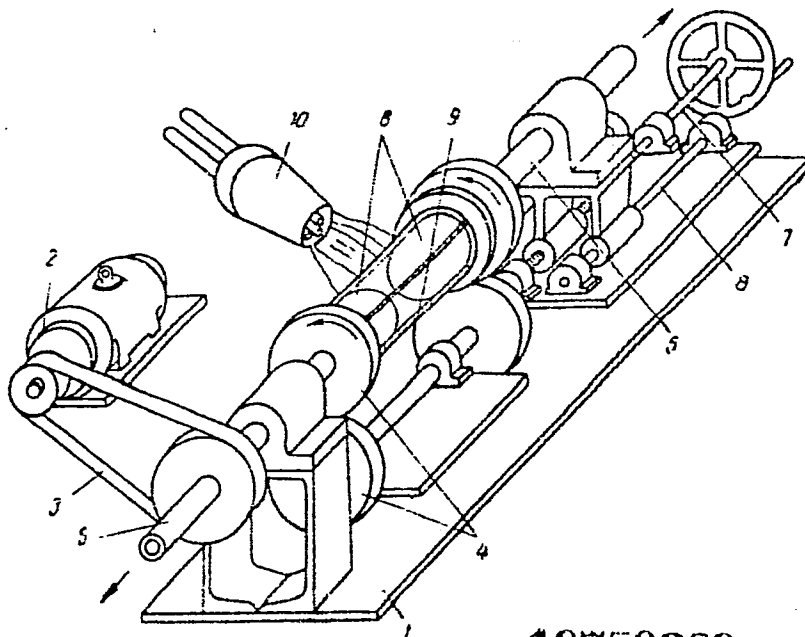
234626 GLASS ARTICLES are manufactures from tubular blanks on a machine equipped with means for rotating the blank and an attachment for heating the glass as it rotates. The diagram shows the frame 1, on which is mounted the electric motor 2, v-belt drive 3, direct-meshing gear 4, two driving shafts 5, on which the graphite moulds 6 are mounted, and the mechanism for moving one of the graphite moulds in a lateral direction 7 and 8. The quartz glass tube is mounted on one of the graphite moulds and the other is moved inwards until it is gripped for working. In order to avoid damage to the tubular blank whilst it is being heated by the gas burner 10, both of the holding moulds are synchronously driven from the same drive. 20.6.67. as 1165500/29-33. V S SMIRNOV et al. Dzerzhinskii Gusev Glass Works. (2.6 69.) Bul.4/10.1.69. Iss 32a. Int.Cl. C03b.

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19750268

AA0040670



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LD

AA0040670

AUTHORS: Smirnov, V. S.; Vasil'yev, Yu. I.; Brazhkin, Ye. T.;
Volkov, V. M.; and Yachunin, V. P.

Gusevskiy Stekol'nyy Zavod imeni Dzerzhinskogo

19750270

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AA0043571 - BRAZHNIKOV N.I.
UR 0482

Soviet Inventions Illustrated, Section II Electrical, Derwent,

243862 ULTRASONIC FLAW DETECTION is based on two channel emission and absorption of semi-continuous ultrasonic vibrations and on defining the phase difference. To compensate possible errors, ultrasonic vibrations are absorbed and selected, isolating the resulting impulses, proportionally to their phase differences and in accordance with the duration of amplitude the medium is detected.

2/70

29.6.67 as 1168165/18-10. N.I. BRAZHNIKOV & A.A. POLYANSKIY (1.10.69) Bul 17/14.5.69. Class 42e. 2le. Int.Cl.G O1f, G O1r.

q

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18

19762034

AA0044632

UR 0482

Soviet Inventions Illustrated, Section II Electrical, Derwent,

243975 ULTRASOUND VELOCITY IN LIQUIDS AND GASES

MEASUREMENT METHOD, in which short ultra-

sonic pulses are supplied into the tested gaseous or liquid medium at a constant repetition period. At the same time pulses transmitted directly and after multiple reflections are received by the receiver mounted coaxially with the radiator. The cophasal mixing of directly transmitted pulse with those subjected to multiple reflections is achieved by adjusting the acoustic base - the distance between the radiator and receiver.

The cophasal mixing is determined by the maximum of the resultant pulse envelope at the receiver. As the measured velocity is directly proportional to the acoustic base, the ultrasound velocity is determined from the latter. By adjusting the pulse repetition half period to a value 10^{-n} , where n is an integer, a decadal relation between the base and the ultrasound velocity can be obtained.

10.3.67 as 1142145/18-10. BRASHNENKO, N. I. SPECIAL DES OFFICE "TSVETMETAVTOMATIKA" (1.10.69) Bul 17/14.5.69 Class 42s, 42b. Int.Cl.B 06b, G 01 p.

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19771324

AA0044632

Spetsial'noye Konstruktorskoye Byuro "Tsvetmetavtomatika"

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19771325

1/2 019 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--GAS CHROMATOGRAPHY FOR SPACE RESEARCH -U-
AUTHOR--BRAZHNIKOV, V.V. B
COUNTRY OF INFO--USSR
SOURCE--CHROMATOGRAPHIA 2. 86-91 1970.
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--GAS CHROMATOGRAPHY, EXTRATERRESTRIAL LIFE, BIOLOGIC AGENT
DETECTION

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY FICHE NO----FD70/605015/C12 STEP NO--UK/0000/70/002/000/0086/0091
CIRC ACCESSION NO--AP0140585
UNCLASSIFIED

2/2 019

UNCLASSIFIED

PROCESSING DATE--04DEC 71

CIRC ACCESSION NO--AP0140585

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DIFFERENT CHROMATOGRAPHIC METHODS CAN BE USED IN THE PROCESS OF STUDYING VARIOUS SPACE OBJECTS. THIS PAPER REVIEWS APPLICATION POSSIBILITIES OF GAS CHROMATUGRAPHY FOR SPACE RESEARCH, FOR INSTANCE, FOR DETECTION OF LIFE ON OTHER PLANETS. EXOBIOLOGICAL EXPERIMENTS USING GAS CHROMATOGRAPHY METHDDS ARE DESCRIBED. PRINCIPLE REQUIREMENTS CHROMATOGRAPHS FOR SPACE STUDIES ARE REVIEWED. FACILITY: INST. SPACE RES. AS USSR, MOSCOW, USSR.

UNCLASSIFIED

1/2 017 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--THERMIONIC DETECTORS IN GAS CHROMATOGRAPHY -U-
AUTHOR--(03)-BRAZHNIKOV, V.V., GUREV, M.V., SAKODYNSKIY, K.I.
COUNTRY OF INFO--USSR **B**
SOURCE--CHROMATOGR. REV. 1970, 12(1), 1-41
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--GAS CHROMATOGRAPHY, THERMIONIC TUBE, GAS DETECTOR,
BIBLIOGRAPHY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1985/1551 STEP NO--US/0000/70/012/001/0001/0041
CIRC ACCESSION NO--AP0101627
UNCLASSIFIED

2/2 017 UNCLASSIFIED PROCESSING DATE--23OCT70
CIRC ACCESSION NO--AP0101627
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A REVIEW IS GIVEN COVERING DESIGN
AND EVOLUTION, CHARACTERISTICS, PHYS. FUNDAMENTALS OF DETECTION, AND
APPLICATIONS OF THERMIONIC DETECTORS. FACILITY: L. YA. KARPOV
INST. PHYS. CHEM., MOSCOW, USSR.

UNCLASSIFIED

1/2 033 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--MECHANISM OF THERMIONIC DETECTION -U-
AUTHOR-(03)-BRAZHNIKOV, V.V., GUREV, M.V., SAKODYNSKIY, K.I.
COUNTRY OF INFO--USSR
SOURCE--CHROMATOGRAPHIA 1970, 2, 53-8
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS, BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--THERMIONIC EMISSION, DETECTION EQUIPMENT, ORGANOPHOSPHORUS,
PESTICIDE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1996/1828 STEP NO--UK/0000/70/002/000/0053/0058
CIRC ACCESSION NO--AP0118792
UNCLASSIFIED

2/2 033

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0118792

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ALONG WITH DETECTORS OF THE UNIVERSAL TYPE, SELECTIVE DETECTORS SHOWING RESPONSES OF A VARIABLE DEGREE TO THE GROUPS OF COMPS. CONTG. DIFFERENT ELEMENTS OR FUNCTIONAL GROUPS HAVE FOUND WIDE USE RECENTLY. ONE SUCH DETECTOR IS A THERMIONIC DETECTOR (TID) SHOWING HIGH SENSITIVITY AND SELECTIVITY TOWARDS P CONTG. COMPS. AT PRESENT, A NO. OF COM. TID OF VARIOUS TYPES ARE AVAILABLE WHICH HAVE FOUND PARTICULARLY WIDE USE IN ANAL. OF ORGANOPHOSPHORUS PESTICIDES. DESPITE ACCUMULATION OF RATHER EXTENSIVE FACTS ON TID PERFORMANCE, THE MECHANISM OF DETECTING BY A THERMIONIC DETECTOR REMAINS VAGUE IN MANY RESPECTS. SOME PROCESSES OF THERMIONIC DETECTION ARE DISCUSSED.

FACILITY: INST. SPACE RES., MOSCOW, USSR.

UNCLASSIFIED

USSR

BRAZHNIKOV, Ye. B., YERSHOV, V. V.

"Strength of a Cylindrical Envelope of Variable Thickness with Applied Heat"

Stroit. Mekh. Gasoaerodinamika i Proiz-vo Letatel'n. Apparatov. Vyp. 1 [Structural Mechanics, Gas and Aerodynamics and Production of Flight Vehicles, No 1 -- Collection of Works], Voronezh, 1970, pp 7-12, (Translated from Referativnyy Zhurnal, Mekhanika, No 4, 1972, Abstract No 4 V189 by the author's).

Translation: The strength of an envelope of variable thickness loaded with even pressure and located in an axisymmetrical temperature field of variable length (x axis) is estimated. The rule of change of thickness of the envelope $\delta(x) = \delta_0 (1 + ax)^n$. The method of asymptotic integration is used to solve the basic equation. Where $n = 2$, the basic equation is a Euler-type equation and can be solved in closed form.

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USSR

BRAZHNIKOV, Ye. M.; KUZNETSOV, V. A.; MAMLINA, V. I.

"Functional Indexes of Perfusion With the Aid of Elevated Oxygen Pressure in an Oxygenerator-Air Pump (Experimental Investigation)"

Moscow, Voprosy Mediko-Biologicheskikh Issledovaniy. Materialy Konferentsii Molodykh Nauchnykh Rabotnikov Mediko-Biologicheskogo Fakul-teta (Aspects of Biomedical Research. Materials of a Conference of Young Scientific Workers of the Biomedical Faculty), Ministerstvo Zdravookhraneniya SSSR, 1970, 93 pp, pp 42-44

Abstract: A new perfusion method using a newly developed oxygenerator-air pump to be utilized in extracorporeal circulation is described. The effect of the new method on hemodynamics, gaseous composition, acid-base equilibrium, and biophysical properties of the blood was also studied. The method was tested on dogs. The pathomorphological effect of the method on the internal organs was studied simultaneously. The tests were

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USSR

BRAZHNIKOV, Ye. M.; et al, Voorosy Mediko-Biologicheskikh Issledovaniy. Materialy Konferentsii Molodykh Nauchnykh Rabotnikov Mediko-Biologicheskogo Fakul-teta, 1970, 93 pp, pp 42-44

conducted under conditions of complete extracorporeal circulation for one hour with a volume of circulating blood equal to 1.2-3.5 min, maintained as a result of the 100-170 mm Hg pressure difference between the oxygenator and the arterial pressure. Arterial pressure during the perfusion process was within limits of 55-85 mm Hg, venous pressure -- 0-4,5 mm Hg, while peripheral resistance was considerably increased. Arterialization of the venous blood was carried out by the bubble method, with oxygen pressure maintained at 120-280 mm Hg higher than that of the atmosphere. Blood saturation with oxygen increased from 24 to 100%; that of the venous blood decreased from 88 to 64%; shifts in the acid-base balance were characterized by the development of moderate metabolic acidosis and respiratory alkalosis. Biophysical blood indexes were marked by a decline in hemoglobin and blood viscosity. No nonreversible changes in internal organs were observed.

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