

USSR

UDC 531.3

SOKOLOVA, L. Ye.

"Characteristic Indicators of the Vanishing Solutions of a Gyroscopic System With Partial Dissipation"

Moscow, Mekhanika Tverdogo Tele, No 6, Nov-Dec 72, pp 19-26

Abstract: An investigation is made of the influence of partial dissipation, which stabilizes the position of equilibrium to asymptotic stability, upon the form of the roots of the characteristic equation of a gyroscopic holonomic system, with stationary bonds and a force function that does not depend explicitly upon time, with large dissipation and with small dissipation. The reasoning is illustrated by an example. 5 references.

1/1

1/2 022 UNCLASSIFIED PROCESSING DATE--27NOV70
 TITLE--RECORDING A LARGE NUMBER OF IMAGES BY THE METHOD OF SUPERPOSITION
 OF HOLOGRAMS -U-
 AUTHOR--(03)-MIKAELIAN, A.L., BOBRINEV, V.I., SOKOLOVA, L.Z.
 COUNTRY OF INFO--USSR
 SOURCE--AKADEMIIA NAUK SSSR, DOKLADY, VOL. 191, APR. 1, 1970, P 799, 800.
 DATE PUBLISHED-----70

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SUBJECT AREAS--METHODS AND EQUIPMENT
 TOPIC TAGS--HOLOGRAM, MAGNETIC RECORDING, PHOTSENSITIVITY, SIGNAL TO
 NOISE RATIO

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
 PROXY REEL/FRAME--2000/1799 STEP NO--UR/0020/70/191/000/0799/0800

CIRC ACCESSION NO--AT0125411
 UNCLASSIFIED

2/2 022

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AT0125411

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. STUDY OF THE QUALITY OF IMAGES OF SIMPLE OBJECTS DURING SUCCESSIVE RECORDING OF A LARGE NUMBER OF HOLOGRAMS ON THE SAME SEGMENT OF A PHOTSENSITIVE SURFACE. THE MAXIMUM POSSIBILITIES OF THIS TYPE OF RECORDING ARE ESTABLISHED, TAKING INTO ACCOUNT THE EFFECT OF NOISE ARISING AS A RESULT OF THE GRAININESS OF THE PHOTOEMULSIONS. IT IS SHOWN THAT THE SIGNAL, TO, NOISE RATIO IS INVERSELY PROPORTIONAL TO THE SQUARE OF THE NUMBER OF PHOTOGRAPHS AND INCREASES WITH AN INCREASE IN THE NUMBER OF LIGHT SENSITIVE ELEMENTS OF THE PHOTSENSITIVE MATERIAL, I.E., WITH THE AREA OF THE HOLOGRAM. IT IS CONCLUDED THAT THE MAXIMUM RECORDING DENSITY DECREASES WITH AN INCREASE IN THE AREA OF THE HOLOGRAM.

UNCLASSIFIED

1/2 027 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--DESIGN PRINCIPLES OF HOLOGRAPHIC MEMORY DEVICES -U-

AUTHOR--(04)--MIKAELIANE, A.L., BOBRINEV, V.I., NAUMOV, S.M., SOKOLOVA, L.Z.

COUNTRY OF INFO--USSR

SOURCE--IEEE J. QUANTUM ELECTRONICS USA), VOL. QE 6, NO. 4, P. 193-8
(APRIL 1970)

DATE PUBLISHED----APR 70

SUBJECT AREAS--BEHAVIORAL AND SOCIAL SCIENCES, ELECTRONICS AND ELECTRICAL
ENGR.

TOPIC TAGS--HOLOGRAPHY, MEMORY ELEMENT, INFORMATION STORAGE AND RETRIEVAL,
HOLOGRAM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--2000/0072

STEP NO--US/0000/70/000/004/0193/0198

CIRC ACCESSION NO--AT0123844

UNCLASSIFIED

2/2 027 UNCLASSIFIED PROCESSING DATE--23OCT70
CIRC ACCESSION NU--AT0123844
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TWO METHODS OF INFORMATION STORAGE
IN A HOLOGRAPHIC MEMORY DEVICE ARE DISCUSSED: CONSECUTIVE STORAGE OF
INDIVIDUAL BINARY NUMBERS ON THE SAME HOLOGRAM, AND PARALLEL STORAGE OF
MASSES OF BINARY NUMBERS ON INDIVIDUAL HOLOGRAMS. OPTICAL SETUPS OF
RESPECTIVE MEMORY DEVICES ARE DESCRIBED. EXPERIMENTAL RESULTS OF THE
INVESTIGATION OF THESE SETUPS ARE PRESENTED. FACILITY: A.S.
POPOV SOG. RADIO ENNG. AND TELECOMMUNICATIONS, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC: 621.319.4

NEYMAN, M. I., SOKOLOVA, ~~M.~~ A., SVERDLOVA, A. N., VINOGRADOVA, N. V., RYNDINA, L. P., STARENCHENKO, V. G., KOTEL'NIKOVA, L. P.

"Thin-Film Ceramic Capacitors With High Specific Capacitance"

Elektron. tekhnika. Nauch.-tekhn. sb. Radiodetali (Electronic Technology. Scientific and Technical Collection. Radio Components), 1970, vyp. 4(21), pp 3-9 (from RZh-Radiotekhnika, No 5, May 71, Abstract No 5V322)

Translation: The authors discuss a new method of making thin-film ceramic capacitors with high specific capacitance. Their basic electrical characteristics are given.

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USSR

UDC: 666.638.678.027.5

SOKOLOVA, M. A., MERKUSHEV, O. M., NEYMAN, M. I., ASHKRUMOVA, A. Yu.,
SVERDLOVA, A. N.

"A Ceramic Suspension for Making Thin-Film Capacitors"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki,
No 16, Jun 71, Author's Certificate No 303663, Division H, filed 31 Jan 69,
published 13 May 71, p 187

Translation: This Author's Certificate introduces a ceramic suspension for
making thin-film capacitors which is based on an organic solvent. As a dis-
tinguishing feature of the patent, a dielectric coating with a dense struc-
ture is produced by taking the initial components in the following quanti-
tative ratios (in parts by weight): ceramic material--10-20, acetone--
30-60, ammonium acetate--0.1-0.5, and the remainder amylacetate--up to 100
parts by weight of the total.

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UDC 612.014.42+612.825.55

USSR

BOGDANOV, G. V., GOL'DBURT, S. N., ZUBOVA, T. S., SOKOLOVA, M. L.

"Comparison of Residual and Backward Microinterval Maskings by Means of Measuring Absolute Judgement of Loudness"

Leningrad, Fiziologicheskii Zhurnal SSSR imeni I. M. Sechenova, Vol 57, No 6, 1971, pp 806-817

Abstract: For clarification of both kinds of masking, the research objective described was to study changes in loudness within the same intervals. This is research not on relative, but absolute, loudness estimation; that is in comparison with a memory-retained standard. Micro-interval and information theory methods were combined for this purpose. Two experimental tasks were set: 1) determination of the amount of transmitted information (ATI) on pure tone loudness which followed, after a 30 to 980 m sec interval a stronger tone of the same frequency (residual masking) or preceded it by the same interval (backward masking); 2) an error comparison was made, i.e., the number of over- and underestimations of loudness on both maskings. Results showed that the ATI on loudness in six categories of pure tone, under the described conditions of interference, showed a sharp ATI decrease not corresponding to concomitant threshold changes. ATI displacements in residual and backward mask-

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BOGDANOV, G. V., et al., Fiziologicheskii Zhurnal SSSR ineni I. M. Sechenova,
Vol 57, No 6, 1971, pp 806-817

ings were not symmetrical. There was a contrast of dominant errors (over-
estimations with residual; underestimations with backward). This is seen as
evidence of their differing origins.

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1/2 009 UNCLASSIFIED PROCESSING DATE--02JCT70
TITLE--WEIGHT CHARACTERISTICS OF MEIOBENTHOS FROM DIFFERENT PARTS OF THE
DEEP SEA TROPHIC REGIONS OF THE PACIFIC OCEAN -U-
AUTHOR--SOKOLOVA, M.N. S

COUNTRY OF INFO--USSR, PACIFIC OCEAN

SOURCE--OKEANOLOGIYA, 1970, VOL 10, NR 2, PP 348-356

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES, EARTH SCIENCES AND
OCEANOGRAPHY

TOPIC TAGS--OCEAN BOTTOM SAMPLING, SEA FLOOR, MARINE BIOLOGY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1990/1388

STEP NO--UR/0213/70/010/002/0348/0356

CIRC ACCESSION NO--AP0109456

UNCLASSIFIED

2/2 009

UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0109455
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. UNTIL RECENTLY THE TROPHIC REGIONS OF THE OCEAN FLOOR WERE CHARACTERIZED BY TRAWL SAMPLES OF BOTTOM FAUNA (MACROBENTHOS). THE PRESENT PAPER DESCRIBES THE FIRST ATTEMPT TO CHARACTERIZE THESE REGIONS BY GRAB SAMPLES OF BOTTOM FAUNA (MEIOBENTHOS). THE BIOMASS OF MEIOBENTHOS HAS BEEN TAKEN AS A CHARACTERISTIC FEATURE. BASED ON THE MEIOBENTHOS BIOMASS IN THE OLIGOTROPHIC REGIONS, THE INTERMEDIATE ZONES HAVE BEEN SHOWN FOR THE FIRST TIME. THE MEIOBENTHOS BIOMASS IN THE NORTHERN AND SOUTHERN OLIGOTROPHIC REGIONS IS 10 TO 30 TIMES LOWER THAN THAT OF THE EQUATORIAL EUTROPHIC REGION (ALONG 140DEGREESW LONGITUDE) AND 3 TO 18 TIMES LOWER THAN IN THE INTERMEDIATE BOUNDARY ZONES BETWEEN THE OLIGOTROPHIC AND EUTROPHIC REGIONS. THE BIOMASS IS, ON THE AVERAGE, 2.5 TIMES HIGHER IN THE NORTHERN OLIGOTROPHIC REGION THAN IN THE SOUTHERN OLIGOTROPHIC REGION. THE MEIOBENTHOS BIOMASS, PRODUCTION AND THE ACTIVITY OF HETEROTROPHIC MICROFLORA AND BPC IN THE SURFACE SEDIMENT LAYER HAVE BEEN FOUND TO BE DIRECTLY INTERRELATED. THIS RELATIONSHIP IS PRONOUNCED MOST CLEARLY WHEN PASSING FROM THE OLIGOTROPHIC REGION TO THE EUTROPHIC ONE. FACILITY: INSTITUT OKEANOLOGII IM. P. P. SHIRSHOVA AN SSSR.

UNCLASSIFIED

Acc. Nr:

AP0043899

Abstracting Service:
CHEMICAL ABST. 3-70

Ref. Code:

ZLR 0528

65989k Level of nutrients and their uptake by pea plants in relation to fertilizers. ~~Sel'skoye khoz. Vestn. Sel'skhoz. Nauki (Alma-Ata) 1969, 12(9), 31-5 (Russ).~~ Soil contg. 2.4% humus, 0.170-0.180% total N, <30 mg nitrates/kg, ~0.2% total P, 25 mg available P/kg, 1.9% total K, and 57 mg H₂O-sol. K/kg was fertilized with the following combinations: (1) P₁₂; (2) P₂₀K₂₀; (3) P₁₂K₂₀; and (4) N₆₀P₂₀K₂₀, where the subscripts refer to the no. of kg/ha, and P = P₂O₅ and K = K₂O. The highest N and K in pea plants during the 3-7-leaf stages occurred after use of (4) variant. P content in the plants was considerably increased with (3), and was the highest during flowering. The K₂O content in the plants increased considerably during the budding stage. The av. N:P₂O₅:K₂O ratio in the ripening seeds after the use of (4) was 56:10:34. Max. uptake of nutrients by the plants from the soil was after the use of (2) and (3) variants. The use of (1), (2), and (3) considerably increased seed yield. J. Sinydzuk

813

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REEL/FRAME
19770325

USSR

UDC: 8.74

SOKOLOVA, N. D., TSEGEL'SKIY, V. I. (Editors)

"Software for the 'Minsk-32' Computer. No 1"

Matematicheskoye obespecheniye EVM "Minsk-32". Vyp. 1. In-t mat. AN ESSR, Minsk. filial. n.-i. tsentra elektron. vychisl. tekhn. (cf. English above. Institute of Mathematics, Academy of Sciences of the ESSR, Minsk Affiliate of the Scientific Research Center for Electronic Computer Technology), Minsk, 1971, 136 pp, 40 k. (from RZh-Kibernetika, No 1, Jan 72, Abstract No 1V1035 K)

Translation: This collection of papers deals with the requirements for library programs, and also contains descriptions of programs of translations, calculation of elementary functions and some methods of numerical analysis. The programs are written in the "Minsk-32" symbolic coding language. It is noted that the collection is meant to include materials of a procedural type, descriptions of general-purpose programs, and materials on individual components of the system of software for the "Minsk-32" computer.

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USSR

UDC 911.3.616.988.26(575.4)

KANTOROVICH, R. A., BYKOVSKIY, A. F., KIRILLOVA, F. M., and SOKOLOVA, N. M.

"Materials of Epidemiological, Virological, and Electron-Microscope Study of Hemorrhagic Fever Foci in Tadzhik SSR"

V sb. "Virusn. bolezni s.-kh. zhivotnykh. Ch. 2 (Virus Diseases of Farm Animals. Part 2)", Moscow, 1970, pp 216-217 (from RZh-Meditsinskaya Geografiya, No 4, Apr 71, Abstract No 4.36.66)

Translation: The study revealed a relationship between Central Asian hemorrhagic fever and the foothill and low mountain type of geographic relief. Primary disease was chiefly observed in men aged 20-40 years, whose jobs required their being outdoors for prolonged periods in fields, pastures, etc. Results are presented for virological, cytological and electron microscope study of the agent.

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1/2 011 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--PRINTING OF COTTON LAVSAN FABRIC WITH A MIXTURE OF DISPERSED AND
ACTIVE DYES -U-
AUTHOR-(03)-SADOV, F.I., SOKOLOVA, N.M., SOROKINA, M.G.
COUNTRY OF INFO--USSR
SOURCE--TEKST. PROM. (MOSCOW) 1970, 30(2), 47-50
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--DYE, NATURAL FIBER, POLYESTER RESIN, FABRIC, POLYETHYLENE
TEREPHTHALATE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3008/0915 STEP NO--UR/0342/70/030/002/0047/0050
CIRC ACCESSION NO--AP0137943
UNCLASSIFIED

2/2 011

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0137943

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE OPTIMUM HEAT STABILIZATION TIME AND TEMP. ARE, RESP. 1-2 MIN AND 200DEGREES FOR COTTON POLY(ETHYLENE TEREPHTHALATE BLENDS PRINTED WITHDISPERSE BORDEAU 2S, REMAZOL RED VIOLET F, DISPERSE YELLOW Z, PROCIN BLUE ASH BS, OR PROCION YELLOW RS. IN THE CASE OF DISPERSE BLUE K THE OPTIMUM TEMP. WAS 180DEGREES. THE OPTIMUM PRINTING INK COMPN. WAS: DYE 10, UREA 50, NAHCO SUB3 15 G-KG, AND ALGINATE THICKENER. THE ADDN. OF 20 G-KG MONDALKANOLAMINE TO THE FORMULATION REDUCED THE ANNEALING TEMP. BY 10-20DEGREES. REACTIVE DYES DID NOT AFFECT DISPERSE DYE RETANTION BY THE FABRIC. HIGH RETENTION COEFFS. (LARGER THAN 0.67) INDICATE DYE MIGRATION FROM COTTON TO POLYESTER FIBERS. FACILITY: MTI, MOSCOW, USSR.

UNCLASSIFIED

UDC 576.858.75(A2).06

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USSR .

RITOVA, V. V., SCHASTNY, E. I., OGANESYAN, O. T., CHEBOTAREV, Y. V., MOISEYEV, V. P., LARIONOV, A. S., BYKOVSKIY, A. F., SOKOLOVA, N. N., and MEL'NICHENKO, YE. N., Institute of Virology imeni D. I. Ivanovskiy, USSR Academy of Medical Sciences, Moscow

"Study of Influenza A2 Virus Strains Isolated During the 1968-1969 Epidemic from Children in Moscow and in the Moscow Region"

Moscow, Voprosy Virusologii, No 3, May/June 1971, pp 291-196

Abstract: Since 1957, there have been five influenza epidemics in the USSR caused by the A2 virus: in 1957, 1959, 1962, 1965 and 1968-1969. The last one was produced by a newly formed variant of the virus and began in July in Hong-Kong, subsequently spread over Japan, and hit the countries of South-east Asia and the US. In fall 1968 there was a sharp rise in the influenza incidence in England and in other countries of Central Europe. In December, individual A2 and B influenza foci were reported in the Soviet Union in organized children's collectives (child care centers, schools, etc), and by the middle of January in many cities of the USSR, the incidence of influenza surpassed the mean seasonal rate by a factor of five. From 350 sick children 141 strains of the flu virus were isolated from nasopharyngeal washings.

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RITOVA, V. V., et al., Voprosy Virusologii, No 3, May/Jun 71, pp 291-296

Diagnosis was confirmed serologically. All strains had high receptor activity and were antigenically identical. Neutralization tests showed that the 1969 flu virus is not a new serotype. A structural study showed that the virus consisted of spherical (diameter 2000-3500Å) and filiform (diameter of the nucleus 700-900Å, length to several microns) structures. Sera from guinea pigs and horses inhibited hemagglutination of the newly separated strains. The effect of sera was not completely removed after heating to 57°C for 30 minutes and processing with KIO_4 ; but was removed by treatment with cholera vibrios. Only two strains were inhibitor-resistant, all remaining strains were inhibitor-sensitive. The isolated strains were readily adaptable to white mice and from the second or third passage produced death and lung lesions in test animals. Also, in mice, the strains exhibited toxic properties. The immunological responses in convalescents and in immunized animals were high.

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UDC 576.858.75.095.57

USSR

PODCHERNYAYEVA, R. Ya., SOKOLOV, M. I., PARASYUK, N. A., MYASNIKOVA, I. A.,
BASOVA, E. A., SOKOLOVA, N. N., and MOLIBOG, Ye. V., Institute of Virology
imeni D. I. Ivanovskiy, Academy of Medical Sciences USSR

"Study of Genetic Markers and Their Variability in Influenza Virus Isolated
During the 1968-1969 Influenza Epidemic. II. Variability of Genetic
Markers in Influenza Type A₂ (Hongkong) Virus In Passages in Mice at Low
Temperatures"

Moscow, Voprosy Virusologii, No 5, 1971, pp 543-548

Abstract: Ten passages of influenza type A₂ (Hong Kong) virus in mice re-
sulted in variants that produced lung changes typical of influenza in mice.
After the 20th passage, the pathogenic variants exhibited increased repro-
ductive activity at 36 and 40°C. All strains, except A₂ (Hong Kong) 1/68
M20, resisted heating to 56°C. Like the original strains, they were com-
pletely adsorbed on chick erythrocytes but were more readily eluted from
them. Neuraminidase activity was half that in the original strains. The
pathological variants remained sensitive to normal animal serum inhibitors
and did not agglutinate mouse erythrocytes. They resembled the original
strains in resistance to trypsin, urea, and ultraviolet irradiation.

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JSSR

PODCHERNYAYEVA, R. Ya., et al., Voprosy Virusologii, No 5, 1971, pp 543-548

After 10 passages of A2 (Hong Kong) 1/68 and its pathogenic variant A2 (Hong Kong) 1/68 M₂₀ in chick embryos incubated after inoculation at 28°C both strains reproduced actively and remained able to do so even at 40°C.

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UDC 576.858.75.095 5

SOKOLOV, M. I., PODCHERNYAYEVA, R. Ya., PARASYUK, N. A., MYASNIKOVA, I. A.,
MEN'SKIKH, L. K., MOLIBOG, Ye. V., SOKOLOVA, N. N., and STAKHANOVA, V. M.,
Institute of Biology imeni D. I. Ivanovskiy, Academy of Medical Sciences,
USSR, Moscow

"Study of Genetic Properties and Their Variability in Viruses Isolated in the
1968-1969 Influenza Epidemic. Communication I: Biological Properties of
Strains of A2/Hong-Kong 1/68"

Moscow, Voprosy Virusologii, No 6, Nov/Dec 70, pp 677-680

Abstract: A study was made of the inhibitor ratio, thermal stability, neuro-
midase and eluent activities, stability against UV light, and pathogenic and
toxic effects on white mice of the A2/Hong-Kong 1/68 flu strain and two similar
strains isolated in the USSR. The latter strains did not differ significantly
from the former. On the basis of the test results, it is assumed that evolu-
tion of the A2 virus in nature does not involve reversion to strains of group
AO. Additional studies with laboratory varieties are required to elucidate
this problem.

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USSR

UDC 591.185.5:599.4

KONSTANTINOV, A. I., and SOKOLOVA, N. N., Chair of the Physiology of Higher Nervous Activity, Leningrad State University imeni A. A. Zhdanov

"The Possibility of Function of Bat Echolocation Without Participation of the Auditory Cortex"

Leningrad, Zhurnal Evolyutsionnoy Biokhimi i Fiziologii, Vol 6, No 3, May/June 70, pp 347-350

Abstract: Experiments were conducted on two bat species -- *Myotis oxygnathus* and *Rhinolophus ferrum-equinum*. The first series of experiments studied the ability of intact *M. oxygnathus* bats to overcome barriers of wires reduced in diameter from experiment to experiment (1.12, 0.55, and 0.20 mm). A total of eight *M. oxygnathus* were subjected to bilateral extirpation of the auditory sections of the cortex. Analysis of 2,583 flights of intact *M. oxygnathus* bats across wire barriers showed a reduction in the percentage of deflections with decreasing wire diameter. This is in direct relationship to the resolving power of the bat's echolocation system. After bilateral extirpation, all bats studied showed no difference from intact animals in avoiding wires and discriminating different targets. The conditioned reflex to sound (750 hertz) and discrimination of the sound source persisted in experimental bats. The auditory cortex is apparently nonessential for echolocation.

USSR

UDC 51

SEMENOV, Ye. V., SOKOLOVA, N. N., SHIL'NIKOVA, G. M.

"Solution of the Problem of Displaying Finished Production on an Hourly Graph"

Tr. VNII moloch. prom-sti. (Works of the All-Union Scientific Research Institute of the Dairy Industry), 1972, No. 28, pp 56-75 (from RZh-Matematika, No 11, Nov 72, Abstract No 11V496)

Translation: The problem of displaying whole-milk production on an hourly graph is solved using a heuristic method. Programs for achieving a computer algorithm are described. Block diagrams are given. The order of the handling and processing of information under actual conditions is described. Authors abstract.

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USSR

UDC: 51

SEMENOV, Ye. V., SOKOLOVA, N. N.

"Problem of Placement of Milk Industry Enterprises using Mathematical Economics Methods and Computer Equipment"

Tr. VNI Moloch. Prom-sti [Works of All-union Scientific Research Institute of the Milk Industry], 1972, No 28, pp 5-14 (Translated from Referativnyy Zhurnal Kibernetika, No 11, 1972, Abstract No 11V486, by the authors)

Translation: The problem of placement of milk industry enterprises is solved using mathematical programming methods. A variant statement of the problem is given, using the methods designed for transport problems.

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UDC 51

SEMENOV, Ye. V., SOKOLOVA, N. N.

"The Problem of the Allocation of Enterprises of the Dairy Industry Using
Mathematical Economics Methods and Computer Techniques"

Tr. VNII moloch. prom-sti (Works of the All-Union Scientific Research
Institute of the Dairy Industry), 1972, No. 28, pp 5-14 (from RZh-Matematika,
No 11, Nov 72, Abstract No 11V486)

Translation: The problem of the allocation of enterprises of the dairy
industry is solved using methods of mathematical programming. An alternate
formulation of the problem is given in which models of transportation problems
are used. Authors abstract.

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USSR

UDC: 51

SEMENOV, Ye. V., SOKOLOVA, N. N., SHIL'NIKOVA, G. M.

"Solution of the Problem of Delivery of Finished Products According to an Hourly Schedule"

Tr. VNI Moloch. Prom-sti [Works of All-union Scientific Research Institute of the Milk Industry], 1972, No 28, pp 56-75 (Translated from Referativnyy Zhurnal Kibernetika, No 11, 1972, Abstract No 11V496, by the authors)

Translation: A solution is suggested for the problem of delivery of whole milk products according to an hourly schedule using a heuristic method. Programs for realization of the algorithm on a computer are described. Flow charts are presented. The order of transmission and processing of information under actual conditions is described.

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USSR

UDC 632.954

DEVOCHKIN, F. A., SOKOLOVA, N. P., and OZDOYEV, B. A.,

"The Influence of Herbicides on the Anatomic Structure of the Husks of Onions"

Moscow, Khimiya v Sel'skom Khozyastve, Vol 10, No 5, 1972, pp 45-48

Abstract: The influence of various doses of Phaloran and dacthal on cell structure in onions was studied in order to use the data in determining optimal dosages without damage to the cultivated crop. The experiment took place on the Mikhailovskoye education farm on onion cultures of the Timiryazevskiy type. Phaloran was applied in dosages of 8 and 10 kg/ha, the dacthal in dosages of 15 and 20 kg/ha. Various plots were treated with and without a peat mulch, which when used had a thickness of 1.5 cm. The phaloran plots were treated upon the appearance of weed seed leaves; the dacthal plots 2 days after plantings of onion seeds. After harvesting, the variously treated onions and controls were preserved, then thoroughly examined under a microscope. In the treated onions there was apparently more cell division but the cells were smaller, and this phenomenon was in direct proportion to the herbicide dosage. Apparently also the peat mulch adsorbed some of the herbicide, thus lessening its effect on the onion and
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DEVOCHKIN, F. A., et al., Khimiya v Sel'skom Khozyastve, Vol 10, No 5, 1972, pp 45-48

increasing its toxicity for weeds. Cells of the outer husks underwent greater changes, while the herbicides had a weakened effect by the time the inner husks began to grow. Morphologic-anatomic analysis seems to offer the possibility of determining optimal herbicide dosages with minimal damage to cultivated crops.

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SOKOLOVA, N. S.

BIRTH RATE TRENDS IN LeningRAD

UDC: 614.1312.1(470.23-25)

Article by I.V. Poluykov, Candidate of Medical Sciences, and N.S. Sokolova, Chair of Social Hygiene and Public Health Organization (Headed by Professor S.Ya. Freydlin), First Leningrad Medical Institute, 1st L.P. Pavlov (Head: N.A. Shnyayev, Doctor of Medical Sciences); Moscow, Sovetskoye Zdravoochizheniye, Russian, No 10, 1972, submitted 23 May 1972, pp 29-32

Analysis of birth rate trends plays a certain part in forecasting demographic situations. In connection with acceleration of the process of urbanization of the population, it is growing particularly important to investigate different aspects of birth rate in different large cities of our country. In the present work we analyze some characteristics of the birth rate in Leningrad during the period from 1929 to 1970.

In Leningrad, as in all large cities of our country, the birth rate was lower in this period than the overall national rate. There was a gradual decline in birth rate from 1929 to 1967. For example, in 1960, this index constituted 13.49/1000 and in 1968 it was 11.30/1000. Starting in 1968, there was some rise in birth rate and in 1970 it was already 12.60/1000* (Figure 1).

The uniqueness of the curve of birth rate dynamics was studied by the method of least squares. The equalized (hypothetical) line is indicated of a mild tendency toward decline of birth rate from the maximum 1960 level (13.0/100) to a minimum in 1970 (11.0/100). The angle of inclination of this rectified curve (II) in relation to the abscissa axis constituted 12°. We assumed that such a slope to the equalized line is determined, to some extent, by a certain rise in birth rate in the last few years. To rule out this influence the birth rate indices in the 1960-1966 interval were re-equalized. The results of equalization are also plotted on Figure 1, and the scale of the coordinate grid did not change. The angle of inclination of the new equalized line (III) of birth rate trend was 11.5/1000* (Figure 2).

MS 57493
13 Feb 72

USSR

UDC: 681.32.001

MAYOROV, S. A., PETUKHOV, G. A., SKORUBSKIY, V. I., SOKOLOVA, N. S., CHESNOKOV, M. N.

"Problem of Arrangement of Structural Units When Planning and Designing Digital Devices"

Skaisiavimo technika, Vychisl. Tekhnika. T. 1 (Computer Engineering, Vol 1), Kaunas, 1970, pp 275-279 (from RZh-Avtomatika, Telemekhanika i vychislitel'naya tekhnika, No 9, Sep 70, Abstract No 9B200)

Translation: A generalized statement of the arrangement problem for devices of any level is presented by introducing the concept of the functional-structural unit and mounting space. The following steps in obtaining optimal arrangement are investigated: selection of the initial arrangement, optimization of the circuits connecting more than two contacts, processing the connection list, and improvement of the selected arrangement. The results of practical execution of the described problem on the Minsk-22 digital computer are presented. There is one illustration and a two-entry bibliography.

1/1

USSR

UDC 577.391:577.4

SOKOLOVA, N. V., and PARCHEVSKIY, V. P., Institute of Biology of the Southern Seas, Academy of Sciences Ukrainian SSR, and the Magadan Branch of TINRO [Pacific Ocean Scientific Research Institute of Fisheries and Oceanography]

"Lead-210 in Some Hydrobionts in the Sea of Okhotsk and the Bering Sea"

Sverdlovsk, Ekologiya, No 5, 1972, pp 30-36

Abstract: Investigations were conducted from 1966 to 1969 on the Pb^{210} content in the tissues of various fishes and mammals obtained from the Sea of Okhotsk and the Bering Sea. The mammals evaluated in the Bering Sea were *Pusa hispida krascheninikovi*, *Eschrichtius gibbosus*, and *Histiophoca fasciata* and are listed in sequence indicating increasing coefficient of Pb^{210} accumulation in bones (i.e., Pb^{210} in tissue/ Pb^{210} in water). The fishes studied in the Sea of Okhotsk were *Oncorhynchus keta*, *Eleginus gracilis* *Lepidopsetta* sp., and *Clupea harengus pallasii* and the mammals that were investigated were *Pusa hispida ochotensis* and *Phoca vitulina*. The coefficient of accumulation of Pb^{210} in the tissues of mammals obtained from the two seas varied from 1000 to 2100, while for the fishes obtained from the Sea of Okhotsk it ranged from 110 to 220 for whole fishes, from 450 to 670 for bones, and from 500 to 800 for fins. Comparison was also made between the bone concentrations of Pb^{210} and ^{137}Cs .

USSR

SOKOLOVA, N. V. and PARCHEVSKIY, V. P., *Ekologiya*, No 5, 1972, pp 30-36

Sr^{90} in the hair seal (*Pusa hispida*) found in the Sea of Okhotsk in 1969. The former element is a natural radionuclide and the latter is formed as a result of nuclear explosions; both enter the waters from the atmosphere. The coefficient of correlation was 0.94 for the ash content and 0.97 in terms of wet weight. Determinations of the equilibrium dose constants showed that the radionuclides of the Pb^{210} - Bi^{210} - Po^{210} series are the major source of radiation in the case of marine organisms.

2/2

172 009

UNCLASSIFIED

PROCESSING DATE--30OCT70

TITLE--PRIME90 SR, STRONTIUM, AND CALCIUM IN CERTAIN HYDROBIONTS OF THE
SEA OF GKHOTSK -U-
AUTHOR--(03)-KOSTAREVA, G.V., BACHURIN, A.A., SOKOLOVA, N.V.

COUNTRY OF INFO--USSR, ATLANTIC OCEAN, INDIAN OCEAN

S

SOURCE--RADIOBIOLOGIYA; 10: 145-7, JAN-FEB 1970

DATE PUBLISHED--70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES, NUCLEAR SCIENCE AND
TECHNOLOGY, EARTH SCIENCES AND OCEANOGRAPHY
TOPIC TAGS--STRONTIUM ISOTOPE, CALCIUM, HYDROBIOLOGY, SEAL, FISH, OCEAN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3001/1837

STEP NO--UR/0205/70/010/000/0145/0147

CIRC ACCESSION NO--AP0127247

UNCLASSIFIED

2/2 009

CIRC ACCESSION NO--AP0127247
ABSTRACT/EXTRACT--(U) GP-0-

UNCLASSIFIED

PROCESSING DATE--30OCT70

ABSTRACT. THE CONCENTRATION OF PRIME90 SR, AS WELL AS THE CONTENT AND COEFFICIENTS OF ACCUMULATION OF SR AND CA IN CERTAIN SPECIES OF SEALS AND FISH OF THE SEA OF OKHOTSK WERE DETERMINED. A COMPARISON WITH THE LITERATURE DATA INDICATED THAT THE CONCENTRATIONS OF PRIME90 SR IN THE INVESTIGATED HYDROBIONTS ARE COMPARABLE WITH THOSE FOR FISH OF THE INDIAN AND ATLANTIC OCEANS AND FOR SEALS OF THE CHUKOCKI SEA. THE COEFFICIENTS OF DISCRIMINATION OF SR WITH RESPECT TO CA IN FISH FROM DIFFERENT SEAS WERE THE SAME. THE SR CONCENTRATIONS, AS WELL AS CA IN RELATED SPECIES OF FISH FROM SEAS WITH DIFFERENT SALT CONTENTS PROVED CLOSE.

FACILITY: INST. OF BIOLOGY, SEVASTOPOL, USSR.
 FACILITY: PACIFIC OCEAN SCIENTIFIC RESEARCH INST. OF FISHING AND OCEANOGRAPHY, MAGADAN, USSR.

UNCLASSIFIED

Acc. Nr.: AAC040518

S

Ref. Code: LR 0482

JPRS 50248

USSR

UDC 621.385.832.524.45.032.2.002(088.8)(47)

KRUSSER, B. V., SOKOLOVA, P. L., and TOMILKO, L. A.

"Method for Depositing Metal on the Target of the Image Orthicon"

USSR Author's Certificate No 228068, filed 27 June 67, published 5 May 69, (from RZh-Elektronika 1 yeye primeneriye, No 1, Jan 70, Abstract No 1A254P)

Translation: A method is described for deposition of a thin layer of metal on the commutated side of the glass film of the image orthicon target to improve modulation of the reasout beam and to recude the level of fluctuating noise at the output of the electron-beam tube. The deposition is conducted in the sealed-off electron-beam tube without any control of the amount of the metal being deposited. To reduce rejects in this operation quality control of the deposition, of silver for example, is proposed. It may be monitored by the quality of the television picture produced by the image orthicon. At the test unit, after tuning of the electron-beam tube to an optimum regime, the cur-

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rent of the readout beam is reduced to a magnitude corresponding to the transition of the picture to the negative, the evaporator of the metal is connected to a voltage source and the evaporation is conducted with continuous visual control of the picture up to the moment of its transition to the positive. The proposed method excludes the possibility of insufficient dusting (nedopyleniye) or over-dusting (perepyleniye) of the metal and makes it possible to obtain an optimum value of modulation in each sample of the image orthicon. I. M.

19750028

USSR

UDC 541.183.24

NIKOLAYEV, A. V., BOGATYREV, V. D., ZHURKO, F. V., VULIKH, A. P.,
SOKOLOVA, S. I., LEJEMAN, N. YA., Institute of Inorganic Chemistry,
Siberian Department, Academy of Sciences of the USSR

"Ion Exchange Equilibrium Between Ionite Grains"

Moscow, Doklady Akademii Nauk SSSR, Vol 198, 1971, No 1, pp 138-
140

Abstract: Known formulas to determine the equilibrium state in the case of inter-grain affinity can be applied only if the inter-bond exchange by counterions takes place by the predominantly simple mechanism involved in direct contact between grain surfaces. If other factors besides contact play any considerable role (such as ionite hydrolysis), these must be considered as well, and be brought into the formula for equilibrium state. The authors derive empirically several formulas for ion exchange between ionite grains.

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- 2 -

172 012
 UNCLASSIFIED
 PROCESSING DATE--20NOV70
 TITLE--MECHANISM OF FORMATION OF 1,1-DIMETHYL,3-PYRAZOLINIUM OXIDES -U-
 AUTHOR--(CZ)-CVSYANNIKOVA, L.A., SKKLOVA, T.A.
 COUNTRY OF INFO--USSR
 SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (4): 917-18
 DATE PUBLISHED-----70
 SUBJECT AREAS--CHEMISTRY
 TOPIC TAGS--CHEMICAL REACTION MECHANISM, ORGANIC OXIDE, ORGANIC AZO
 COMPOUND, AZIDE, HETEROCYCLIC NITROGEN COMPOUND
 CONTROL MARKING--NO RESTRICTIONS
 DOCUMENT CLASS--UNCLASSIFIED
 PROXY REEL/FRAME--3006/1310
 STEP NO--UR/0062/70/000/004/0917/001B
 CIRC ACCESSION NO--AP0104984
 UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--20NOV70

2/2 012

CIRC ACCESSION NO--AP0134984

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. FROM YIELD DATA ON THE REACTION OF METHACRYLIC ANHYDRIDE AND NE SUB2 NNH SUB2 RUN AT 9DEGREES WITH VARYING TIMES OF MIXING, AND AT NEAR ROOM TEMP. WITH RELATIVELY RAPID MIXING IT WAS CONCLUDED THAT THE PRIMARY PRODUCT IS THE DIMETHYLHYDRAZIDE OF THE ACID, WHICH ON WARMING REARRANGES INTO THE TAUTOMER, 1,1-DIMETHYLPYRAZOLINIUM,3,OXIDE (I). FACILITY: INST. VYSKONGL. SOEDIN., LENINGRAD, USSR.

UNCLASSIFIED

USSR

S UDC 541.124 + 547.772.2

OVSYANNIKOVA, L. A., and SOKOLOVA, T. A., Institute of High Molecular Compounds, Kiev, Academy of Sciences USSR

"Mechanism of the Formation of 1,1-Dimethylpyrazolinium-3-oxides"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, Vol 4, Apr 70, pp 917-918

Abstract: Acylation of N,N-dimethylhydrazine with anhydrides of α, β -unsaturated acids leads first to the formation of N,N-dimethylhydrazide of the acid, which then regroups at an elevated temperature to its tautomer -- 1,1-dimethylpyrazolinium-3-oxide.

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1/2 021 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--DETERMINATION OF THE STERIC ORIENTATION OF THE HYDROXYL GROUPS OF
STEREISOMERIC 4,ETHYNYL,4,PIPERIDINOLS AND THEIR ANALOGS ACCORDING TO
AUTHOR--(09)-MAMONOV, V.I., DVORYANTSEVA, G.G., SOKOLOVA, T.D., SYSOYEVA,
E.B., UNKOVSKIY, B.V.
COUNTRY OF INFO--USSR
SOURCE--ZZH. ORG. KHIM. 1970, 6(5), 1087-91
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--STEREOCHEMISTRY, IR SPECTRUM, PIPERDINE, HYDROXYL RADICAL,
QUINOLINE, ALKYNE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3006/1266 STEP NO--UR/0366/70/006/005/1087/1091
CIRC ACCESSION NO--AP0134940

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UNCLASSIFIED

2/2 021
CIRC ACCESSION NO--AP0134940
ABSTRACT/EXTRACT--(U) GP-0-

UNCLASSIFIED

PROCESSING DATE--27NOV70

ABSTRACT. THE WAVE NO., THE INTENSITY, AND THE WIDTH AT MID POINT OF IR BANDS ASSIGNED TO AXIAL (ALPHA) OH GROUPS OF 2R,4R PRIME1, DISUBSTITUTED,4, HYDROXY,1,5, DIMETHYLPYPERIDINES (I) WERE ALL HIGHER THAN THOSE ASSIGNED TO THE EQUATORIAL (EPSILON) OH GROUPS. E.G. I (R EQUALS H, R PRIME1 EQUALS C TRIPLE BOND CH) HAD AN ALPHA OH BAND AT 3619 CM PRIME NEGATIVE1 AND AN EPSILON OH BAND AT 3611 CM PRIME NEGATIVE1. SIMILAR DIFFERENCES WERE FOUND WITH OTHER I IR AND R PRIME1 GIVEN): ME, C TRIPLE BOND CH; H, ET; AND ME, ET. ANALOGOUS ALPHA EPSILON OH BAND DIFFERENCES EXIST IN 4,(R,SUBSTITUTED), 4, HYDROXY,2, METHYLDECAHYDROQUINOLINES (R IS ET OR C TRIPLE BOND CH).
FACILITY: MOSK. INST. TONKDI KHIM. TEKHNOL. IM. LOMONOSOVA, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 665.55

ISHCHUK, YU. L., SOKOLOVA, T. G., SINITSIN, V. V., and GOSHKO, N. S.,

"The Effect of Viscosity and the Degree of Purification of a Dispersion Medium on the Properties of Complex Calcium Lubricants"

Kiev, Neftyanaya i Gazovaya Promyshlennost', No 6, Nov-Dec 70, pp 37-39

Abstract: The viscosity of dispersion medium and the extent to which heavy aromatic materials have been removed from it have practically no effect on the stability of KCa-lubricants; presence of resinous materials lowers their stability. The effective viscosity of KCa-lubricants in positive temperature range drops with increased degree of oil purity and is hardly affected by the dispersion medium. Resinous substances lower the condensing action of the complex calcium soap. Changing the viscosity of dispersion medium or its purity exhibits no effect on the compressibility of oil from KCa-lubricant. Lubricants made of highly purified oils tend to harden at high temperatures. In general the use of high purity distillation oils lowers the mechanical stability of KCa-lubricants.

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Molecular Biology

USSR

UDC 578.6

2

YERSHOV, F. I., BYKOVSKIY, A. F., URYVAYEV, L. V., SOKOLOVA, T. M., and ZHDANOV, V. M., Member Academy of Medical Sciences USSR, Institute of Virology imeni D. I. Ivanovskiy, Academy of Medical Sciences USSR, Moscow

"The Morphology of Hybrid Ribonucleoprotein Complexes (Pseudoviruses)"

Moscow, Doklady Akademii Nauk SSSR, Vol 210, No 5, 1973, pp 1206-1207

Abstract: It was established in earlier work by Yershov et al (DAN SSSR, Vol 189, No 4, 882, 1969) that addition of the infectious RNA of the virus of Venezuelan equine encephalomyelitis to the fraction S 105 of the hyaloplasm of chick embryo fibroblasts results in the formation of hybrid ribonucleoprotein (RNP) complexes (pseudoviruses) that consist of the virus RNA and cell proteins and differ from the virion RNP in regard to their sedimentation distribution and floating density. They are insensitive to the action of antiviral antibodies, but at the same time exhibit infectious activity. In the work reported at present, the morphology of the pseudoviruses in question was studied by electron microscopy. It was established that the optimum ratio for the formation of the RNP complexes was 400 gamma virus RNA to 1.6 mg protein. On purification of the RNP complexes (pseudoviruses) by centrifuging in a 10-30% density gradient of sucrose dissolved 1/2

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USSR

YERSHOV, F. I., et al., Doklady Akademii Nauk SSSR, Vol 210, No 5, 1973, pp 1206-1207

in an isotonic phosphate buffer (0.1 M NaCl, 0.01 M phosphate buffer, pH 7.2) the fraction corresponding to the peak of RNP complexes (80 S) was collected and studied by means of an electron microscope. Centrifuging in a C_5Cl gradient was also carried out. Threads with a diameter of 25-30 Å and bundles of these threads were observed. The hybrid pseudovirus complexes resembled the virus RNP and differed from informophers in size and shape.

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USSR

UDC 576.858.093.396.332.095.38

URYVAEV, I. V., SOKOLOVA, T. M., YERSHOV, F. I., and ZHDANOV, V. M.,
Institute of Virology imeni D. I. Ivanovskiy, Academy of Medical Sciences USSR,
Moscow

"A Study of the Phenomenon of Complexing Between Viral RNA and Cell Proteins"

Moscow, Voprosy Virusologii, No 6, Nov/Dec 72, pp 670-676

Abstract: Physicochemical properties of chick embryo fibroblast proteins complexing with Venezuelan equine encephalomyelitis virus RNA were studied. Complexing activity between protein, isolated in a DEAE-cellulose column at pH 6.8 and not sedimenting upon 105,000 g centrifugation, and labeled viral RNA was judged by the degree to which RNA was arrested by a millipore filter. Three classes of proteins (12S, 9S, and 6-4.5S) with differing complexing activity were separated on a sucrose gradient. Ionic strength of the medium apparently has an effect on complexing activity: Increasing the NaCl concentration from 0.01-0.1M to 0.5-1M considerably reduces sorption of viral RNA. It was also shown that RNA sorption decreases as the protein concentration is decreased. Moreover increasing the RNA: protein weight ratio from 1:6 to 1:1.5 caused a drop in ribonucleoprotein sedimentation constant from 89S to 57S. The heavier viral RNA coincided with the peak of maximum infectivity. It is suggested that high ionic strength causes viral RNA to form compact units that

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USSR

URYVAYEV, L. V., et al., Voprosy Virusologii, No 6, Nov/Dec 72, pp 670-676

cannot react readily with protein. Though the biological significance of RNA: protein complexing remains unclear, the fact that such complexes arise in isotonic media suggest that such structures exist in infected cells. The relationship between the weight increase of viral RNA and the quantity of protein available suggests that when protein is low in quantity it distributes itself uniformly among all RNA molecules, and RNA sedimentation rate does not increase noticeably.

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USSR

UDC 621.7.029

OBUKHOV, A. F., SOKOLOVA, T. V., and BARTENEV, S. S., Physico Technical
Institute imeni A. F. Ioffe, USSR Academy of Sciences

"Study of Pore Size Distribution in Sprayed Coatings"

Poroshkovaya Metallurgiya, No 4, (100), Apr 71, pp 46-49

Abstract: Pore size distribution in solids can be determined by several methods. Mercury porosimeter and metallographic analysis methods were compared as a means of determining pore size distribution in aluminum oxide coatings. The coatings were prepared by gas flame spraying or plasma spraying. Determinations of pore size by hydrostatic suspension and the mercury porosimeter agreed well with each other but did not agree with the results obtained by microphotographic methods. Gas flame-sprayed coatings showed a porosity of $12.5 \pm 0.5\%$ by either hydrostatic suspension or porosimeter methods and $11.6 \pm 0.5\%$ by the microphotographic methods. Plasma spraying gave $9.3 \pm 0.3\%$ and $7.9 \pm 0.5\%$, respectively. It was concluded that the porosimeter method measured the distribution of pore size by the "narrowing" of sizes and that analysis by microphotographic methods measured "edges." Therefore, because of the heterogeneous particle forms in the coating operation, the latter method is recommended.

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- 6 -

USSR

UDC 621.375.82

VOLOSOV, V. D., DUKHOVNIY, A. M., KRYLOV, V. N., and SOKOLOVA, T. V.

"On the Transformation of Laser Radiation in a Free Oscillation Mode to the Second Harmonic"

V sb. Kvant. elektronika (Quantum Electronics -- Collection of Works), No 2, Moscow, "Sov. radio," 1972, pp 101-102 (from RZh-Fizika, No 10, Oct 72, Abstract No 10D871)

Translation: The energy dependence of the transformation coefficient of the radiation of a Nd laser operating in a free oscillation mode was investigated. A transformation coefficient of 0.105% was obtained for a divergence of 20" and an energy density of 75 joule/cm². An energy density of 1100 joule/cm² was the breakdown threshold of the KDP crystal. Authors abstract.

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- 31 -

USSR

UDC 616-001.26:616.15-07:541.135

SOKOLOVA, V. A., and LARIN, A. A., Chair of Biochemistry, Kiev Medical
Institute

"Distribution of Electrolytes and Water in Whole Blood and Blood Plasma as a
Result of Irradiation"

Kiev, Vrachebnoye Delo, Vol 53, No 3, pp 122-124

Abstract: Experiments were performed to determine the whole blood and blood plasma content of sodium, chlorine, and potassium after irradiation of rats with doses of 600 and 900 rads. The rats were sacrificed and their blood examined within 2, 7, 14, 21, and 28 days after irradiation with a dose of 600 rads, and 2, 5, 7, 9, 11, and 13 days after irradiation with a dose of 900 rads. It was established that the changes in the content of electrolytes in the blood and plasma depended on the dose and the time elapsed since irradiation. The content of sodium in whole blood of rats irradiated with either of the doses increased somewhat, with the largest increase noted by 11th to 14th days after the irradiation. Doses of 600 rads had no effect on the plasma content of sodium; a marked increase in the plasma content of sodium was noted in rats irradiated with a dose of 900 rads, with the largest increase noted by the 11th to 13th days after the irradiation. The whole
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USSR

SOKOLOVA, V. A., and LARIN, A. A., Vrachebnoye Delo, Vol 53, No 3, pp 122-124

blood and blood plasma content of chlorine increased insignificantly in the course of the experiments, with the largest increase noted on the 7th day after irradiation of the animals with a dose of 600 rads, and on the 5th and 16th days from the moment of irradiation with a dose of 900 rads. The potassium content in whole blood and blood plasma from animals irradiated with a dose of 600 rads decreased; it increased, however, in the blood plasma of the animals irradiated with a dose of 900 rads.

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- 30 -

USSR

UDC 616-057:615.33.012.6]-097.3

SOKOLOVA, V. G., and FILYUSHINA, Z. G., Institute of Labor Hygiene and Occupational Diseases, Gor'kiy

"Immunobiological Shifts in Occupational Diseases Caused by Antibiotics"

Moscow, Gigiyena Truda i Professional'nyye Zabolevaniya, No 10, 1971, pp 24-27

Abstract: Sixty-three female workers in a plant manufacturing penicillin and streptomycin and 24 hospital nurses were examined for sensitivity to these antibiotics and candidiasis antigen. The phagocytic reaction was also studied as an indicator of nonspecific immunity. Thirty-six of the 87 were allergic to the antibiotics and candidiasis antigen. The phagocytic activity of the neutrophils decreased in the first or absorptive phase of the process in 72 of those who had prolonged industrial contact with the antibiotics, but the intensity of digestion increased markedly in the second or digestive phase, apparently in compensation for the initial decrease. The bactericidal properties of blood plasma from those occupationally exposed to the antibiotics were twice as potent as the control. Thus the main factors in the pathogenesis of occupational disease caused by penicillin and streptomycin seem to be sensitization and impairment of immunological reactivity.

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Public Health, Hygiene and Sanitation

USSR

UDC 615.835.5:628.83

ASHBEL', S. I., ORESHKOVICH, I. V., and SOKOLOVA, V. G. Gor'kiy
Institute of Labor Hygiene and Occupational Diseases

"Ventilation of Aerosol Inhalation Rooms"

Moscow, Voprosy Kurortologii Fizioterapii i Lechebnoy Fizicheskoy
Kul'tury, Vol 36, No 1, 1971, pp 72-76

Abstract: The method of treating various diseases by letting patients inhale the aerosols of alkalis, antibiotics, sulf-anilamides, bronchodilators, antihistamine, vitamins, corticosteroids, proteolytic enzymes, and other drugs is becoming increasingly more popular. Twenty inhalation rooms in the city of Gor'kiy were studied and found far from adequate. Each inhalation room accommodates three to six persons, each breathing a different aerosol. Because of poor ventilation, significant residual amounts of various drugs remain in the air, yielding an "aerosol bouquet" and causing chronic diseases among the personnel. In contrast, the authors describe the inhalation room designed by them. It contains several individual chambers

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USSR

ASHBEL', S. I., ORESHKOVICH, I. V., and SOKOLOVA, V. G.,
Voprosy Kurortologii Fizioterapii i Lechebnoy Fizicheskoy
Kul'tury, Vol 36, No 1, 1971, pp 72-76

which are closed during treatment, and a ventilation system
which is properly installed and has enough power to purify the
air. This inhalation room has been used for 2 years with highly
satisfactory results.

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USSR

UDC 577.164.2:612.014.461

SOKOLOVA, V. I., Chair of Biochemistry Kiev Medical Institute

"The Effect of Vitamin C on Some Indices of Water-Salt Metabolism during Experimental Hypoxia"

Kiev, Ukrainskiy Biokhimicheskiy Zhurnal, Vol 42, No 3, 1970, pp 372-376

Abstract: Hemic hypoxia was induced in rats by intramuscular injection of sodium nitrate (15 mg/100 g body weight). Water was retained in tissues of rats subjected to hemic hypoxia. The increase in total water content was due to the extracellular phase, since intracellular water content decreased in this process. An analogous distribution of sodium ions was noticed in the brain and skeletal muscles. Hypervolemia is thus accompanied by hyperhydremia, a very important factor in relation to the maintenance of osmotic pressure in the extracellular phase. Disorders in water distribution in the brain and skeletal muscles may be prevented by administration of vitamin C. However, in the liver, kidney, and muscles, vitamin C has no effect on water distribution. In these cases intracellular potassium is accumulated and extracellular potassium is depleted, resulting in increased synthesis of glycogen and protein in the cells.

1/1

Single Crystals

USSR

UDC 621.315.592(088.8)

GORYUNOVA, N. A., ORLOV, V. M., SOKOLOVA, V. I., TSVETKOVA, YE. V., and
SHPEN'KOV, G. V., Physicotechnical Institute imeni A. F. Ioffe

"Method of Preparing Copper-, Tin-, and Phosphorus-Base Single Crystals"

USSR Authors' Certificate No 252289, Cl. 12c, 2, (Pol^d), filed 11 Jun 68,
published 30 Jul 70 (from RZh-Metallurgiya, No 3, Mar 71; Abstract No 3G529)

Translation: The method of preparing Cu, Sn-, and P-base single crystals, for example Cu_4SnP_{10} , at high temperatures is unique in that, in order to obtain a semiconductor compound possessing photoelectric sensitivity in the IR region of the spectrum, the crystallization process is carried on from solution in an Sn melt, with charge components taken in the following ratios (wt.%): Cu 36.7-37.7, Sn 17-17.8, P 44.8-46. Phosphorus is taken with an excess of 1-1.5 wt.% as compared with calculations. The process is conducted at 1000-1050° for 1-1.5 hr with subsequent slow cooling at a rate of 20± 5 deg/hr.

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UUC 577.391:612.014.963

00001

SHAMRAY, Ye. F., and SOKOLOVA, V. I., Chair of Biochemistry, Kiev Medical Institute

"The Effect of Sublethal and Lethal Radiation Doses on Extracellular and Intracellular Distribution of Water in Certain Rat Tissues"

Kiev, Ukrainskiy Biokhimiicheski. Zhurnal, Vol 42, No 4, 1970, pp 494-498

Abstract: Ionizing radiation was found to lower the total water content in the brain, liver, kidneys, and skeletal muscles of rats. A lethal dose (900 R) had a more pronounced effect on dehydration than a sublethal dose (600 R). The decrease in total water content of the tissues was accompanied by an increase in the volume of plasma and extracellular fluid. Shifts in water distribution between the cell and its environment were more pronounced with lethal radiation. Irregularities in water balance between the cell and its environment occur prior to shifts in total water content and are more regular and distinct. Irregularities in water distribution may be due to irregularities in electrolyte distribution, since the exchange of sodium between the cells and the surrounding medium occurs prior to any shifts in total sodium content. Accumulation of excess sodium in the extracellular space may lead to a transfer of water from the cells into the extracellular region.

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UNCLASSIFIED

PROCESSING DATE--23OCT70

1/2 022

TITLE--ON SOME PROPERTIES OF CDSNP SUB2 IN STRONG ELECTRIC FIELD -U-

AUTHOR--(05)-GORYUNOVA, N.A., LEONOV, E.I., ORLOV, V.M., RODIONOV, A.F.

SOKOLOVA, V.I.
COUNTRY OF INFO--USSR

SOURCE--PHYS. LETTERS, NETHERLANDS, VOL. 3 1A, NO. 7, P. 393-4, 16 APRIL 1970

DATE PUBLISHED-----7Q

SUBJECT AREAS--PHYSICS

TOPIC TAGS--PHOSPHIDE, CADMIUM COMPOUND, TIN COMPOUND, HIGH FREQUENCY CURRENT, OSCILLATION, ELECTRIC FIELD

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1992/0441

STEP NO--NE/0000/70/031/007/0393/0394

CIRC ACCESSION NO--AP0111634

UNCLASSIFIED

2/2 022

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0111634

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. HIGH FREQUENCY CURRENT
OSCILLATIONS IN A NEW TERNARY SEMICONDUCTING COMPOUND HAVE BEEN
PREDICTED THEORETICALLY AND OBSERVED EXPERIMENTALLY.

FACILITY:

ACADEMY SCI. USSR, LENINGRAD.

UNCLASSIFIED

Acc. Nr:

AP 0100576

Abstracting Service:

CHEMICAL ABST. 5-70

Ref. Code:

UR 0065

104301b Evaluating the activity of an aluminosilicate cracking catalyst. Sokolova, V. I.; Berg, G. A.; Morozov, B. F. (USSR). *Khim. Tekhnol. Topl. Masel* 1970, 15(1), 17-21 (Russ). H as gas-carrier was satd. with isoctane (I) or other raw material, heated, and fed into the reactor contg. 1 g catalyst at 550°C and the reaction products entered a chromatog. column packed with 0.3-0.4 mm firebrick contg. 1% quinoline and analyzed. The catalyst activity was detd. in relation to the amt. of H converted expressed as wt. % yield of the reaction products, detd. 30 min after feeding raw material into the reactor at space velocity 0.04-0.0035 hr⁻¹, remaining const. for another 2 hr. The relation between the conversion of I and activity coeff. of the catalyst was linear. The content of C₄H₆, obtained from secondary reactions, and butylenes as main reaction products depended on the sp. surface of the catalyst also, detg. its selectivity. The relation between the selectivity detd. as above and the ratio of gasoline to coke yields was linear. The method was also used for detg. the effect of various impurities of the raw material and metal impurities of the catalyst on its activity and selectivity. Characteristics of various catalysts and results obtained are tabulated. The app. and exptl. results are graphically presented.

GGJR

REEL/FRA
19842011

UDC 546.779

USSR

NIKOLAYEV, A. V., SOKOLOVA, V. K., and WOLKOV, V. V.

"Calculation of Isotope Accumulation of Transplutonium Elements under Neutron Irradiation of Different 'Starting' Materials"

Leningrad, Radiokhimiya 12, No 3, 1970, pp 481-486

Abstract: The accumulation of transplutonium elements can be achieved by prolonged irradiation of targets in high-density neutron beams, which is expensive. Consequently, the processes taking place in the irradiated targets must first be theoretically studied. Most important are: accumulation and trans-formation of transplutonium isotopes and "contamination" of the target with fission products. Calculation of the accumulation allows one to evaluate the yields and to optimize the irradiation conditions. So far, ^{240}Pu has not been studied as possible "starting" material. The accumulation of transplutonium elements from the most probable isotopes, ^{239}Pu , ^{240}Pu , and ^{241}Am , by neutron irradiation was studied. The calculated results obtained from evaluations of heat evolution in the targets and target contamination by fission products were also studied.

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1/2 034 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--RADIOCHEMICAL COMPOSITION OF IRON 54 TARGETS SUBJECTED TO NEUTRON
IRRADIATION TO BUILD UP A MACROQUANTITY OF IRON 55 -U-
AUTHOR--(02)-VOLKOV, V.V., SOKOLOVA, V.K.

COUNTRY OF INFO--USSR

SOURCE--RADIOKIMIYA 1970, 12(1), 163-72

DATE PUBLISHED-----70

SUBJECT AREAS--NUCLEAR SCIENCE AND TECHNOLOGY

TOPIC TAGS--NEUTRON IRRADIATION, IRON ISOTOPE, GAMMA SPECTROSCOPY, ISOTOPE
PRODUCTION, HYDROCHLORIC ACID, ISOTOPE SEPARATION, QUANTITATIVE ANALYSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAHE--3001/2204

STEP NO--UR/0186/T0/012/001/0163/0172

CIRC ACCESSION NO--AP0127566

UNCLASSIFIED

2/2 034

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0127566

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. GAMMA SPECTROMETRIC ANAL. OF PRIME54 FE IRRADIATED IN A FLUX OF 2.5 TIMES 10 PRIME15 N-CM PRIME2 SEC TO AN INTEGRATED DOSE OF 10 PRIME22 REVEALS THE PRESENCE OF PRIME55 FE, PRIME59 FE, PRIME54 MN, PRIME51 CR, AND PRIME60 CO (FORMED FROM THE PRIME54 FE) AS WELL AS PRIME124 SB, PRIME95 ZR PRIME95 NB, PRIME110 AG, AND PRIME123 TE (FORMED BY ACTIVATION OF IMPURITIES). IN 8-10 N HCL SOLNS. CONTG. PRIME55 FE (WITH AN ACTIVITY OF 2.2-2.7 CI-ML), ABOUT 11-12PERCENT OF THE FE IS PRESENT AS FE PRIME2 POSITIVE, FORMED AS A RESULT OF RADIOLYTIC REDN. OF THE FE PRIME3 POSITIVE. IN THE EXTN. ISOLATION OF FE ISOTOPES FROM THE SOLNS., THE SB ACCOMPANIES THE FE, WHILE THE ZR AND NB ARE DISTRIBUTED AMONG THE VARIOUS FRACTIONS. THE NUCLEAR TRANSFORMATIONS DURING THE IRRADN. OF THE PRIME54 FE SAMPLE ARE SUBJECTED TO A THEORETICAL ANAL.

UNCLASSIFIED

1/2 022 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--INFLUENCE OF VARIOUS FACTORS ON THE COPOLYMERIZATION OF ISOBUTYLENE
AND ISOPRENE -U-
AUTHOR--(04)--SHLIFER, D.I., KOVALEVA, G.V., SOUSTOVA, N.V., SOKOLOVA, V.M.
COUNTRY OF INFO--USSR
SOURCE--KAUCH REZINA 1970, 29(5), 1-3
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY, MATERIALS
TOPIC TAGS--COPOLYMERIZATION, ISOPRENE, LOW TEMPERATURE EFFECT, ISOBUTENE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3008/0975 STEP NO--UR/0138/70/029/005/0001/0003
CIRC ACCESSION NO--AP0138003

UNCLASSIFIED

2/2 022

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0138003

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ISOBUTYLENE (I) AND ISOPRENE WERE COPOLYMD. IN ETCL OR ISOPENTANE (II) AT MINUS 100DEGREES TO MINUS 30DEGREES. AT SIMILAR TO MINUS 30DEGREES THE MIXT. BECAME HOMOGENEOUS AND THE COPOLYMER MOL. WT. AND COMPN. DID NOT DEPEND ON THE SOLVENT. IN THE HETEROGENEOUS COPOLYM. AT LESS THAN MINUS 30DEGREES THE MOL. WT. OF THE COPOLYMER OBTAINED IN II WAS 3-3.5 TIMES LARGER THAN THAT OBTAINED IN ETCL. THE CHANGES OF THE SOLVENT AND TEMP. VARIED THE AMT. OF I UNITS IN THE COPOLYMER FROM 4 TO 10PERCENT VOL. WITHOUT ALTERING ITS MOL. WT. FACILITY: VSES. NAUCH-ISSLED. INST. SIN. KAUCH. IM. LEBEDEV, LENINGRAD, USSR.

UNCLASSIFIED

1/2 020 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--N,4-PYRIMIDINYL,ETHYLAMINE. III. 2,5,6-DERIVATIVES -U-
AUTHOR--(05)-~~SKOLOVA~~, V.N., MEDNIKOVA, G.A., MAGIDSON, O.YU.,
SHCHERBAKOVA, L.I., PERSHIN, G.N. S
COUNTRY OF INFO--USSR
SOURCE--KHIM. GETEROTSIKL. SOEDIN. 1970, (3), 422-6
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES, CHEMISTRY
TOPIC TAGS--PYRIDINE, AMINE DERIVATIVE, ANTITUBERCULAR DRUG,
BACTERIOSTATIS, MOLECULAR STRUCTURE, CHEMICAL SYNTHESIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3003/0995

STEP NO--UR/0409/70/009/003/0422/0426

CIRC ACCESSION NO--AP0130041

UNCLASSIFIED

2/2 020

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0130041

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SHOWN ON MICROFICHE. HIGH
TUBERCULOSTATIC ACTIVITY AGAINST H SUB37 RV (MYCOBACTERIUM TUBERCULOSIS)
WAS FOUND FOR A FEW OF THE SYNTHESIZED COMPS., THE OTHERS SHOWED
BACTERIOSTATIC ACTIVITY AGAINST L(ACTOBACILLUS) CASEI 7369 AND
STREPTOCOCCUS) FAECALIS 8043. FACILITY: VSES. NAUCH.-ISSLED.
KHIM.-FARM. INST. IM. OPDZHONIKIDZE, MOSCOW, USSR.

UNCLASSIFIED

1/2 020 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--COMPLEXES OF TITANIUM AND TIN TETRACHLORIDES WITH ACETYLACETONE
IMINES -U-
AUTHOR--(03)-KOGAN, V.A., SOKOLOV, V.P., OSIPOV, O.A.
COUNTRY OF INFO--USSR
SOURCE--ZH. OBSHCH. KHIM. 1970, 40(4), 833-8
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--TITANIUM CHLORIDE, TIN CHLORIDE, ACETONE, IMINE, COMPLEX
COMPOUND, UV SPECTRUM, IR SPECTRUM
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3006/0824 STEP NO--UR/0079/70/040/004/0833/0833
CIRC ACCESSION NO--AP0134557
UNCLASSIFIED

2/2 020

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0134557

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. HEATING THE AROM. AMINES WITH AC
SUB2 CH SUB2 IN HEXANE GAVE THE APPROPRIATE ANILS WHICH TREATED WITH
METAL CHLORIDES IN C SUB6 H SUB6 GAVE THE FOLLOWING COMPLEXES (WHERE A
EQUALS ACETYLACETONE ANIL; L EQUALS ACETYLACETONE O,METHYLANIL; A PRIME
EQUALS ACETYLACETONE P,NITROANIL; A DOUBLE PRIME EQUALS ACETYLACETONE
HEXYLIMINE; AND A TRIPLE PRIME EQUALS ACETYLACETONE DODECYLIMINE):
TICL SUB4.A SUB2, RED, M. 153DEGREES; TICL SUB4.L SUB2, RED, M.
140DEGREES; TICL SUB4.A PRIME SUB2, RED, M. 128DEGREES; SNCL SUB4.A
SUB2, COLORLESS, M. 152DEGREES; SNCL SUB4.L SUB2, COLORLESS, M.
142DEGREES; SNCL SUB4.A PRIME SUB2 COLORLESS, M. 120DEGREES; THE
COMPLEXES WITH A DOUBLE PRIME AND A TRIPLE PRIME WERE FORMED IN 2:1
RATIO WITH TICL SUB4 AND IN 4:1 RATIO WITH SNCL SUB4, ON THE BASIS OF
SPECTROSCOPIC DATA ONLY AS THE COMPLEXES COULD NOT BE ISOLATED. THE UV
AND IR SPECTRA OF THE COMPLEXES INDICATE A DONOR ACCEPTOR BOND BETWEEN
THE METAL AND THE O ATOM OF THE CARBONYL GROUP. FACILITY:
ROSTOV.-NA-DONU GOS. UNIV., ROSTOV-ON-DON, USSR.

UNCLASSIFIED

SOKOLOVA, V. S.

Min Higher Education

Ministry of Higher Education, USSR
First Moscow State Pedagogical Institute of Foreign Languages

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APPROVED
BY THE
COMMISSION ON FOREIGN TRANSLATIONS
(May 16, 1954)

PROOF, 1954

USSR

UDC 621.317.4:621.318.122

SOKOLOVA, YE. A.

"Magnetostriction and Its Temperature Coefficients for Certain Ferromagnetic Materials"

Tr. metrol. in-tov SSSR (Works of the Metrology Institutes of the USSR), 1971, No. 113(173), pp 68-73 (from Referativnyy Zhurnal, Metrologiya i izmeritel'naya tekhnika, No 11, Nov 71, Abstract No 11.32.1768)

Translation: Results of a measurement of magnetostriction λ and its temperature coefficients β for samples of alloys Yul4, K50F2, K65 and F600 ferrite as a function of magnetization intensity (or magnetizing field strength) and temperature are presented. Measurements of λ were conducted in the temperature range 12.5-442°C for samples of the alloys at a magnetization intensity up to $2 \cdot 10^3$ a/m and in the temperature range (-110) - (+184)°C for the ferrite at a field strength up to 50 ka/m. The error of measurement of magnetostriction in the range $(1035) \cdot 10^6$ was 6-0.5%. 5 ill., 1 table, 2 ref.

1/1

1/2 018 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--ON THE ZETA POTENTIAL OF PARTICLES IN MULTICOMPONENT SYSTEMS -U-
AUTHOR--(03)-BIBIK, YE.YE., SOKOLOVA, YE.A., LAVROV, I.S.
COUNTRY OF INFO--USSR
SOURCE--KOLLOIDNYY ZHURNAL, 1970, VOL 32, NR 2, PP 301-303
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS, CHEMISTRY
TOPIC TAGS--BARIUM FERRITE, IRON OXIDE, ADSORPTION, COLLOID, CHEMICAL STABILITY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1992/1655 STEP NO--UR/0069/70/032/002/0301/0303
CIRC ACCESSION NO--AP0112649
UNCLASSIFIED

2/2 018

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0112649

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ZETA POTENTIAL OF THE DISPERSED PHASE HAS BEEN MEASURED IN A SUSPENSION CONTAINING LARGE (10 PRIME NEGATIVE 5 CM) BARIUM PARTICLES WITH A LOW ZETA POTENTIAL AND SMALL (10 PRIME NEGATIVE 6 CM) FE SUB3 O SUB4 PARTICLES WITH A HIGH (POSITIVE 28 MV) ZETA POTENTIAL. ADSORPTION OF SMALL PARTICLES BY LARGE ONES IS OBSERVED AS WELL AS INCREASE IN STABILITY AND ZETA POTENTIAL OF LARGE PARTICLES. THE RELATIONSHIP BETWEEN THE AMOUNT OF ADSORBED PARTICLES AND THE ZETA POTENTIAL OF LARGE PARTICLES POINTS TO A DISCRETE LOCATION OF THE CHARGE ON THE SURFACE OF LARGE PARTICLES.

UNCLASSIFIED

USSR

UDC 632.95

MEL'NIKOV, N. N., SOKOLOVA, YE. M., TRUNOV, P. P., VOLODKOVICH, S. D.,
DYKSHAKOVA, G. K., GOLYSHIN, N. M., ABELENTSEV, V. I., UKRAINETS, E. S.,
FEDOSEYENKO, L. G., ZAIKIN, B. A., DVUKHSHERSTOV, M. G., VISHEVETSKAYA, A. N.,
ORLOV, S. I., ZAVIZION, A. P., and TALASH, A. I.

"Polycarbazin"

V sb. Khim. sredstva zashchity rast. (Chemical Plant Protectants -- collection of works), vyp 1, Moscow, 1970, pp 95-104 (from RZh-Khimiya, No 13, 10 Jul 72, Abstract No 13N503 by T. A. Belyayeva)

Translation: The effectiveness of polycarbazin (I) on apple scab and grapevine mildew equals that of zineb (II) and polyram-combi, while on cherry-fruit gray rot it equals Bordeaux liquid (III) (1 percent), but is ahead of II. I equals II and III for Clasterosporium infection of the cherry plum and tomato macrosporiosis. The decisive factor which determines the length of action of I is precipitation, which washes the preparation off plants.

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USSR

UDC 612.8.019.941

MERKULOVA, O. S., SOKOLOVA, Ye. V., and FILARETOV, A. A. (Reviewers)

Rezultaty Issledovaniy po Morfologii, Neyroendokrinologii, Neyrofiziologii, Povedeniyu i Patologii Nervnoy Sistemy (Results of Investigations Into the Morphology, Neuroendocrinology, Neurophysiology, Behavior and Pathology of the Nervous System) by Lishshak, K. (Editor), Budapest, 1972

Leningrad, Fiziologicheskii Zhurnal SSSR imeni I. M. Sechenov, Vol 59, No 9, Sep 73, pp 1451-1452

Abstract: The collection contains articles about presynaptic influences on the formation of postsynaptic structures on the brain dendrites, the binding of H³-estradiol to the brain and uterus, and the decrease in electrical activity of subcortical formation neurons on habituation to new conditions or on adding ACTH and corticosteroids. The reviewers question the hormone dosage level of the latter. Additional articles discuss the dependence of elicited potentials in the auditory core on the stimulus frequency, the influence of the hippocampus on the mesoencephalic structures, the correlation between cortical electrical activity and stimulation of the thalamus nucleus, the refractory period in the reinforcement of lateral hypothalamus structures and the influence of disturbances in cervical lymphatic flow on the EEG and brain function.

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1/2 025

UNCLASSIFIED

PROCESSING DATE--18SEP70

TITLE--HIGHER NERVOUS ACTIVITY IN RATS WITH AN EXCESS OR DEFICIT OF
CORTICOSTEROID HORMONES -U-

AUTHOR--SOKOLOVA, YE.V.

COUNTRY OF INFO--USSR

SOURCE--ZHURNAL VYSSHEY NERVNOY DEYATEL'NOSTI, 1970, VOL 20, NR 1 PP 85-88

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--RAT, HYDROCORTISONE, BRAIN, ADRENAL GLAND, SURGERY,
ELECTROPHYSIOLOGY, NERVOUS SYSTEM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1982/0810

STEP NO--UR/0247/70/020/001/0085/0088

CIRC ACCESSION NO--AP0052246

UNCLASSIFIED

2/2 025

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0052246

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EXPERIMENT WAS CONDUCTED ON 96 RATS OF THE WISTAR LINE BY THE MOTOR ELECTO DEFENSIVE METHOD. INTRAMUSCULAR CHRONIC INJECTION OF A 1 MG-100 DOSE OF HYDROCORTIZONE DID NOT AFFECT THE RATE OF CONDITIONING, BUT SIGNIFICANTLY SHORTENED THE MOTOR REACTION LATENCY AND THE TIME OF RUNNING IN THE LABYRINTH. ADRENALECTOMY, BOTH BEFORE THE BEGINNING OF CONDITIONING AND AFTER ITS STABILIZATION, SUBSTANTIALLY PROLONGED THE MOTOR REACTION LATENCY. THE CHANGES IN LATENCY ARE SUPPOSED TO BE THE CONSEQUENCE OF CORRESPONDING CHANGES IN BRAIN EXCITABILITY.

UNCLASSIFIED

USSR

UDC 539.1.074.8

CHERNYAYEV, V. B., SOKOLOVA, Z. YA.

"The Part Played by a Reflector in a Scintillation Detector of ZnS(Ag)B₁₀"

Khar'kov, Monokristally, Stsintillyatory i Organicheskiye Lyumino-
fory -- Sbornik (Monocrystals, Scintillators, and Organic Lumino-
phores -- Collection of Works, No 5, 1970, pp 224-228 (from
Referativnyy Zhurnal, Metrologiya i Izmeritel'naya Tekhnika, No
12, 1970, Abstract No 12.32.1497)

Translation: The article deals with the part played by the reflector in a two-dimensional dispersive neutron detector in measuring the layer thickness of the scintillator. It has been experimentally shown that the reflector increases the effectiveness of the neutron registration and changes the differential amplitude spectrum of the detector pulses. Consideration is given to a number of designs of 3-dimensional detectors from the point of view of the effectiveness of neutron registration and the amplitude spectrum of pulses from the photoelectronic multiplier. 5 figures, 8 bibliographic entries.

1/1

USSR

UDC 539.1.074. 8

CHERNYAYEV, V. B., SOKOLOVA, Z. Ya., Physicotechnical Institute imeni
A. F. Ioffe

"A Neutron Detector"

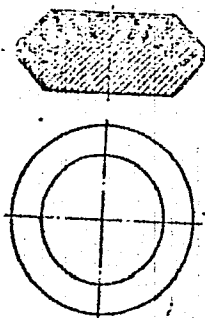
Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki,
1970, No 36, Soviet Patent No 288172, class 21, filed 31 Jul 69, published
3 Dec 70, p 88

Translation: This Author's Certificate introduces a neutron detector in the form of a moderator light guide inside of which are coaxial cavities with a scintillating material. The moderator light guide is covered by a reflector. As a distinguishing feature of the patent, the effectiveness of neutron registration is improved by forming the cavities with surfaces of truncated cones having an identical central solid angle at the exit pupil of the detector, while the surface of the moderator light guide is in the shape of a hemisphere. The patent also covers a modification of the detector which is distinguished by the fact that the technology of making it is simplified by making up the moderator light guide surface from the surfaces of a cylinder and two truncated cones.

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USSR

CHERNYAYEV, V. B., SOKOLOVA, Z. Ya., Otkrytiya, izobreneniya, promyshlennyye
obraztsy, tovarnyye znaki, 1970, No 36, Soviet Patent No 288172, class 21,
filed 31 Jul 69, published 3 Dec 70, p 88



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- 65 -

USSR

UDC 621.375.82

SOKOLOVSKAYA, A. I., KUDRYAVTSEVA, A. D., SUSHCHINSKIY, M. M.

"Self-Focusing, Induced Raman Emission in Substances With Small Kerr Constants"

V sb. Nelineyn. protsessy v optike (Nonlinear Processes in Optics--collection of works), Vyp. 2, Novosibirsk, 1972, pp 262-266 (from RZh-Fizika, No 12, Dec 72, Abstract No 12D890)

Translation: A study is made of the self-focusing of laser radiation in a ruby in a modulated Q-factor mode and the induced Raman emission caused by it in liquid nitrogen and calcite as functions of the thickness of the scattering layer and the pumping energy of the laser. The experimental conditions are similar to those described previously (RZh-Fizika, 1972, 6D1130). In nitrogen induced Raman emission occurred in the inhomogeneities of the laser radiation, inside which self-focusing of the first Stokes component of induced Raman emission was also observed. The number of points of occurrence of induced Raman emission and self-focusing depended on the thickness of the nitrogen layer and the energy of the laser radiation. The first self-focusing ray was observed in nitrogen at a laser radiation energy of 0.013 joules. With an increase in the energy of the laser radiation the number of self-focusing rays increased to 30-40. A further increase in the laser radiation energy led to blurring of the pattern at the output end of
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USSR

SOKOLOVSKAYA, A. I., et al., Nelineyn. protsessy v optike (Nonlinear Processes in Optics--collection of works), Vyp. 2, Novosibirsk, 1972, pp 262-266

the cuvette without significant increase in the number of self-focusing rays. In the cases of appearance of self-focusing near both ends of the cuvette, anti-Stokes radiation was observed along the axis. The self-focusing of the laser radiation with energies of 0.2-3 joules was observed in a maximum layer 100 μ m thick. Only self-focusing of the induced Raman emission was observed, and self-focusing of the laser radiation was not detected. In as much as the calculated values of the self-focusing thresholds as a result of the Kerr nonlinearity appreciably exceeded the experimental values, the conclusion was drawn that self focusing was observed by an increase in polarizability of the molecules on excitation of them. The bibliography has 10 entires.

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- 55 -

Acc. Nr:

AP0052532

Abstracting Service:

CHEMICAL ABST.5-70

Ref. Code:

4A 0031

S

104293a Standardization of a platinum catalyst. Sokol'skaya
A. M.; Gorokhov, A. P.; Ryabinina, S. A. (USSR). *Vestn.
Akad. Nauk Kaz. SSR* 1970, 26(2), 66-7 (Russ). The content of
cations of alkali metals in PtO₂ must be detd. exactly in order to
prep. a catalyst that is optimal for a given type of chem. bond.
The degree of PtO₂ purification can be controlled by the electro-
chem. potential of Pt-black. The potential varies inversely with
the cation content. The hydrogenation rate of compds. with
various types of chem. bonds is a function of the potential of the
Pt black. The washing is speeded up by a flow-type app.
During the process batches of 0.1 g PtO₂ are taken, reduced with
H₂, and the potential is detd. in relation to a SCE. L. Holl

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Epidemiology

USSR

UDC 616.981.55-022.34

MORGUNOV, I. N., SOKOLOVSKAYA, G. G., and KOLESNIKOV, Kiev Medical Institute
imeni A. A. Bogomolets

"Some Ways in Which Pathogenic Anaerobes Spread"

Moscow, Gigiyena i Sanitariya, No 4, 1971, pp 25-28

Abstract: The epidemiology of botulism and tetanus is largely influenced by the complex interaction of soil and other natural and social factors. A major source of infection of the soil is the excretions of cattle, poultry, and rodents in whose stomach contents Clostridium tetani and Clostridium botulinum were found in 62 to 64% and 21 to 34% of 1400 samples analyzed. Tetanus morbidity is very high in regions with a predominance of chernozem, meadow, and alluvial soils but low in erosion regions. Alluvial soils are infected with a great variety of microorganisms, including spore-forming anaerobes. Anaerobes are readily transported with soil minerals in the process of denudation and accumulation which is shaping the present-day relief of the earth's crust. Still another important route of spread of the causative agents of tetanus and botulism is the dust storm, which occurs with fair frequency in the Ukraine. Analysis of dust carefully taken from the tops of snow mounds the day following a dust storm revealed the presence of both microorganisms in almost 20% of the samples.

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1/2 019 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--INDICES OF EXTERNAL RESPIRATION FUNCTION IN PATIENTS WITH CHRONIC
NON SPECIFIC PULMONARY DISEASES -U-
AUTHOR--(02)-KCMAROVA, I.A., SOKOLOVSKAYA, M.V.
COUNTRY OF INFO--USSR
SOURCE--VRACHEBNGYE DELO, 1970, NR 5, PP 84-87
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--RESPIRATION, RESPIRATORY SYSTEM DISEASE, LUNG, ENZYME
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3002/1739 STEP NO--UR/0475/70/000/005/0084/0087
CIRC ACCESSION NO--AP0129107
UNCLASSIFIED

2/2 019

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0129107

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PROTEOLYTIC ENZYMES (TRYPSIN, CHYMOTRYPSIN, RIBONUCLEASE, DESOXYRIBONUCLEASE IN THE FORMS OF AEROSOLS AND TRYPSIN AND CHYMOTRYPSIN INTRAMUSCULARLY) WERE USED FOR THE TREATMENT OF 97 PATIENTS WITH CHRONIC NON SPECIFIC PULMONARY DISEASES. TREATMENT RESULTED BOTH IN AN IMPROVEMENT OF THE CLINICAL CONDITIONS AND INDICES OF EXTERNAL RESPIRATION FUNCTION. SIGNIFICANT IMPROVEMENT OF PNEUMOTACHOMETRIC DATA EVIDENCES THE ACTION OF PROTEOLYTIC ENZYMES ON THE MAIN PATHOGENETIC FACTOR IN THE DEVELOPMENT OF THESE DISEASES, DRAINAGE FUNCTION OF THE BRONCHI. FACILITY: PERVOGO MOSKOVSKOGO MEDITSINSKOGO INSTITUTA.

UNCLASSIFIED

USSR

UDC: 512.4

SOKOLOVSKAYA, T. V.

"Representations of Finite Universal Algebras in Finite Semi-Groups"

Moscow, Matematicheskiye Zametki, vol. 9, No. 3, 1971, pp 285-290

Abstract: The purpose of this article is to formulate a solution to the problem posed to the author by Yu. K. Rebane: What conditions must be satisfied by the system of operations Ω such that any finite algebra with the given system of operations may be represented in some finite semi-group? The author solves the problem by stating and proving the following theorem: If $n(\omega) \leq 1$ for any operation ω of the system Ω , any finite universal algebra with this system of operations Ω can be represented, in the Mal'tsev-Kon sense, in a finite semi-group; if the reverse is true, there exists a finite algebra with the system of operations Ω such that the system cannot be represented in any finite semi-group. Here, $n(\omega) = n, a_1, \dots, a_n \in A$, where A is the universal algebra. The author, connected with the M. V. Lomonosov Moscow State University, concludes by expressing her gratitude to A. G. Kurosh as well as Yu. K. Rebane.

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1/2 023

UNCLASSIFIED

PROCESSING DATE--30OCT70

TITLE--LUBRICANT COOLANT FOR COLD WORKING OF METALS --U--

AUTHOR--(05)--SOKOLOVSKAYA, V.V., RUDNEV, A.V., GARIBOV, V.R., LEYN, YU.I.,
BARINOV, V.YE.
COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 264,581
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI, 1970,
DATE PUBLISHED--03MAR70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--METALWORKING LUBRICANT, CHEMICAL PATENT, HEAT TRANSFER FLUID,
GLYCEROL, ETHYLENE GLYCOL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--3002/0093

STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0127720

UNCLASSIFIED

2/2 023

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AA0127720

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TITLE LIQ. CONTAINS CALCINED
SODA 0.3-0.4, NANO SUB2 0.12-0.14, NA TARTRATE 0.14-0.16, NADH
0.03-0.05, GLYCEROL OR ETHYLENE GLYCOL 0.002-0.005, AND H SUB2 O TO MAKE
100PERCENT. FACILITY: VSESOYUZNYI NAUCHNO, ISSLEDOVATEL'SKIY
INSTRUMENTAL'NIY INSTITUT.

UNCLASSIFIED

Y/2 029

UNCLASSIFIED

PROCESSING DATE--02OCT70

TITLE--LOCAL X RAY SPECTRAL STUDY OF A ZIRCONIUM, NIOBIUM, NICKEL SYSTEM -U-

AUTHOR--(04)--YEVDOKIMOVA, A.D., KUZNETSOVA, S.M., RDNAMI, G.N.,
SOKOLOVSKAYA, E.M.

COUNTRY OF INFO--USSR

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SOURCE--VESTN. MOSK. UNIV. KHIM. 1970, 11(1), 62-6

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--X RAY ANALYSIS, SPECTROSCOPIC ANALYSIS, ZIRCONIUM ALLOY,
NIOBIUM ALLOY, NICKEL ALLOY, METAL HEAT TREATMENT, PHASE DIAGRAM,
PHYSICAL CHEMISTRY PROPERTY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1989/0614

STEP NO--UR/0189/70/011/001/0062/0066

CIRC ACCESSION NO--AP0107211

UNCLASSIFIED

2/2 029

UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0107211

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TERNARY SYSTEM WAS STUDIED USING ZR-NB-NI ALLOYS WHICH HAD BEEN HEAT TREATED FOR 700 HR AT 800DEGREES AND 2000 HR AT 500DEGREES. THE RESULTS ARE TABULATED AND THE PHASE EQUIL. DIAGRAM IS GIVEN. NO ESSENTIAL CHANGE WAS OBSERVED IN THE CHARACTER OF THE INTERACTIONS FROM THOSE DETD. BY PHYS. CHEM. METHODS. THE COMPOS. ZRNI SUB5, ZR SUB2 NI SUB7, AND ZR SUB2 NI SUB5 FORM QUASIBINARY SECTIONS WITH NBNI SUB3. THE REGION OF HOMOGENEITY FOR NBNI SUB3 IS WIDENED GREATLY BY ALLOYING WITH ZR.

UNCLASSIFIED

USSR

UDC: 536.7

YEVDOKIMOVA, A. D., KUZNETSOVA, S. M., RONAMI, G. N., SOKOLOVSKAYA, YE. M.,
Department of General Chemistry, Moscow State University imeni M. V. Lomonosov,
Moscow, Ministry of Higher and Secondary Specialized Education RFSR

"Investigation of the Zirconium-Niobium-Nickel System by Local X-ray Spectral
Analysis"

Moscow, Vestnik Moskovskogo Universiteta, Seriya II, Khimiya, Vol. 11, No 1,
Jan/Feb 70, pp 62-66

Abstract: Data are given from local X-ray spectral analysis of the ternary zirconium-niobium-nickel system using the MS-46 microanalyzer made by the French "Cameca" Company. Alloys of zirconium with niobium and nickel heat treated at 800°C for 700 hrs and at 500°C for 2,000 hrs were used. The error in determination of the element being analyzed was 1-2%. The resultant data are tabulated, and a diagram of the phase equilibria in the system at 800°C is given. The compounds $ZrNi_5$, Zr_2Ni_7 and Zr_2Ni_5 form quasi-binary cross sections with $NbNi_3$. The region of homogeneity of the intermetallic compound $NbNi_3$ is considerably expanded by alloying with zirconium. An analogous picture is observed in the case of Zr_7Ni_{10} . The phase diagram plotted from the experimental data agrees with those obtained by other methods of physical and chemical analysis.

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1/2 007 UNCLASSIFIED PROCESSING DATE--09OCT70
TITLE--TEMPERATURE PROFILES AND MOISTURE CONTENT OF SALT SOLUTIONS DURING
THEIR DEHYDRATION IN AN ALL PURPOSE FLUIDIZED BED APPARATUS -U-
AUTHOR--(03)-SOKOLOVSKIY, A.A., GROSHEV, G.L.; DANOV, S.M.

COUNTRY OF INFO--USSR S

SOURCE--KHIM. NEFT. MASHINOSIR, 1970, (3), 12-14

DATE PUBLISHED--70

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

TOPIC TAGS--AQUEOUS SOLUTION, FLUIDIZED BED, AMMONIUM SULFATE,
DEHYDRATION, DRYING OVEN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1990/1451

STEP NO--UR/0314/70/000/003/0012/0014

CIRC ACCESSION NO--AP0109511

UNCLASSIFIED

2/2 007

UNCLASSIFIED

PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0109511

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SPRAY ATOMIZATION (TOP) AND FLUIDIZATION (BOTTOM) DRYING STUDIES WERE CONDUCTED ON (NH SUB4) SUB2 SO SUB4 CONTG. SMALLER THAN 40PERCENT WATER AT HEAT TRANSFER MEDIA (GAS) TEMPS., 320-760DEGREES AT THE NOZZLES TEMP., AND 18-22 M-SEC FLOWS. TEMP. PROFILES WERE DETD. FOR BEDS SMALLER THAN 320 MM DEEP AND THE TOP AND BOTTOM JET ENVELOPES BOTH IN RADIAL AND LONGITUDINAL DIRECTIONS; AN EQUATION IS GIVEN FOR CALCG. JET ENVELOPE TEMPS. SHARP TEMP. DROPS WERE OBSD. IN THE JET ENVELOPE; THE TEMPS. WERE NEARLY CONST. AT 100 MM FROM THE NOZZLES. (NH SUB4) SUB2 SO SUB4 WAS DRIED TO MOISTURE CONTENTS OF 0.15-0.52PERCENT WITH EXIT GASES CONTG. 16-30PERCENT MOISTURE. THE DRYING EFFICIENCY WAS CONTROLLED BY TOP CONDITIONS AND ONLY IN THE EVAPN. AND GRANULATION OF THERMALLY UNSTABLE AND NONHYGROSCOPIC MATERIALS WERE THE BOTTOM CONDITIONS IMPORTANT.

UNCLASSIFIED

USSR

UDC 621.762.002.5(088.8)

KABEL'SKIY, I. M., LOGINOV, P. I., SOKOLOVSKIY, A. B.

"Metal Die Pressure Cast Mold for Molding Annular Products"

USSR Author's Certificate No 268880, filed 20 Oct 66, published 4 Aug 70 (from RZh-Metallurgiya, No 7, Jul 1971, Abstract No 7G479P)

Translation: A metal die pressure cast mold for molding annular products from powders using electric discharge in a liquid medium with coaxially arranged electrodes, a tubular elastic molding shell, and a die attached to the crossbar which moves relative to the pressure die casting mold and interacting with the casting nozzle is proposed. In order to insure free removal of the molded product and the required seal of the cavity filled with the liquid, a moving nozzle with a beveled inside surface is placed in the annular cavity of the die so as to block it. This nozzle is equipped with stepped spring-loaded pins passing through the holes in the crossbar and the housing of the mold. In order to insure automatic simultaneous movement of the die and the beveled electrode and subsequent advance of the blocking nozzle after removal of the die from the molded part, a beveled electrode is attached to the moving crossbar, and slides designed to hold the step pins and controlled by means of wedges attached to the moving crossbar are placed on the housing of the pressure die casting mold.

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1/2 016
UNCLASSIFIED
TITLE--OXIDATION OF COPROUS CHLORIDE BY OXYGEN IN AQUEOUS HYDROCHLORIC
ACID SOLUTIONS -U-
AUTHOR--(02)-SOKOLOVSKIY, A.G., MACEIEVSKIS, B.
COUNTRY OF INFO--USSR
SOURCE--LAIV. PSR ZINAT. AKAQ. VESTIS. KIM. SER. 1970, (2), 139-42
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--HYDROCHLORIC ACID, COPPER CHLORIDE, OXIDATION, OXYGEN
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY FICHE NO----FD70/605011/E12 STEP NO--UR/0464/70/000/002/0139/0142
CIRC ACCESSION NO--AP0140220
UNCLASSIFIED

2/2 016

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0140220

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE OXIDN. OF CUCL IN AGITATED HCL
SOLNS. WITH O IS RAPID AND QUANT., THUS THE AMT. OF ABSORBED O CAN BE
USED FOR AUTOMATIC GAS VOLUMETRIC TITRN. OF CUCL. FACILITY:
RIZH. POLITEKH. INST., RIGA, USSR.

UNCLASSIFIED

USSR

SOKOLOVSKIY, A. V.

"The Erdos . Problem Concerning Sums of the Least Exponential Non-Residues"

Nauchn. Zap. Tashkent. In-t Nar. Kh-va [Scientific Writings of Tashkent Economics Institute], No. 55, 1970, pp. 90-93 (Translated from Referativnyy Zhurnal Matematika, No. 12, 1970, Abstract No. 12A89 by A. Vinogradov)

Translation: A connection is discovered between the Artin function $N_2(x)$ — the number of primes $\leq x$ for which 2 is the primitive root — and the behavior of the Erdos . function $h_q(p)$: the minimum non-residue (mod p) of power q. The theorem is more precisely proven. If the following equation is correct for prime q

$$\sum_{\substack{p \leq x \\ p=L(q)}} h_q(p) = 2 \left(1 + \frac{\theta}{\ln^{1+\epsilon} x} \right) \frac{\pi(x)}{q-1},$$

$$\theta = O(1), \epsilon > 0.$$

then $N_2(x) \sim c\pi(x)$:

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USSR

UDC 621.352.2

SOKOLOVSKIY, I. I., BROVKIN, YU. N., KOSTYLEV, S. A.

"Microwave Power Attenuation Effect in Gunn Diodes"

Kiev, Izvestiya vuzov SSSR, Radioelektronika, Vol XV, No 8, 1972, pp 949-953

Abstract: The results of an experimental study of a three-centimeter band attenuator made of n-GaAs diodes with $\mu = 4,500 \text{ cm}^2 \text{ v}^{-1} \text{ sec}^{-1}$, 100-250 microns long, are described. Attenuation is realized for biases on the diode from 0.8 to 1.4 E_{thresh} . On the basis of sonde measurements of the potential and

the local volt-amplitude characteristics, a physical model was developed which explains the nonlinearity of the volt-amplitude characteristic of the entire specimen in the subthreshold range insuring attenuation of the bias voltages in this segment. In the superthreshold region, the attenuation is realized by external negative conductivity arising in the presence of the Gunn effect. The attenuation range depends on the microwave power level and the off-duty factor of the feed pulses. The causes for this phenomenon are discussed.

It is possible to use Gunn diodes not only for the generation of microwave oscillations but also to create other microwave devices. The nonlinearity of the volt-amplitude characteristic arising from the same physical mechanism but differing with respect to external manifestation in the two bias regions
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