

2/2 009

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0104510

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

ABSTRACT. ETSH (1 G) AND 0.015 G AZOBISOBUTYRONITRILE WAS ADDED TO 2.2 G N-VINYLDIOLE (I) WITH COOLING, AND THE MIXT. HEATED IN A SEALED TUBE UNDER N 18 HR AT 70DEGREES TO GIVE 72PERCENT N-BETA-ETHYLTHIOETHYLINDOLE, B SUB7 170-2DEGREES, D PRIME20 1.0897, N PRIME20 SUBD 1.6020). SIMILARLY, THE FOLLOWING COMPS. WERE PREPD. (COMPD., PERCENT YIELD, B.P.-MM., N PRIME20 SUBD, AND D PRIME20 GIVEN): N-(BETA-ISOPROPYLTHIO)ETHYLINDOLE, 77, 161DEGREES-2, 1.5870, 1.0605; N-(BETA-TERT-BUTYLTHIO)ETHYLINDOLE, 65, 141-2DEGREES-1, 1.5770, 1.0325; N-(BETA-ETHYLTHIO)ETHYLIMIDIAZOLE, 74, 129DEGREES-1, 1.5350, 1.0863; N-(BETA-PROPYLTHIO)ETHYLIMIDIAZOLE, 72, 145DEGREES-2, 1.5272, 1.0586; N-(BETA-BUTYLTHIO)ETHYLIMIDIAZOLE, 94, 159DEGREES-2, 1.5218, 1.0377; N-(BETA-ETHYLTHIO)ETHYLBENZIMIDAZOLE, 38, 190-2DEGREES-2, 1.6010, 1.1409; AND N-(BETA-PROPYLTHIO)ETHYLBENZIMIDAZOLE, 42, 190-1DEGREES-1, 1.5885, 1.1162. SO SUB2 WAS PASSED INTO 2.37 G. N-VINYLDIAZOLE AND 1.5 G ETSH WITH COOLING AND THE MIXT. HEATED 18 HR AT 80DEGREES TO GIVE 61PERCENT N-(ALPHA-ETHYLTHIO)ETHYLIMIDIAZOLE, B SUB4 113-14DEGREES, D PRIME20 1.0766, N PRIME20 SUBD 1.5270. I AND N-VINYLBENZIMIDAZOLE DID NOT REACT WITH ETSH IN THE PRESENCE OF SO SUB2 OR P-MEC SUB6 H SUB4 SO SUB3 H AT 0-70DEGREES. THE STRUCTURES WERE PROVED BY NMR SPECTROSCOPY. R SUBF VALUES WERE GIVEN.

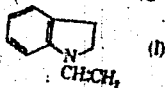
UNCLASSIFIED

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Abstracting Service:
CHEMICAL ABST.

Ref. Code:
UR0409

90189g Synthesis of N-vinyl-2,3-dihydroindole. Makhno, L. P.; Domina, E. S.; Skeritsova, G. G. (Irkutsk. Inst. Org. Khim., Irkutsk, USSR). *Khim. Geterotsikl. Soedin.* 1970, (1), 128-9 (Russ). Reaction of 2,3-dihydroindole with C_2H_3 in the presence of metallic K in dry dioxane in an autoclave 0.5 hr at



170-5° gave 65-70% N-vinylindoline (I), b, 94-5°, n_D^{20} 1.6125, which polymd. on standing. G. M. Kosolapoff

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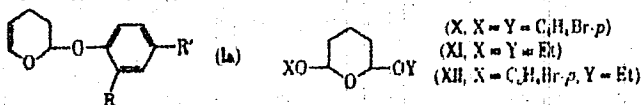
Acc. No. **AP100329**Abstracting Service:
CHEMICAL ABST.

5/70

Ref. Code:

UR0409

111217g Aryloxydihydropyrans. VII. Condensation of acrolein with vinyl ethers of fluoro-, chloro-, and bromophenols. Skvortseva, G. G.; Kozvrey, V. G. (Irkutsk. Inst. Org. Khim., Irkutsk, USSR). *Khim. Geterotsikl. Soedin.* 1970, (1), 17-20 (Russ.). A stream of N was passed through a mixt. of 27.6 g $\text{CH}_2=\text{CHOC}_6\text{H}_4\text{F}-p$ and 11.2 g $\text{CH}_2=\text{CHCHO}$, heated 8 hr in an autoclave at 190° to give 92% 2-(*o*-fluorophenoxy)-3,4-dihydropyran (I), b_p 136° , d^{20} 1.1751, n_D^{20} 1.5179. Similarly prepd. were Ia as follows (R, R', % yield, b_p , d^{20} , and n_D^{20} given): Cl, H (II), 85, $138^\circ/9$, 1.2100, 1.5452; H, Cl (*m*-isomer) (III), 71, $112^\circ/2$, 1.2129, 1.5475; H, Cl (IV), 80, $95.5^\circ/1$, 1.2100, 1.5471; Br, H (V), 74, $155^\circ/7$, 1.4240, 1.5629; H, Br (VI), 71, $160^\circ/13$, 1.4270, 1.5640; Cl, Cl (VII), 67, $111^\circ/0.5$, 1.3400, 1.5629; Br, Br (VIII), 14, —, —, —. No adduct could be isolated by



heating acrolein with the trichloro deriv. at $190-200^\circ$. IV (2.5 g) was hydrogenated in 15 g EtOH over 0.5 g Raney Ni to give 2.4 g 2-(*p*-chlorophenoxy)tetrahydropyran (IX), b_p 140° , d^{20} 1.1821; n_D^{20} 1.5325. With catalytic amts. of HCl, VI reacted with EtOH forming 2 sym. and 1 mixed acetal: X (m . 101°), XI (known), and XII (b_p 161° , d^{20} 1.3895, n_D^{20} 1.5103).

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With propargyl alc., *p*-cresol, and *p*-chlorophenol, VI gave only the resp. mixed acetals: 2-(*p*-bromophenoxy)-6-propyryloxy-tetrahydropyran, yield 28%, b, 182°, d_{20}^{25} 1.4121, n_D^{25} 1.5662; 2-(*p*-bromophenoxy)-6-(*p*-cresyloxy)tetrahydropyran, yield 77%, m. 93.5°; and 2-(*p*-bromophenoxy)-6-(*p*-chlorophenoxy)-tetrahydropyran, yield 90%, m. 85.5°. I (5 g) was stirred 12 hr with 0.075 g SnCl₄·2H₂O to give a polymer. The % yield, m.p., $[\eta]$, and mol. wt. of the polymers obtained from the corresponding monomer are indicated in parentheses: I (73, 107°, 0.295, 2100); III (70, 115°, 0.319, 2270); IV (78, 120°, 0.340, 2400); V (88, 142°, 0.481, 3200); VI (81, 146°, 0.493, 3350).
S. K. Banerjee

19841741

USSR

UDC: 537.312.62

SKVORTSOVA, I. L., TARARAYEVA, Ye. M., SHMIDT, V. V., RAYEVSKIY, I. I.

"Effect of Heat Treatment on the Critical Currents of Binary Alloys of Niobium With Zirconium and Titanium"

Moscow, Sverkhprovodyashchiye splayy i soyedin.--sbornik (Superconductive Alloys and Compounds--collection of works), "Nauka", 1972, pp 101-111 (from RZh-Radiotekhnika, No 12, Dec 72, abstract No 12 D561 [résumé])

Translation: Critical current is studied as a function of external magnetic field strength for Nb-Zr and Nb-Ti alloys of different concentrations and after different annealing temperatures. The experimental data were related to existing concepts on the flow of transport current in rigid superconductors. This led to the following conclusions. Transition to the normal state in the alloy Nb-5 at.% Zr takes place as a result of destruction of electron pairs when they have reached a critical velocity. Destruction of superconductivity in alloys of Nb with 55 and 75 at.% Zr, and with 55 and 80 at.% Ti takes place due to the motion of superconducting vortices. A direct relation is found between the annealing temperature of these alloys and the force of adhesion of superconducting vortices to the

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USSR

SKVORTSOVA, I. L. et al., Sverkhprovodyashchiye splavy i soyedin., "Mauka",
1972, pp 101-111

macrononhomogeneities which are segregated during heat treatment. Seven
illustrations, One table, bibliography of fourteen titles.

USSR

UDC 620.172.173.174

KASHPERSKIY, V. S., SKVORTSOVA, N. V., and ZHURAVEL', A. Ye., Kiev

"Mechanical Properties of Sitall in Flexure, Extension, and Compression"

Kiev, Problemy Prochnosti, No 4, Apr 71, pp 80-83

Abstract: A method and results are presented of experimental investigation of the elasticity characteristics (Young, Modulus, Poisson, coefficient in extension, compression, and flexure) and the ultimate strength of cast sitall of composition number 23 in extension and compression. Measurement of deformation was performed using tensoresistors. A brief description is presented of the characteristic forms of rupture with various types of loading.

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Epidemiology

USSR

UDC 59:616.981.455(574.52)

AYKIMBAYEV, M. A., KORNEYEV, C. A., KUNITSA, G. M., TLEUGAEYLOV, M. K., TRYKIN, V. S., SKVORTSKOVA, S. S., KUZIN, I. P., and SURMIN, V. M., Central-Asian Scientific Research Antiplague Institute, Alma-Ata

"A Tugai Focus of Tularemia in Dzhabul'skaya Oblast in the Lower Chu Flow"

Moscow, Zoologicheskii Zhurnal, Vol 50, No 10, 1971, pp 1595-1598

Abstract: *Rhipicephalus pumilio*, the tick which carries and transmits tularemia bacteria, can circulate the bacteria over a long time-span due to its ability to parasitize hares and other rodents at all stages of its development. The flooded fields in this region, on which cattle graze, create ideal conditions for the spread of the ixodid tick. *Dermacentor daghestanicus* is the dominant species because of its high percentage of infection by tularemia bacteria and because it preserves the bacteria in its body for a long period. Bacteriological studies were made of 117 mammals and 19,000 ticks of various species. In infected hares pathological-anatomic changes were manifested by enlargement of the spleen, in some cases by a change in the color and texture of the liver, and by the characteristic mound arrangement of cocci-bacteria in the spleen, liver, lungs, lymph nodes, and blood. 30 strains of *Pasteurella tularensis* were found in ixodid ticks and 7 strains, in the hare (*Lepus tolai*). These strains decompose glycerine and circulate in the tugai focus.

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USSR

UDC 612.35.017.1

SUKERNIK, R. I., SKVORTSOVA, T. A., LEONT'YEVA, L. I., and LADYGIN, V. I.,
Central Scientific Research Laboratory, Novosibirsk Medical Institute

"Induction of Auto-Immune Cellular Response to Liver Cells in Mice by
Implantation of Spleen Cells From Syngenic Donors With Toxic Hepatitis"
Leningrad, Tsitologiya, Vol 13, No 5, May 71, pp 636-643

Abstract: The effect of lymphoid spleen cells from donor mice, after repeated treatment with CCl_4 , on the liver parenchyma was studied. Both the eight control and the 12 test animals (CBA strain) were given H^3 -thymidine intraabdominally over a period of 6 days, thrice daily. Toxic hepatitis was produced by CCl_4 inhalation. The animals were sacrificed 16-20 hours after the last CCl_4 inhalation and 9-10 hours after the last H^3 -thymidine injection. The spleens were removed, ground and cell suspensions prepared for implantation. The recipients were sacrificed 58 hours after the transfer and their liver, spleen, and inguinal lymph nodes removed and studied. Spleen cells from test and control donor mice were transfused in a dose of 25×10^6 into normal recipient mice and into mice which were subjected to a single CCl_4 intoxication immediately after the transfusion. This led to stimulation of DNA synthesis and to reutilization of labelled products of regenerating

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USSR

SUKERNIK, R. I., et al., Tsitologiya, Vol 13, No 5, May 71, pp 636-643

hepatocytes. Cytophotometric examination and evaluation of DNA in hepatocyte nuclei of recipients injected with spleen cells obtained from test donors showed that the number of tetraploid and octoploid nuclei had slightly increased. The activated DNA synthesis is considered a response of the liver cells which had been attacked by cell-bound auto-antibodies transferred in the spleen cells from CCl_4 -treated donor mice. Histograms are shown.

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- 45 -

USSR

UDC 616.988.25-022.395.42.036.2(571.62)

VERETA, L. A., OBUKHOV, G. D., KOVALEVA, Ye. I., SKVORTSOVA, T. M.,
MOGILEV, V. Ye. VOROB'YEVA, R. N., NIKOLAYEVA, S. P., FUDAKOVA, T. M., and
ROSLYAKOV, G. Ye., Khabarovsk Scientific Research Institute of Epidemiology and
Microbiology, Khabarovsk

"Landscape-Epidemiological Subdivision of the Amur Territory With Respect to
Tick-Borne Encephalitis"

Moscow, Meditsinskaya Parazitologiya i Parazitarnyye Bolezni, Vol 42, No 1,
Jan/Feb 73, pp 28-32

Abstract: An evaluation of the danger of human infection with tick-borne encephalitis in territorial subdivisions of the Amur region differing with respect to natural characteristics has been carried out on the basis of a number of factors, principally the local density of Ixodid ticks. The index of probability of infection (a product of the ratio of persons who have visited forests by the ratio of those who observed the attachment of ticks by the ratio of ticks infected with the virus of the disease) based on data collected in 1969-71 was used as a criterion. Regions with a high incidence of the disease were located in the zone of coniferous-wide-leaved forests, those with a moderate incidence in the subzone of the southern tayga and in agriculturally developed areas in the zone of coniferous-wide-leaved forests, and those with
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USSR

VERETA, L. A., et al., Meditsinskaya Parazitologiya i Parazitarnyye Bolezni,
Vol 42, No 1, Jan/Feb 73, pp 28-32

a low incidence in the subzone of the middle tayga. Acute forms of the disease occurred both in regions with a high and a low incidence. The ratio of focal (meningoencephalitic) forms and the index of lethality, which corresponded to this ratio, showed some tendency of increasing from the south to the north.

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USSR

UDC 576.8.095.51.095.18:615.28

SKALA, L. Z., IL'YASHENKO, B. N., LIKHACHEVA, N. A., and SKVORTSOVA, Ye. K.,
All Union Institute of Disinfection and Sterilization

"A Study of the Mutagenic Action of Halide Containing Disinfectant"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 11, 1971, p
146

Abstract: Four iodine compounds and four chlorine compounds were tested on bacteria and phages in concentrations causing 86-99% inactivation of the microbes. The frequencies of mutation observed in *E. coli* were: 6×10^{-6} by iodopiron, 4×10^{-6} by idonate, 3×10^{-6} by iodolan, and 6×10^{-6} by an aqueous iodine solution. Chlorine compounds yielded similar results on *E. coli*: 1.1×10^{-7} mutations were observed after application of chlorsuccinamide, 5×10^{-6} after KDKhTsK, 3.1×10^{-6} after sulfochlorantine, and 3.4×10^{-6} after chloramine. The frequency with which the bacteriophages reverted to wild type ranged from 5×10^{-6} to 7×10^{-6} . Since the frequency of spontaneous mutations in *E. coli* K12 (reversion from *thr*⁻ to *thr*⁺) is 7.6×10^{-6} , it is concluded that the strongly inactivating iodine and chlorine compounds exert no mutagenic effect on the bacteria and bacteriophages investigated.

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USSR

Transformation and Structure

UDC: 546.3-19 + 546.56 + 546.681

SKYARENKO, I.YA., PRISELKOV, YU.A., ZIMAKOV, I.YE., MATERN, G., SAPOZHNIKOV, YU.A., TSEPLYAYEVA, A.V., and SPITSYN, V.I., Institute of Physical Chemistry, Moscow Academy of Sciences USSR, and Moscow State University imeni M. V. Lomonosov, Moscow Ministry of Higher and Secondary Specialized Education USSR

"Evaporation of the Copper-Gallium Alloy in the Field of Phase Transformations"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, Vol. 4, Apr 70, pp 757-761

Abstract: Partial vapor pressures of copper and gallium were determined over copper-gallium (15.5 at-%) alloy in the temperature interval 1171-1395°K. Experimental data plotted as log p vs the inverse temperature show that the functions are not linear, but complex curves with many extrema, exceeding considerably any possible experimental error. The partial pressure curve of gallium exhibited such anomalies much more than did copper and they appeared in liquid, heterogeneous, and solid phases. In the fusion process the partial pressure of copper vapor was noticed to drop. Contrary to some reported data, radioactivity did not affect markedly the behavior of copper vapor, except that the rate of the drop in partial pressure of copper vapor was increased. On the basis of differential-thermal analysis, phase conversions were determined to take place at: 1255±3°K, 1196±3°K, 1299-3°K, and 1236-3°K. The authors thank N.G. Savostina for participating in the research.

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USSR

UDC 678.746.2-136.622-9:66.094.532.2

PASHKOV, A. B., SLABKAYA, L. D., LYUSTGARTEN, YE. I., and LEGOTINA, A. B.

"Phosphoric Acid Cation Exchange Resins of Macroporous Structure"
Moscow, Plasticheskiye Massy, No 7, Jul 70, pp 9-11

Abstract: The authors investigated the process of the phosphorylation of macroporous copolymers of styrene with divinylbenzene of varying porosity. A kinetic study of the phosphorylation of copolymers of gel and macroporous structure showed the advantage of the latter for polymer-analogous transformations. The phosphorus-containing groups were introduced into the copolymer matrix by the Friedel-Crafts reaction by phosphorylation of the copolymer with phosphorus trichloride in the presence of anhydrous $AlCl_3$ in a tetrachloroethane medium with subsequent oxidative hydrolysis of the product with a copolymer: $AlCl_3$: PCl_3 molar ratio of 1:1:3. The optimal phosphorylation conditions were established. The phosphorus content of the phosphorylated copolymer specimens was determined calorimetrically by YE. N. ZELENINA.

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- 22 -

USSR

UDG 537.311.33

SLABKOVSKIY, I. S., NPO /expansion unknown/ Termopribor, L'vov

"Temperature Relationship of a Hydrogen Solid Solution in Certain Transition Metals"

L'vov, Fiziko-Khimicheskaya Mekhanika Materialov, Vol 9, No 4, 1973, pp 100-101

Abstract: This work was performed to find the decomposition temperature of the solid solution of hydrogen in cobalt and nickel by the method of x-ray spectroscopy. Plate samples (10x5x0.3 mm) were vacuum annealed and hydrogenated in a 26% solution of sulfuric acid. Shifts in the K_{α} lines were absent after annealing at temperatures of 200°C for Fe-H, 300°C for Co-H, and 400°C for Ni-H. Since shifting of K_{α} lines was caused by the interaction of hydrogen atoms and the metal atoms, then the absence of shifts after annealing indicates decomposition of the solid solution. Thus, solid solutions of hydrogen with iron, cobalt, and nickel decompose at approximately 200, 300, and 400°C respectively. 1 table, 12 bibliographic references.

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USSR

UDC 669.131.2-196:620.178.16

SLABODINSKIY, I. N., SOFROSHENKOV, A. F., GOVOROV, A. A., and TIMONINA, L. G.
Siberian Metallurgical Institute

"Investigation of the Hydroabrasive Wear Resistance of Cr-Ni White Cast Irons"
Moscow, Izvestiya Uchebnykh Vysshikh Zavedeniy--Chernaya Metallurgiya, No 6,
Jun 73, pp 101-103

Abstract: Alloys containing 17-18% Cr, 2-3.5% C and 2-6% Ni were melted in an acid induction furnace in order to study the hydroabrasive wear resistance of white cast irons in the cast and heat-treated conditions in relation to carbon and nickel content in the alloys. It was shown that increased nickel content has little effect on wear resistance, and heat treatment exerts little effect on cast iron durability. Industrial tests showed that the durability of cast wheels of pumps operating in the water of a hydraulic pit is three times higher than in series pumps. 2 figures, 2 tables, 1 bibliographic reference.

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USSR

UDC 576.851.5:616.006-097

ZATULA, D. G., RYEZNIK, S. R., SLABOSPYTS'KA, A. T., and MARKOVA, N. B.,
Institute of Microbiology and Immunology, Academy of Sciences UkrSSR

"The Effect of Different Doses of Bacillus subtilis 572 Toxin on Some Immunological Reactions and Tumor Growth in Animals"

Kiev, Mikrobiologicheskii Zhurnal, Vol 33, No 2, Mar/Apr 71, pp 201-205

Abstract: Experimental data are reported from study of the toxic or stimulating effect of the metabolic products of saprophytic bacteria. Toxic metabolites were obtained by growing Bacillus subtilis strain 572 on synthetic Gauze medium No 2 for 10 days at 24°C, followed by filtration and lyophilization. Material was stored dry and diluted just before actual use. After the animals were injected, the following parameters were studied: hemagglutinin production in mice, properdin level in rabbits, and the resistance to tumor growth in mice. LD₅₀ was determined and the material was administered in the range of 0.05-1.5 LD₅₀. It was determined that the effect of dry toxic filtrate is dose-dependent: at dose ranges 1/10-1/5 LD₅₀ hemagglutination processes are activated, the properdin level in blood is increased, and the

USSR

ZATULA, D. G., et al., Mikrobiologicheskii Zhurnal, Vol. 33, No 2, Mar/Apr
71, pp 201-205

resistance of an organism to tumor growth is intensified. When the dose is increased to .5 LD₅₀ and higher, the protective forces of the organism are weakened and tumor growth is intensified.

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1/2 024 UNCLASSIFIED PROCESSING DATE--090C170
TITLE--THE ROLE OF TOXINS OF CERTAIN SAPROPHYTIC MICROBES IN THE ETIOLOGY
OF EXPERIMENTAL NEUROPARALYTIC DISEASES -U-
AUTHOR-(03)-REZNIK, S.R., SELIMOV, M.A., SLABOSPITSKAYA, A.T.
COUNTRY OF INFO--USSR
SOURCE--ZHURNAL MIKROBIOLOGII EPIDEMIOLOGII I IMMUNOBIOLOGII, 1970, NR 4,
PP 81-86
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--BACTERIAL TOXIN, SOIL BACTERIOLOGY, BACTERIAL SPORE, VIRAL
VACCINE, RABIES, EXOTOXIN, GASTROINTESTINAL DISEASE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1990/1535 STEP NO--UR/0016/70/000/004/0081/0086
CIRC ACCESSION NO--AP0109595
UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0109595

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EXAMINATION OF 84 STRAINS OF BACTERIA, SAPROPHYTIC IN SOIL AERIAL MEDIUM AND ENCOUNTERED IN THE INTESTINE OF MAMMALS DEMONSTRATED THAT AMONG THE SPORE BEARING BACTERIA OF BAC. SUBTILIS MESENTERICUS GROUPS THERE WERE STRAINS WHICH PRODUCED SUBSTANCES OF THE EXOTOXIN TYPE; THESE SUBSTANCES CAUSED A PATHOLOGICAL PROCESS OF ENCEPHALOMYELITIS TYPE IN ADMINISTRATION TO LABORATORY ANIMALS. THE MENTIONED TOXINS WERE RESISTANT TO THE ACTION OF LOW CONCENTRATIONS OF PHENOL, PRODUCED A CUMULATIVE EFFECT IN TESTING ON ANIMALS, AND WERE CAPABLE OF PENETRATING FROM THE GASTROINTESTINAL TRACT INTO THE BLOOD AND BRAIN OF ANIMALS (RABBIT) DURING THE AGONAL STATE. SINCE DURING MAKING OF RABIES VACCINE THERE MAY OCCUR CONDITIONS AIDING THE ACCIDENTAL INTRODUCTION OF SUCH TOXINS INTO THE PREPARATION, AND ADDITIONAL CONTROL FOR TOXICITY OF THE VACCINE IS SUGGESTED.

UNCLASSIFIED

SLABOV, Ye. P.

Designer

TECHNICAL TRANSLATION

FSIC-HT-23-1063-71

D. 2

6/20/71

ENGLISH TITLE: System of Research and Experimental Organization in Yalta

FOREIGN TITLE: Sistema Organizatsii Issledovatel'skikh i Opytnykh Rabot na YAMZ

AUTHOR:

M. I. Beniklov, Deputy Chief Designer, and Ye. P. Slabov, Deputy Director of the Experimental Shop

SOURCE: Standartny I Kachestvo, No. 10, 1970, pp 53-55

Translated for FSIC by Leo Kanner Associates

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USSR

UDC 537.311.33

SLABUN, V.I., SAF'YAN, T.L.

"Preparation Of Epitaxial Films Of Solid Solutions Of $Pb_xSn_{1-x}Te$ And $Pb_xSn_{1-x}Se$ And Measurement Of Their Electrical Parameters"

Tr. Gos. optich. in-ta (Works Of State Optical Institute), 1972, 40, No 171, pp. 30-31 (from RZh:Elektronika i yeye primeneniye, No 10, Oct 1972, Abstract No 10B105)

Translation: Epitaxial films are prepared of solid solutions of $Pb_xSn_{1-x}Te$ and $Pb_xSn_{1-x}Se$ by sublimation from vapor into freshly-cleaved KCl wafers, and the electrical parameters are measured. I.V.

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1/2 CC7 UNCLASSIFIED PROCESSING DATE--20NOV70
 TITLE--PREPARATION OF PURE BETA AND GAMMA PICOLINES BY THE AZEOTROPIC
 FRACTIONAL DISTILLATION OF A BETA PICOLINE FRACTION -U-
 AUTHOR--(04)-PRIVALOV, V.YE., GLUZMAN, L.D., YEFIMENKO, V.M., SLACHINSKIY,
 YU.A.
 COUNTRY OF INFO--USSR
 SOURCE--KOKS KHIM. 1970, (5), 38-42
 DATE PUBLISHED-----70
 SUBJECT AREAS--CHEMISTRY
 TOPIC TAGS--AZEOTROPE, ISOMER, DISTILLATION, PYRIDINE, HETEROCYCLIC
 NITROGEN COMPOUND
 CONTROL MARKING--NO RESTRICTIONS
 DOCUMENT CLASS--UNCLASSIFIED
 PROXY REEL/FRA--2000/1734 STEP NO--UR/0068/70/000/005/0038/0042
 CIRC ACCESSION NO--AP0125355
 UNCLASSIFIED

2/2 007 UNCLASSIFIED PROCESSING DATE--20NOV70
CIRC ACCESSION NO--AP0125355
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AZEOTROPIC DISTN. OF A BETA
PICOLINE FRACTION FORMING AN AZEOTROPE (60PERCENT H SUB2 O) H.
98.3DEGREES YIELDED 99PERCENT PURE BETA AND GAMMA ISOMERS WHEN THE
COLUMN HAD GREATER THAN 70 THEORETICAL PLATES AND THE REFLUX RATION WAS
30. THE METHOD ALSO YIELDED 99PERCENT PURE ISOMERS WHEN APPLIED TO
ALPHA AND GAMMA PICOLINE AND 2,6 LUTIOINE FRACTIONS, FORMING AZEOTROPES
(46.5, 62.5, AND 51.0PERCENT H SUB2 O, RESP.) B. 94.4DEGREES,
96.7DEGREES, AND 95.5DEGREES.

UNCLASSIFIED

Acc. Nr:

AP0036754

Abstracting Service:
CHEMICAL ABST. 4/70

Ref. Code:

UR 0068

S

78824c Separation of 2,4-lutidine by an azeotropic rectification method. Gluzman L. D.; Slachinskii, Yu. ~~and Kostochka, V. P.~~ (USSR). *Koks Khim.* 1970, (1), 42-3 (Russ). 2,4-Lutidine (I) of 99% purity was sepd. in 79.6% yield by azeotropic distn. of 617.5 g crude I (45.02% I, 26.15% 2,5-lutidine, 3.43% 2,3-lutidine, and α -, β -, and γ -picoline, 2,6-lutidine, and C_6H_5N in lesser amts.) with H_2O to make 3 l. and dehydration of the distillate by azeotropic distn. with C_6H_6 . The remaining azeotropes had close b.ps, which rendered sepn. impossible.

Lucile S. Davison

ALS

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REEL/FRAME

19721667

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1/2 013 UNCLASSIFIED PROCESSING DATE--07OCT70
TITLE--ON THE PROBLEM OF CPT INVARIANT THEORIES OF INFINITE COMPONENT
FIELDS -U-
AUTHOR--SLAD, L.M. S
COUNTRY OF INFO--USSR
SOURCE--TEORETICHESKAYA I MATEMATICHESKAYA FIZIKA, 1970, VOL 2, NR 1, PP
67-72
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--LAGRANGE EQUATION, TENSOR ANALYSIS, ELECTROMAGNETIC FIELD,
ELECTRON SPIN
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1978/1227 STEP NO--UR/0646/70/002/001/0067/0072
CIRC ACCESSION NO--AP0046150
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--09OCT70

2/2 013

CIRC ACCESSION NO--AP0046150

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

ABSTRACT. THE PROBLEM OF THE CONSTRUCTION OF CPT INVARIANT THEORY OF INFINITE COMPONENT FROM TENSOR LINEAR FORMS ARE CONSIDERED ONLY. SUCH LAGRANGIANS ARE CPT INVARIANT FROM TENSOR BILINEAR FORMS ARE CONSIDERED ONLY. SUCH LAGRANGIANS ARE CPT INVARIANT UNDER THE FOLLOWING CONDITIONS: THE FIELDS TRANSFORMING UNDER THE CLASSES A, C, D OF REPRESENTATIONS OF THE PROPER LORENTZ GROUP (IN THE GELFAND YAGLOM CLASSIFICATION) HAVE THE USUAL CONNECTION BETWEEN SPIN AND STATISTICS; FOR THE CLASS B FIELDS STATISTICS IS NOT CONNECTED WITH SPIN, BUT WITH THE PARAMETER K_{SUB1} , WHICH LABELS IRREDUCIBLE REPRESENTATIONS OF THE PROPER LORENTZ GROUP. THE CLASS E FIELDS ARE SHOWN TO ALLOW NON CPT INVARIANT THEORIES.

UNCLASSIFIED

1/2 009 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--USE OF UREA TO DYE BLUE COTTON FIBERS -U-
AUTHOR-(04)-DANSHINA, M.I., DOKIN, K.A., SLADKOPEVTSEVA, G.E., SHUMARINA,
A.V.
COUNTRY OF INFO--USSR
SOURCE--TEKST. PROM. (MOSCOM) 1970, 30(3), 73
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--UREA, DYE, NATURAL FIBER
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3002/1262 STEP NO--OR/0342/T0/030/003/0073/0073
CIRC ACCESSION NO--AP0128678
UNCLASSIFIED

2/2 009

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0128678

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. UREA (I) CAN BE USED AS AN ADDITIVE (INSTEAD OF (NH SUB4) SUB2 SO SUB4) DURING BATCH AND CONTINUOUS DYEING OF COTTON FIBERS. ADDN. OF 2-3 G-L. I TO THE DYEING MIXT. IMPROVED THE SELECTIVITY AND REDUCED THE CONSUMPTION OF DYES BY SIMILAR TO 10PERCENT. FACILITY: IVANOV. MELANZHEVYI KOMB. IM. FROLOVA, IVANOV, USSR.

UNCLASSIFIED

USSR

UDC: 669.15-194:621.753.58

SHATAGIN, O. A., BESEDINA, E. B., SLADKOSHTSEYEV, V. T., KHALEMSKIY, S. F., Ukrainian
Scientific-Research Institute of Metals, Kharkov

"Gas Porosity with Horizontal Continuous Casting of Carbon Steels"

Moscow, Izvestiya Vysshikh Uchebnykh Zavedeniy, Chernaya Metallurgiya, No 12,
1973, pp 39-41.

Abstract: Gas porosity is widely developed in horizontal continuous ingots. The reasons for the development of elevated porosity of the axial and upper zones of square ingots are studied. The method of vacuum melting is used to determine the composition of the gas in the pores. Strong deoxidation and degassing of metal during pouring is used to produce billets which, following rolling with various degrees of compression, fully satisfy the requirements of the state standards. The studies showed that the primary reason for the development of porosity during continuous horizontal casting of steel is hydrogen. It is recommended that the metal be degassed during pouring by bubbling an inert gas through the liquid metal in the receiver.

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SLADKOV, I.B.

RELATION BETWEEN THE DEPOSITION CONDITIONS AND THE VOLT-AMPERE CHARACTERISTICS OF EPITAXIAL P-N-JUNCTIONS

A. N. SLADKOV, V. V. TUKHOVICH, B. S. YAKOVLEV, A. M. SHADKOV, and V. I. KUPCHENKO. Institute of Solid State Physics, Academy of Sciences of the USSR, Moscow, U.S.S.R.

(Article by I. B. Sladkov, V. V. Tukhovich, B. S. Yakovlev, A. M. Shadkov, and V. I. Kupchenko. Soviet Journal of Applied Physics, 1970, Vol. 13, No. 12, pp. 15-21)

Sol JPRS 57277
14 June 73

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The epitaxial process successfully used to create silicon n - n - n junctions base for which is the structurally and electrophysically uniform layer of n - n conductor several tens of microns thick and from ten to hundreds of square millimeters in area. The publications pertaining to the given problem are only a few. It is reported on the junctions obtained by the diffusion of gold into an epitaxial silicon film having a breakdown voltage of 100 volts in an area of 1 cm^2 . Hira and Remyun [2] prepared an epitaxial controlled diode with a breakdown voltage of 500 volts in an area of 1 cm^2 . In the paper by Howard and Jones [3], the creation of an epitaxial diode with a breakdown voltage of 5 kilovolts in an area of 0.2 cm^2 was indicated. According to the estimate of Lanthrop [4], a thick (to 250 microns) epitaxial layer can be obtained in sections of the substrate not exceeding $1 \mu\text{m}$ in diameter. This is connected with statistical contamination -- silicon particles settling on the hot-pyrites of the reactor -- getting on to the growing layer.

The epitaxial silicon films obtained from the gas phase form defects during the growth process (irregularities and pinking defects), which worsen properties of the n - n junctions, giving them soft characteristics and decreasing the breakdown voltage [5, 6]. In order to obtain a high-quality n - n junction it is necessary that the substrate surface not have any chemical or mechanical defects.

In this paper a study was made of the deposition factors affecting the morphology and the resistance of the epitaxial layers of silicon obtained by reducing the silicon tetrachloride by hydrogen. The inverse volt-ampere characteristics of the n - n junctions are presented which were formed by the following procedures:

- 1) Deposition of the unalloyed n -type layer on the p -type substrate;

SLADKOV, I.B.

SO: JPRS 59279
14 June 73

(2)

THE THERMODYNAMIC STUDY OF THE GROWTH RATE OF EPITAXIAL SILICON FROM GAS

Article by I. B. Sladkov, V. V. Turchin, V. I. Novosilov, P. I. Petrov, and I. S. Strizhuk. Zhurnal Prikladnoi Khimii, Moscow, 1969, Vol. 42, No. 1, p. 100-104. English translation in Soviet Journal of Applied Chemistry, Part 2, 1969, pp. 7-10.

One of the most important parameters of the epitaxial process is the growth rate of the film. In the case of deposition on the crystallographic plane, the growth rate will be determined by several parameters: the concentration of the gas mixture, the deposition temperature and the gas flow rate. In order to grow films with given physical properties it is very important correctly to select these deposition parameters. In addition, the study of the kinetics of epitaxial growth permits us to obtain information about the possible deposition mechanisms. In this paper an effort has been made to explain the experimental relations of the growth rate of epitaxial silicon films known by reducing the silicon tetrachloride by hydrogen in the vertical reactor on the basis of the model of keeping the chemical equilibrium in the reaction zone.

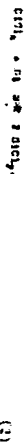
Thermodynamic Analysis

The thermodynamic analysis of the process of epitaxial growth of silicon can be performed using the following assumptions:

1. The growth mechanism includes only two chemical reactions: the deposition reaction



and the pickling reaction



The correctness of this assumption can be based in the following way. The principal byproducts of the chemical reactions of epitaxial growth are silicon dichloride and trichlorosilane. However, according to the published data [1, 2] for low concentrations of silicon tetrachloride in the initial gas mixture it is possible to neglect the formation of trichlorosilane.

1/2 039 UNCLASSIFIED PROCESSING DATE--27NOV70
 TITLE--DIFFUSION OF BORON INTO EPITAXIAL SILICON -U-
 AUTHOR--(03)-SLADKOV, I.B., TUCHKEVICH, V.V., SHMIDT, N.M.
 COUNTRY OF INFO--USSR
 SOURCE--FIZIKA I TEKHN. POLUPROV., APR. 1970, 4, (4), 793-796
 DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS, PHYSICS

TOPIC TAGS--HYDROGEN, CHLORIDE, PHYSICAL DIFFUSION, ELECTRIC PROPERTY,
 PHYSICAL DIFFUSION, SILICON, BORON, THERMAL EFFECT, EPITAXIAL GROWTH

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
 PROXY REEL/FRAE--3003/0150

STEP NO--UR/0449/T0/004/004/0793/0796

CIRC ACCESSION NO--AP0129406

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--27NOV70

2/2 039

CIRC ACCESSION NO--AP0129406

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

ABSTRACT. THE DIFFUSION OF B INTO EPITAXIAL LAYERS OF SI GROWN BY THE H REDUCTION OF SICL SUB4 ON P TYPE SI SUBSTRATES WAS STUDIED AT 1000-1300DEGREESC. THE DIFFUSION COEFF. INCREASED FROM 10 PRIME NEGATIVE13 TO 10 PRIME NEGATIVE10 CM PRIME2-SEC OVER THIS RANGE. THE GENERAL TENDENCY OF THE DIFFUSION PROCESS WAS CONFIRMED BY ELECTRICAL RESISTANCE MEASUREMENTS. THE RESULTS AGREED CLOSELY WITH EXISTING EXPERIMENTAL DATA, BOTH AS REGARDS THE ABS. DIFFUSION COEFF. AND AS REGARDS ITS TEMP. DEPENDENCE.

UNCLASSIFIED

1/2 029 UNCLASSIFIED PROCESSING DATE--27NOV70
 TITLE--DISTRIBUTION OF ANTIMONY IN AUTO EPITAXIAL SILICON FILMS OBTAINED
 BY THE SILANE AND CHLORIDE METHODS -U-
 AUTHOR--(04)-SLADKOV, I.B., TUCHKEVICH, V.V., SHMIDT, N.M., YAVICH, B.S.
 COUNTRY OF INFO--USSR S
 SOURCE--FIZIKA I TEKHN. POLUPROV., APR. 1970, 4, (4), 796-798
 DATE PUBLISHED-----70
 SUBJECT AREAS--PHYSICS, MATERIALS
 TOPIC TAGS--ANTIMONY, SILICON, SILANE, CHLORIDE, PHYSICAL DIFFUSION,
 EPITAXIAL GROWTH, METAL FILM
 CONTROL MARKING--NO RESTRICTIONS
 DOCUMENT CLASS--UNCLASSIFIED
 PROXY REEL/FRAME--3003/0148 STEP NO--UR/0449/70/004/006/0796/0798
 CIRC ACCESSION NO--AP0129404
 UNCLASSIFIED

2/2 029

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0129404

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AUTO EPITAXIAL SI FILMS WERE GROWN BY THE SILANE AND CHLORIDE METHODS AND THE RESULTANT IMPURITY (SB) DISTRIBUTION WAS MEASURED. IN FILMS OBTAINED BY THE CHLORIDE METHOD, IN PARTICULAR, THE SB DISTRIBUTION DIFFERED CONSIDERABLY FROM THAT CALCULATED FROM THE ORDINARY DIFFUSION EQUATION. IN THE CASE OF FILMS GROWN BY THE SILANE METHOD THEORY AND EXPERIMENT AGREED CLOSELY. THE DIFFERENCE MAY HAVE BEEN DUE TO EFFECTS TAKING PLACE ON THE BACK OF THE SUBSTRATE.

UNCLASSIFIED

1/2 037 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--DISTRIBUTION OF IMPURITIES IN AUTO EPITAXIAL SILICON FILMS DOPED
WITH BORON -U-
AUTHOR--(03)-SLADKOV, I.B., TUCHKEVICH, V.V., SHMIOT, N.M.
COUNTRY OF INFO--USSR 5
SOURCE--FIZIKA I TEKHN. POLUPROV., APR. 1970, 4, (4), 798-800
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS, MATERIALS
TOPIC TAGS--BORON, SILICON, PHYSICAL DIFFUSION, ELECTRIC CONDUCTIVITY,
IMPURITY LEVEL, EPITAXIAL GROWTH, SEMICONDUCTOR FILM
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3003/0147 STEP NO--UR/0449/70/004/004/0798/0800
CIRC ACCESSION NO--AP0129403
UNCLASSIFIED

2/2 037

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0129403

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PROFILE OF IMPURITY DISTRIBUTION IN B DOPED AUTO EPITAXIAL SI FILMS WAS STUDIED BY MEASURING THE ELECTRICAL CONDUCTIVITY OF AN OBLIQUE SECTION, BY MEASURING THE ELECTRICAL CONDUCTIVITY OF THE SAMPLE AFTER REMOVING SUCCESSIVE THIN LAYERS, AND ALSO BY THE VOLTAGE-CAPACITY METHOD. THE SAME GENERAL PICTURE OF IMPURITY DISTRIBUTION WAS PRESENTED IN EACH CASE. A FALL IN B CONCENTRATION NEAR THE INTERFACE WITH THE SUBSTRATE WAS ATTRIBUTED TO DIFFUSION INTO THE LATTER FROM THE FILM.

UNCLASSIFIED

USSR

UDC 621.396.6-181.5

BLINOV, I. G., VALEYEV, A. S. MELEKHIN, Yu. Ya., MINKHEVICH, V. A., PANKRATOV, L. M.,
SLADKOV, V. I.

"Cathode Vaporization of Thin Films of Tantalum"

Elektron. prom-st', Nauchno-tekhn. sb. (The Electronics Industry, Scientific and
Technical Collection), 1970, No 1, pp 69-70 (from RZh-Radiotekhnika, No 10, Oct 70,
Abstract No 10V232)

Translation: A brief description is given of the Soviet UV-62P-1 device for pro-
ducing tantalum films. The unit can be used to make films with surface resistance
spread of less than 4% in a single batch, and less than 7% from batch to batch.
Two illustrations. N. S.

1/1

1/2 025
UNCLASSIFIED
PROCESSING DATE--23OCT70
TITLE--THE INVESTIGATION OF DNP STRUCTURE AND ITS COMPONENTS BY OPTICAL
METHODS -U-
AUTHOR--(04)-PERMOGOROV, V.I., SLADKOVA, I.A., DEBABOV, V.G., REBENTISH,
B.A.
COUNTRY OF INFO--USSR
SOURCE--MOLEKULYARNAYA BIOLOGIYA, 1970, VOL 4, NR 3, PP 359-366
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--DNA, PROTEIN, MOLECULAR STRUCTURE, BIOLOGIC STAIN,
SPECTROPHOTOMETRY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1998/0152
STEP NO--UR/0463/70/004/003/0359/0366
CIRC ACCESSION NO--AP0120852
UNCLASSIFIED

2/2 025

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0120852

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE INVESTIGATION OF CIRCULAR DICHROISM OF DNP, DNA AND HISTONES HAS BEEN CARRIED OUT. THE COMPARISON OF CURVES OF DNP CURCULAR DICHROISM WITH THOSE OF DNA IN SOLUTION AT VARIOUS NACL CONCENTRATIONS SHOWED THAT DNA IN DNP WAS NATIVE AND THAT ITS STATE IN DNP WAS SIMILAR TO THE STATE OF DNA IN 2 M NACL. IT WAS SHOWN THAT THE HELICAL CONTENT OF HISTONES IN DNP WAS EQUAL TO 44PERCENT. THE RESULTS OF INVESTIGATION OF ORD COMPLEXES OF ACRIDINE ORANGE WITH DNA AND DNP MAKE IT POSSIBLE TO CONCLUDE THAT DNA IN DNP IS NATIVE AND THAT A PART OF DNA IS FREE OF HISTONES. THE SPECTROPHOTOMETRIC TITRATION AND THE INDUCED OPTICAL ROTATORY DISPERSION MEASUREMENTS AT LOW RATIOS OF DYE: BINDING SITES INDICATED THAT APPROXIMATELY 20 PER CENT OF DNA IN DNP WAS FREE OF HISTONES. FACILITY: INSTITUTE OF GENETICS OF MICROORGANISMA, MOSCOW.

UNCLASSIFIED

1/2 009

UNCLASSIFIED

PROCESSING DATE--23OCT70
-U-

TITLE--STRUCTURE OF DNA AND HISTONES IN THE NUCLEOHISTONE
AUTHOR--(04)-PERMOGOROV, V.I., DEBAOV, V.G., SLADKOVA, I.A., REBENTISH,
B.A.
COUNTRY OF INFO--USSR

SOURCE--BIOCHIM. BIOPHYS. ACTA 1970, 199(2), 556-8

DATE PUBLISHED-----70

S

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--DNA, MOLECULAR STRUCTURE, BUFFER SOLUTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1997/0313

STEP NO--NE/0000/70/199/002/0556/0558

CIRC ACCESSION NO--AP0119300

UNCLASSIFIED

2/2 009

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0119300

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

ABSTRACT. CD AND UV MEASUREMENTS OF NATIVE SOL. NUCLEOHISTONE FROM CALF THYMUS AND ITS COMPONENTS AT SEVERAL SALT CONCNS. ARE REPORTED. CD CURVES WERE OBTAINED FOR NUCLEOHISTONE, NATIVE DNA, DENATURED DNA, AND HISTONES IN DIL. PHOSPHATE BUFFER (0.7 M, PH 6.8). CD CURVES WERE ALSO OBTAINED AT INCREASING SALT CONCNS., UP TO 2M NaCl (IN ADDN. TO PHOSPHATE BUFFER). CHANGES IN CD OF NATIVE DNA BROUGHT ABOUT BY HIGH SALT CONC. WERE EXHIBITED IN A DECREASE OF THE PEAK NEAR 275 NM; IN 2M NaCl THERE WAS A SIMILAR DECREASE IN THE PEAK OF THE NUCLEOHISTONE IN DIL. BUFFER. THE CD SPECTRUM OF DENATURED DNA OVER THE RANGE 260-300 NM WAS RELATIVELY UNAFFECTED BY SALT CONC. THESE AND OTHER DATA SUGGESTED THAT IN SOL. NUCLEOHISTONE DNA HAS A DOUBLE HELIX CONFORMATION CLOSELY RELATED TO THE CONFORMATION OF DNA IN SOLN. OF HIGH SALT CONC., AND THE HISTONES ASSUME THE PARTIAL ALPHA HELIX CONFORMATION.

FACILITY: INST. GENET. SELECT. MICROORGS., MOSCOW, USSR.

UNCLASSIFIED

1/2 029

UNCLASSIFIED

PROCESSING DATE--11SEP70

TITLE--EFFECT OF COOLING CONDITIONS ON THE MACROSTRUCTURE OF A BRASS BAR DURING HORIZONTAL CONTINUOUS CASTING. -U-

AUTHOR--~~SLADOSHTEYEV, V.T.~~, SHATAGIN, O.A., RADZIKHOVSKIY, V.A., BYKOVA, D.I., KELMAN, L.D.

COUNTRY OF INFO--USSR

S

SOURCE--TSVET. METAL. 1970, 43(1) 73-5

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--BRASS, METAL CASTING, CRYSTAL STRUCTURE, CRYSTALLIZATION, MECHANICAL PROPERTY, METAL COOLING, COOLING RATE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAHE--1986/0602

STEP NO--UR/0136/70/043/001/0073/0075

CIRC ACCESSION NO--AP0102597

UNCLASSIFIED

2/2 029

CIRC ACCESSION NO--AP0102597
ABSTRACT/EXTRACT--(U) GP-0-

UNCLASSIFIED

PROCESSING DATE--11SEP70

ABSTRACT. THE COOLING CONDITIONS OF A BILLET FORMED IN A CRYSTALLIZER EXERT A DETG. EFFECT ON THE STRUCTURE OF THE CAST METAL. INCREASING THE SOLIDIFICATION RATE RESULTS IN FINER GRAIN SIZE; THIS ENHANCES THE MECH. PROPERTIES. BRASS BILLETS, HORIZONTALLY CONTINUOUSLY CAST, HAVE A DENSE STRUCTURE; NO PORES OR OTHER INTERNAL DEFECTS ARE PRESENT. RESULTS SHOW THAT THE SOLIDIFICATION RATE, WITH OTHER CONDITIONS BEING EQUAL, DEPENDS ON THE SURFACE TEMP. OF THE ROD. THE DEPENDENCE OF THE COOLING (SOLIDIFICATION) RATE ON THE RATE OF WATER FLOW DURING HORIZONTAL CONTINUOUS CASTING OF THE ALLOYS WAS STUDIED. EXPTL. THE COOLING CONDITIONS WERE CHANGED BY CHANGING THE WATER FLOW RATE IN THE CU WATER COOLED JACKET. WITH INCREASING WATER FLOW RATE THE SOLIDIFICATION RATE OF EACH ZONE INCREASES. A SATISFACTORY AGREEMENT WAS OBTAINED BETWEEN EXPTL. AND THEORETICAL DATA.

UNCLASSIFIED

USEF

SLASTENKO, A. N. and MOS'PAN, P. I.

UDC: 629.78:621.38

"Analysis of the Operation and Calculation of the Basic Parameters of a Single Circuit Transistor-Type Phase Modulator With a Control Varicap"

Samoletostr. i tekhn. vozd. flota. Resp. mezhved. temat. nauch.-tekhn. sb. (Airplane Building and Technology of the Air Fleet. Republic Interdepartmental Thematic Scientific-Technical Collection of Articles), 1971, vyp. 26, pp 23-26 (from RZh-41. Raketostroyeniye, Moscow, No 3, Mar 1972, Abstract No 3.41.268)

Translation: The high economy and the high degree of reliability of single-circuit, transistor-type phase modulators with varicap control combine well with trends in the design of modern electronic aircraft equipment. The simple electric circuit of this type of modulator is easily realized in practice; however the complexity of the physical processes in this type of modulator, mainly conditioned by the nonlinearity of the volt-farad characteristic of the varicap, very frequently makes the design of this type of modulator difficult. A correct design of this type of phase modulator is possible only by making a detailed quantitative analysis of its processes and rigorously calculating its basic parameters. A quantitative analysis is presented of the operation of a transistor-type phase modulator with varicap control in the single circuit of the modulator. A method is described for calculating the transconductance of a modulator along with the coefficient

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USSR

SLASTENKO, A. N. and MOSIPAN, P. I., Samoletostr. i tekhn. vozd. flota. Resh. mezh-
ved. temat. nauch.-tekh. sb., 1971, vyp. 26, pp 23-26

of the nonlinear distortion of its characteristics. Good fit is noted between the
calculations and the experimental data. Original article: one illustration and
three bibliographic entries. Resume.

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USSR

UDC: 621.375.024

MOS'PAN, P. I., SLASTENKO, A. N.

"Experience in the Development of Transistorized DC Amplifiers"

Samoletostr. i tekhn. vozd. flota. Resp. mezhved. nauchno-tekhn. sb. (Aircraft Construction and Air Fleet Technology. Republic Interdepartmental Scientific and Technical Collection), 1970, vyp. 21, pp 67-70 (from RZh-Radiotekhnika, No 11, Nov 70, Abstract No 11D140)

Translation: The authors analyze the operation of several transistorized DC amplifiers. The basic electrical parameters of the DC amplifiers are calculated, and the possibility of using the amplifiers in control circuits with automatic phase control is evaluated. It is shown that stabilization of zero drift in a DC amplifier in the frequency band is improved by a factor of 3-4 if the amplifier is connected in a balanced circuit with transistors which are selected in pairs for their electrical parameters. This is confirmed by the results of climate testing of 35 DC amplifiers in the temperature range from -40 to +70°C. Bibliography of five titles. Resumé.

1/1

- 5 -

USSR

UDC 621.376.4

SLASTENKO, A. N. and MOS'PAN, P. I.

"Aperiodic Phase Modulator With a Controlling Varicap"

V sb. Radioelektron. letatel'n. apparatov (Aviation Radio Electronics -- collection of works), Vyp.4, Khar'kov, Khar'kov. aviats. in-t, 1972, pp 40-43 (from RZh-Radio-
tehnika, No 11, Nov 72, Abstract No 11 D247)

Translation: The authors study the development of an aperiodic phase modulator which can find practical application in the development of special transmitting devices. The given calculations of the parameters and characteristics of the modulator show that this type of modulator is of simple construction and can operate, due to the absence of resonance elements within it, in a broad range of frequencies with sufficiently high stability of its parameters. Original article: one illustration and three bibliographic entries. Resume.

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Vacuum Tubes

UDC 621.385:537.525

USSR

AKSENOV, I. I., AMELIN, V. Z., BARANOV, N. G., SLATIN, V. I., SMIRNOV, S. A.

"Construction, Electrical, and Operating Characteristics of Heavy-Current Controlled Discharger"

Elektron. tekhnika. Nauchno-tekhn. sb. Gazorazryadn. pribory (Electronic Technology. Scientific-Technical Collection. Gas-Discharge Devices), 1970, Issue 4(20), pp 67-71 (from RZh--Elektronika i yeye primeneniye, No 5, May 1971, Abstract No 5A170)

Translation: A discharger is described which is intended for operation in circuits of capacitance storage elements and protective devices, with voltages from several hundred volts to 10 kv. The device can commutate currents in a pulse up to 100 ka and is characterized at the same time by a resource well in excess of $3 \cdot 10^4$ of the discharge. The construction of the discharger and the technology of its production are described and the electrical and operational characteristics presented.

1/1

UDC 677.4.54-171.539.16.04

USSR

SLATINA, S. D., KIRILENKO, YU. K., VOL'F, L. A., MEOS, A. I., SHAPIRO, YE. I.,
VISHNYAKOVA, T. P., PANCHENKOV, G. M., VLASOVA, I. D., KAUCHANSKIY, D. A.,
and MARNAUSOV, V. A.

"Radiation Resistant Polyvinylalcohol Fibers Containing Ferrocene"

Leningrad, Radiokhimiya, Vol 13, No 5, 1971, PP 786-787

Abstract: Polyvinylalcohol fibers containing ferrocene were obtained by impregnating a freshly formed or thermostabilized PVA-fibers with 5-18% solution of 1,1'-diacetylferrocenylformaldehyde resin [1,1'-DAFF] in acetone. After the impregnation the material was heated to 140-160°C for 10-20 min, resulting in formation of chemical bonds between the hydroxyl groups of the PVA-fiber and the methylal group of 1,1'-DAFF resin (14-18% of chemically bound 1,1'-DAFF resin). The 1,1'-DAFF resin was obtained by polycondensation of diacetylferrocene with formaldehyde in ethanol at 50°C and in presence of sodium carbonate. The modified fiber was subjected to γ -radiation in presence of air oxygen. The strength and the elastic indicators of the ferrocene containing material were superior in comparison to the starting material.

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USSR

UDC 677.494.72

SLATINA, S. D., KIRILENKO, Yu. K., VOL'F, L. A., MEOS, A. I., KLIMENKO, I. B., GRACHEV, V. I., VISHNYAKOVA, T. P., and VLASOVA, I. D., Leningrad Institute of the Textile and Light Industries imeni S. M. Kirov, and Moscow Institute of the Petrochemical and Gas Industries imeni I. M. Gubkin

"Polyvinyl Fabrics Modified With Ferrocene-Containing Compounds"

Leningrad, Zhurnal Prikladnoy Khimii, Vol XLV, No 2, Feb 1972, pp 446-447

Abstract: Heteroorganic compounds are already widely used as modifiers of chemical fibers, and specific methods are known for imparting desired properties to fibers by the use of silicon- and boron-containing compounds. However, the use of ferrocene-containing compounds in this way has not been described, although these compounds impart a number of valuable properties to polymers, notably resistance to heat and radiation. Ferrocene-containing compounds are of further interest in having possible biological effects, including an effect on blood-formation. Polyvinyl alcohol (PVA) fiber was treated with 1,1-diacetylferrocene-formaldehyde (DAFF) resin, obtained by condensation polymerization with formaldehyde in the presence of Na_2CO_3 in ethanol. The freshly formed fiber was submerged for 1-5 minutes in 5-20% solutions of the resin, then heated at 140-180° for 10-20 minutes.

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USSR

SLATINA, S. D., Zhurnal Prikladnoy Khimii, Vol XLV, No 2, Feb 1972, pp 446-447

The fiber became resistant to the effect of hot water. Apparently, in the fiber-resin reaction there was condensation of the PVA hydroxyl groups with the resin methyl groups, so that simple ester bonds were formed between the two polymers; this was confirmed by comparison of the number of hydroxyl groups in the initial fiber, the resin-processed fiber, and the heated resin, and also by infrared data. Graphic data accompany the paper.

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USSR

UDC 612.172.2

YAKOVLEVA, M. I., KATRUSHENKO, A. G., and SLAUTSITAYS, V. V., Department of Ecological Physiology, Institute of Experimental Medicine, Academy of Medical Sciences USSR, Leningrad

"An Analysis of the Self-Regulating Mechanism of Heart Rhythmic Activity"

Leningrad, Fiziologicheskii Zhurnal SSSR imeni I. M. Sechenov, Vol 59, No 9, Sep 73, pp 1403-1409

Abstract: Eleven male chinchilla rabbits were trained to decrease their heart rate by means of instrumental conditioning using feed-back with a bioregulated loop. The transition of heart rhythmic activity onto a new level involved a decrease in the number of self-reinforcement impulses. After 10 to 12 experiments a lowering of heartbeat rate by 20 to 30 percent, achieved in 2 to 3 minutes, was observed. Initial experiments required 120 to 180 minutes for any lowering of rate. The stability of the changed rate also increased with further trials. This data is said to indicate that the evolved regimens of heart activity are stable and adaptive, leading to minimization of biologically negative effects, in contrast with the classical conditioned reflex. A time link between the structures regulating positive emotions and those regulating the functional control is also proposed.

1/1

SLAVA, V.A.

Microbiology

Section VI
Sci Selecte
Facilities
PC-5-69
SIPR 71

(U) During this quarterly reporting period, five new articles were located from the Institute of Biochemistry and Physiology of Microorganisms at Puschino. On the basis of these articles, it was possible to identify 13 new personalities with the Institute. The personalities, the subjects of the articles, and the dates are given below:

Bozova, A. M.	antibiotic production	1968 (65)
Blazyn, S. M.	Candida lipolytica	1970 (66)
Kalashnik, Z. A.	α-oxoglutaric acid	1971 (67)
Korotkiy, P. Ya.	α-oxoglutaric acid	1969 (65)
Lysytsin, G. P.	α-oxoglutaric acid	1969 (65)
Mendelin, S. Z.	antibiotic production	1970 (66)
Peliseva, I. Zh.	α-oxoglutaric acid	1970 (65)
Permyakova, S. H.	Candida lepolytica	1971 (67)
Slava, V. A.	α-oxoglutaric acid	1971 (65)
Tozhariya, S. M.	α-oxoglutaric acid	1971 (65)
Vozhakov, V. A.	α-oxoglutaric acid	1971 (65)
Zaitova, D. B.	α-oxoglutaric acid	1971 (65)

Two of the five new articles were authored by personalities already identified with the Institute of Biochemistry and Physiology of Microorganisms. One of these articles dealt with penicillium level compactum (68) and the other with methan oxidizing bacteria (69). Reference 65 was jointly issued from the above Institute and the Institute of Microbiology Imeni A. Kirilenkoyin Riga, possibly indicating some joint work between the two facilities.

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UNCLASSIFIED

USSR

UDC 547.436

3

KOSTYUKOVSKIY, Ya. L., BRUK, Yu. A., PAVLOVA, L. V., SLAVACHEVSKAYA, N. M.,
KOKUSHKINA, A. V., MIRKIN, B. S., BELEN'KAYA, I. A.

"Alkanethiols and Their Derivatives. I. Acid-Base Properties of N-Substituted β -Aminoalkanethiols"

Leningrad, Zhurnal' Obshchey Khimii, Vol 42(104), No 3, Mar 72, pp 662-665

Abstract: The acid-base properties of a number of N-substituted β -amino-alkanethiols and some related compounds are studied under standard conditions to evaluate the effect of structural singularities of thiol on the acidity of the SH-group, and hence on sulfhydryl reactivity. The results of the studies show that increased acidity of the SH group is determined chiefly by the capacity of the given compounds to form a zwitter-ion structure, and to a lesser degree by the nature of the alkyl substituents associated with the nitrogen atom. The effect of alkyl substituents on the basicity of the amino group is not so clearly expressed as a consequence of other factors connected with the inductive effect.

1/1

USSR

UDC 615.849.1.015.25.015.45:612.82

SMAYLENE, A. A., and SLAVCHEVSKAYA, N. M., Chair of Pharmacology and General Toxicology, Leningrad, Sanitation-Hygiene Medical Institute, Leningrad, Ministry of Health USSR

"Action on the Central Nervous System of Alkyl Derivatives of Cysteamine and Cystamine and of Some Aminoalkyldisulfides"

Moscow, Farmakologiya i Toksikologiya, Vol 33, No 3, May-Jun 70, pp 271-275

Abstract: The pharmacological activity of cysteamine, cystamine, 2-dimethylaminoethanol HCl ($\text{HSCH}_2\text{CH}_2\text{NMe}_2 \cdot \text{HCl}$) (I), 2,2'-bis-(dimethylamino)diethyldisulfide HCl ($\text{Me}_2\text{NCH}_2\text{CH}_2\text{SSCH}_2\text{CH}_2\text{NMe}_2 \cdot 2\text{HCl}$) (II), N-carboxymethyl-2-aminoethanol HCl ($\text{HSCH}_2\text{CH}_2\text{NHCH}_2\text{COOH} \cdot \text{HCl}$) (III), 2,2'-(carboxymethylamino) diethyldisulfide HCl ($\text{HOOCCH}_2\text{NHCH}_2\text{CH}_2\text{SSCH}_2\text{CH}_2\text{NHCH}_2\text{COOH} \cdot 2\text{HCl}$) (IV), guanidylcystamine HBr ($\text{H}_2\text{N}(\text{HN}=\text{CNHCH}_2\text{CH}_2\text{SSCH}_2\text{CH}_2\text{NH}(\text{=NH})\text{NH}_2) \cdot 2\text{HBr}$) (V), s-beta-aminoethylisothiourea HCl ($\text{H}_2\text{NCH}_2\text{CH}_2\text{SC}(\text{=NH})\text{NH}_2 \cdot 2\text{HCl}$) (VI), 1-thio-2-aminopropane HCl ($\text{MeCH}(\text{NH}_2)\text{CH}_2\text{SH} \cdot \text{HCl}$) (VII), and 2,2'-diaminodipropyldi-sulfide HCl ($\text{MeCH}(\text{NH}_2)\text{CH}_2\text{SSCH}_2\text{CH}(\text{NH}_2)\text{Me} \cdot 2\text{HCl}$) (VIII) was studied in experiments on mice. Introduction of Me groups into cysteamine and cystamine increased the toxicity, while introduction of COOH into cysteamine (Compound III) reduced it. In doses of 20 and 50 mg/kg, all com-

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USSR

SMAYLENE, A. A., et al., *Farmakologiya i Toksikologiya*, Vol 33, No 3, May-Jun 70, pp 271-275

pounds tested except VI had a depressing effect on the motor component of the orientation reaction. In a dose of 100 mg/kg, all compounds tested had this effect. All ten compounds enhanced the action of barbamy and chloralhydrate. None of them prevented convulsions produced by corazole (phenylenetetrazole). Cysteamine, cystamine, I, II, IV, V, and VIII in a dose of 50 mg/kg and all ten compounds in a dose of 100 mg/kg delayed the onset of strychnine convulsions. Cystamine, IV, V and VII reduced the lethality from strychnine administered in a dose of 1.65 mg/kg, which otherwise had a 100% lethal effect. I and II reduced from 100 to 40-50% the lethality that resulted from the administration of 20 mg/kg nicotine. All compounds tested delayed the onset of arecoline convulsions, but increased their intensity and duration. The compounds studied depressed the central nervous system, but did not exhibit a pronounced activity as anticonvulsants.

2/2

UDC 615.77.17

USSR

SHIMKYAVICHENE, B. I., KYARSHULIS, A. A., and SLAVNENE, L. V., Institute of Biochemistry, Academy of Sciences Lithuanian SSR

"Antileukosis Effect of Basic Amino Acid Derivatives Containing the Di(2-Chloroethyl) Amino Group. 1. Application of MD-3 Preparation of Experimental Leukoses of Mice, and Effect on the Blood and Hemopoietic Organs"

Vilna, Trudy Akademii Nauk Litovskoy SSR, Seriya Biologicheskaya, No 1, 1970, pp 137-150

Abstract: Mice inoculated with three leukoses (hemoblastosis La, lympholeukosis NK/Ly, and TsOLIPK No 8) were treated with preparation MD-3. The preparation was found to have a strong antileukosis effect, especially with respect to hemoblastosis La. MD-3 administered intraperitoneally 10 times in doses of 10 mg/kg of body weight caused leukopenia in albino mice, affecting primarily the lymphocytes. The absolute number of leukocytes after 10 doses was reduced by a factor of 4. Normalization of the leukocytes was observed on the 25th day of the experiments. When MD-3 was administered intraperitoneally in daily doses of 30 mg/kg for 10 days, survival was prolonged in 86% of the mice. Infiltration of leukemic cells into the liver and spleen was found to be considerably decreased.

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UNCLASSIFIED

PROCESSING DATE--30OCT70

TITLE--EVALUATION OF AUTOPROTOLYSIS CONSTANTS FOR NONAQUEOUS SOLVENTS BY
CORRELATION EQUATIONS, PK, F PKA MH -U-

AUTHOR--(04)--KRESHKOV, A.P., ALDAROVA, N.SH., TANGANOV, B.B.,
SLAVGORODSKAYA, M.V.

COUNTRY OF INFO--USSR

SOURCE--ZH. FIZ. KHIM. 1970, 44(1), 241-3

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CIRC ACCESSION NO--AP0124538

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UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0124538
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THEORETICAL RELATIVE ACIDITIES WERE CALCD. FOR NON AQ. SOLVENTS. A LINEAR CORRELATION PK SUBA EQUALS 0.0145, E SUBB 9.71 (E SUBB IS THE RELATIVE ACIDITY) WAS FOUND FOR ALKANOLS. AUTOPROTOLYSIS CONSTS. ARE LINEARLY RELATED TO PK SUBA; PK SUBS EQUALS 0.843, PK SUBA 1.74. THIS EQUATION WAS USED FOR THE PREDICTION OF THEORETICAL ACIDITIES OF PROH, BUOH, N,HEXANOL, N,HEPTANOL, N,OCTANOL, ACETONE, MECOET, AND MECOPR. THE AUTOPROTOLYSIS CONSTS. OF THE COMPS. NOT USED IN THE CORRELATION ARE IN GOOD AGREEMENT WITH PUBLISHED DATA. FACILITY: MOSK. KHIM. TEKHNOL. INST. IM. MENDELEEVA, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 616.211/.232:613.63-07

SLAVGORODSKY, L. P., of the All-Union Scientific Research Institute of Synthetic Fibers

"The Problem of the Continuous and Intermittent Action of Teprem"

Kiev, Zhurnal Ushnykh, Nosovykh, i Gorlovykh Boleznay, No 5, Sep/Oct 71, pp 102-103

Translation: In certain technological processes in dustury the air in the plant contains products of destruction of the original chemical compounds which cannot always be fully interpreted. Among such substances are heat-resistant weaving emulsions (temprem-2, teprem-3, and teprem-6). They consist of a mixture of hydroxyethylated compounds and polyethylsiloxane fluid No 5. The emulsions are applied to the polyamide yarn in the formation stage. With the presence of temprem-2, teprem-3, and teprem-6 on the yarn, the processes of hot stretching and thermofixation may be accompanied by evaporation of formaldehyde, acetaldehyde, carbon monoxide, and carbon dioxide into the atmosphere of the production areas of the plant. These products pollute the air in the production areas for hot stretching of polyamide cord, which may result in occupational diseases of the upper respiratory tract. This paper presents the results of investigation of the threshold concentrations of the volatile products of teprem-2, teprem-3, and teprem -6, which produce olfactory per-

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USSR

SLAVGORODSKIY, L. P., Zhurnal Ushnykh, Nosovykh, i Orlovyykh Bolezney, No 5, Sep/Oct 71, pp 102-103

ception, and data of toxicological investigations of heat-resistant weaving emulsions. The investigations were performed by a technique developed by V. A. Ryazanov, K. A. Bushtuyeva, and Yu. V. Novikov (1957). The Threshold concentrations for teprem-2 which produce olfactory perception were determined on 13 test subjects, for teprem-3 -- on 19 subjects, and for steam-gas-air mixture teprem-6 -- on 22, all practically well persons. A total of 720 determinations were carried out. With an assumed constant composition of the products of destruction of these lubricants, four to eight concentrations were made and each concentration tested on the subjects not less than three times. It was established that the minimum perceptible concentrations of volatile combinations of teprem-2 in the air are at a 0.01 mg/m^3 level, those of teprem-3 -- at a 0.007 mg/m^3 level, and of teprem-6 -- at a 0.07 mg/m^3 level. The maximum imperceptible concentrations of the vapors in the air are 0.008 mg/m^3 for teprem-2, within the range of 0.003 mg/m^3 for teprem-3, and 0.004 mg/m^3 for teprem-6. The subjects complained of no unpleasant sensations in the nose or throat during the investigations. No changes in the mucous membrane of the nose or throat were noted by examination. Study was also made of the inhalation effect of teprem-3 vapors in the air on test

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USSR

SLAVGORODSKIY, L. F., Zhurnal Usnykh, Nosovykh, 1 Forlovykh Bolezney, No 5, Sep/Oct 71, pp 102-103

animals exposed for periods of 6 and 24 hours for 6 months. The experiment was carried out on 180 male albino rats. The animals were divided into six groups of 30 rats each. The first, second, and third groups of the animals were subjected to 6-hour exposure 5 days a week. The first group of rats was maintained at a 0.30 ± 0.022 mg/m³ level of teprem-3 concentration in the air (by aldehydes), and the second group -- at a 0.86 ± 0.039 mg/m³ level. The third and sixth groups were control animals and were not subjected to inoculation. The fourth and fifth groups of albino rats were kept under 24-hour effect continuously for a 6-month period, the fourth group being subjected to the effect of teprem-3 concentration in the air at a 0.20 ± 0.018 mg/m³ level, and the fifth group at a 0.77 ± 0.035 mg/m³ level. During the experiment the test animals manifested no lachrymation or increased secretion from the nasal cavity. No visible changes were established by autopsy in the mucous membranes of the upper respiratory tracts of the test animals. In the course of the investigations the weight of the animals, latent time of motor reaction, total protein content and protein spectrum of the blood serum were taken into account. Pathomorphological investigations were performed. The chloride, residual nitrogen, and cholinesterase contents of the blood were studied. The results of statistical processing of the chronic experiment data permitted

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USSR

SLAVGORODSKIY, L. P., Zhurnal Ushnykh, Nosovykh, i Garlovykh Bolezney, No 5, sep/Oct 71, pp 102-103

establishing the statistical significance of the changes in the blood pressure and blood protein values. Thus, in the animals of the first and second groups, which had been subjected to a 6-hour effect, reliable changes as compared to the control group were revealed in the blood pressure, i.e., a rise from 57.8 to 72.5 mm mercury column. Similar results were observed in animals of the fourth and fifth groups, subjected to a continuous 24-hour effect of teprem. The amount of proteins in the rats of the first and second groups was reduced from 45.8 to 21.88-24.30 as compared to the control group. Identical changes were obtained in the animals of the fourth and fifth groups. Statistical processing of a number of other indexes, applied in investigating the inhalation effect of teprem on the laboratory animals, produced no reliable differences when compared to controls. Studies of the general condition of the animals, effect on the central nervous system, blood indexes, and results of pathomorphological investigations do not permit establishing any significant differences with a fourfold increase of exposure to the effect of teprem, which points to the wide range of the toxic action of teprem. Medical and hygienic examination of 355 samples of the air of industrial plants demonstrated that the maximum teprem content was within the limits of 0.15

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USSR

SLAVGORODSKIY, L. P., Zhurnal Ushnykh, Nosovykh, i Gorlovykh Bolezney, No 5, Sep/Oct 71, pp 102-103

mg/m³ (from the reaction to chromotropic acid). Thus, pollution of the atmosphere of industrial plants with volatile products of teprem below the maximum permissible concentrations for acetaldehyde, formaldehyde, and concentration of teprem-3 at 0.24±0.04 mg/m³ level has no significant effect on the condition of the upper respiratory tract and internal organs and may be regarded as harmless. Conclusions: 1. Concentration of teprem-2, teprem-3, and teprem-6 in the air of an order of 0.007-0.01 mg/m³ has no harmful effect on the upper respiratory tract. 2. Increasing the exposure to the effect of teprem-3 vapors on the bodies of albino rats from 6 to 24 hours for a period of 180 days was not accompanied by any increased toxic effect.

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USSR

UDC 621.791.85

SLAVIN, G. A., and KHUDYSHEV, A. F., Moscow

"Some Crystallization Peculiarities of the Liquid Metal of the Bath in Electron-Beam Shot Welding"

Moscow, Fizika i Khimiya Obrabotki Materialov, No 1, Jan-Feb 72, pp 37-44

Abstract: Results are presented of an investigation of the crystallization of the liquid metal of the bath by electron-beam shot (EBS) welding. The peculiarities of the crystallization process are analyzed and possible seam structures and their relation to properties of welded joints are discussed. Temperature measurements revealed that in the EBS welding method the rates of cooling can vary in larger limits and that higher cooling rates can be obtained than in the continuous welding method. Surface characteristics of seams produced by EBS welding are analyzed with particular attention given to the clearly expressed distinction of the crystallization. Depending on the EBS welding methods, there are generally three types of structures which are discussed by reference to surface microsections of the seam face. On the basis of investigations of effects of crystallization processes on properties of welded joints on thin-walled experimental models (models of electron apparatus of MB copper, NP-1 nickel, H29K18 alloy, Vii-2 niobium, and Kh18N10T steel), a number of qualitative characteristics of welded joints can be improved, including vacuum density thermal resistance, strength, and plasticity. Five illustrations, two bibliographic references.

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USSR

UDC 621.791.754.053.001.5:621.3.014.3:539.4:669.14.018.44

SLAVIN, G. A., Candidate of Technical Sciences, MASLOVA, N. D., Engineer, and
MOROZOVA, T. V., Engineer

"Study of the Relationship between Technological Strength and Crystallization during Pulsed Arc Welding of Heat-Resistant Alloys with Nonconsumable Electrode"

Moscow, Svarochnoye Proizvodstvo, No 6, 1971, pp 17-19

Abstract: Results are presented from an experimental study of the relationship of the welding mode to the nature of crystallization of the bath. The experiments were performed using specimens of heat-resistant austenitic steels and alloys, welded by pulsed arc welding with stepped movement of the electrode during pulse pauses. The relationship of the crystallization process to the structure and technological strength of the metal of the seam is demonstrated. A technological parameter--the radius of the tail portion of the initial crystallization front--is suggested, characterizing the relationship of the crystallization process to the structure and technological strength. The influence of welding conditions on the radius of this tail portion is studied. The technological possibilities for adjustment of the structure and properties of the seam during pulsed arc welding are demonstrated.

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USSR

UDC 621.791.85

KHUDYSHEV, A. F., and SLAVIN, G. A., Moscow

"Investigation of the Technological Possibilities of Percussive Electron-Beam Welding of Sheet Metals"

Moscow, Fizika i Khimiya Obrabotki Materialov, No 3, May-Jun 71, pp 13-19

Abstract: Data of an investigation of the technological and thermal characteristics of a percussive electron-beam are presented and the efficiency of the latter for welding sheet constructions is discussed. The effect of parameters of electron-beam operating conditions on the melting capability and the seam formation is demonstrated. The pulsed introduction of heat is found to widen considerably the technological possibilities of the electron-beam welding process. Ranges of optimum values of electron-beam welding parameters which correspond to a maximum melting capability of the heat source are determined. Six illustrations, three tables, three bibliographic references.

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USSR

UDC 615.47:616.092.9

KABATOV, Yu. F., and SLAVIN, M. B.

Veroyatnostno-Statisticheskiye Metody v Meditsinskikh Issledovaniyakh i Nadezhnost' Meditsinskoy Apparatury (Probability-Statistical Methods in Medical Research and the Reliability of Medical Equipment), Moscow, "Meditsina," 1971, 296 pp

Translation: Annotation: The book presents mathematical methods of the theory of reliability applicable to problems of medical and medical-technical experiment. The book reviews methods of planning the experiment, processing its results, confidence evaluation of statistical data, checking hypotheses, increasing the reliability of medical equipment, and economic evaluation of the efficiency of increasing reliability.

Using a large number of examples, the efficiency of employing methods of reliability theory in clinical and experimental medicine is demonstrated.

The book is intended for doctors who use mathematical methods in their practice, as well as for engineers engaged in designing and operating medical equipment.

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KABATOV, Yu. F., and SLAVIN, M. B., Veroyatnostno-Statisticheskiye Metody v Meditsinskikh Issledovaniyakh i Nadezhnost' Meditsinskoy Apparatury, Moscow, "Meditsina," 1971, 296 pp

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KABATOV, Yu. F., and SLAVIN, M. B., Veroyatnostno-Statisticheskiye Metody v Meditsinskikh Issledovaniyakh i Nadezhnost' Meditsinskoy Apparatury, Moscow, "Meditsina," 1971, 296 pp

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USSR

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USSR

UDC 624.19.04

SLAVIN, O. K., SHAPOSHNIKOV, V. N., Moscow

"Modeling of Diffraction of Stress Waves Near Tunnels by a Method of Dynamic Photoelasticity"

Moscow, Stroyitel'naya Mekhanika i Raschet Soyozuzheniy, No 5, 1972, pp 36-40.

Abstract: The solution of diffraction problems when the wavelength of the exciting wave is comparable to the dimensions of the diffracting obstacles is a very difficult problem for mathematical computation, requiring the use of numerical methods with digital computers. Therefore, experimental methods of studying unstable wave processes, including the method of dynamic photoelasticity, are quite important. This article presents experimental results produced by modeling three characteristic classes of diffraction problems by dynamic photoelasticity. Stress waves were excited in a thin plate 3 mm thick of a high-modular polymer by exploding a point charge of lead azide. The light source used was a flash tube. The interference band pictures were interpreted on the basis of the dependence between birefringence and stresses. The studies showed that the effect of stress concentration, primarily resulting from the presence of heterogeneities of finite dimensions in a continuous medium, has a dual nature: the geometric nature, related to the D/L parameter, and the physical nature, related to the $\rho_m C_m / \rho C$ parameter. The studies

USSR

UDC 624.19.04

SLAVIN, O. K., SHAPOSHNIKOV, V. N., Moscow, Stroyitel'naya Mekhanika i Raschet Soyuzheniy, No 5, 1972, pp 36-40.

revealed the nature of the influence of parameters D/L and n on the solution of the diffraction problem, allowing expedient control of this effect. The studies indicated that during explosive drilling work, explosions should be calculated to excite a wave, the length of which is less than or equal to the characteristic transverse dimension of the mine.

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UDC: 533.95:537.84

USSR

SLAVIN, V. S., SOKOLOV, V. S.

"Closed Energy Cycle With MHD-Generator Using the T-Layer Effect"

Novosibirsk, Aerofiz. issledovaniya--sbornik (Aerophysical Research--collection of works), 1972, pp 76-78 (from RZh-Fizika, No 6, Jun 73, abstract No 6G63)

Translation: A thermodynamic analysis is made of a closed energy cycle with MHD generator using the T-layer effect. A generator of this kind is thought of as a limiting case of the MHD generator with laminar flow in which absolute separation of the functions of the working fluid -- the electrical conductor (electrically conductive T-layer) -- and the gas whose enthalpy is to be converted to electric energy becomes possible. Analysis showed that a power plant with MHD generator and a T-layer may have an efficiency of 50-60% if the gas at the reactor outlet has a temperature of 2000-2300°K and the mass fraction of the T-layer in the flow of working fluid is no greater than 5%.

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USSR

UDC 533.95:538.4:621.362

SLAVIN, V. S.

"A Study of the Unstable Flow of a Stratified Gas Stream in the Channel of a MHD-generator"

Riga, Magnitnaya Gidrodinamika, No 3, Jul-Sep 1973, pp 63-70

Abstract: It has been demonstrated that a stratified flow involving layers of hot, conductive gas alternating with layers of cold, nonconducting working fluid is more efficient in terms of average electrical conductivity than a uniform flow with equivalent heat content. Further, it has been shown that there is a class of flows whose interaction with a magnetic field will establish this type of layering and that it will persist. The interaction of the hot layers with the magnetic field makes the flow significantly unstable. In order to localize within the MHD-generator the perturbations occurring as the hot, rapidly moving gas is retarded by the slower layers, it is necessary to develop a stable supersonic flow at the input of the generator.

The model developed in this article considers the current-carrying layers as weightless pistons retarded by the flow of the nonconducting gas. A given emf is assigned to these pistons. The problem is solved numerically by the method of characteristics.

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USSR

SLAVIN, V. S., *Magnitnaya Gidrodinamika*, No 3, Jul-Sep 1973, pp 63-70

A shock wave is formed ahead of the "piston", dividing the flow into equilibrium and perturbed sections. From the description of the shock wave and the boundary conditions of the problem it is possible to find the equilibrium flow in the channel. Difficulties in computing the shock wave parameters in the real situation were avoided by assuming an initial weak shock wave; it is proven that the integral energy characteristics of the flow are only weakly dependent on the initial parameters of this shock wave. The nonequilibrium flow was calculated by the method of characteristics.

Considering the electrical efficiency of the conversion process, it can be determined that the following characteristics are required for maximum efficiency: 1) the length of the zone of interaction should be on the order of 10 calibers; 2) the average retarding force acting on the conducting layer should be approximately equal to .075-.15 times p_0 (the initial pressure); 3) the initial M number of the flow at the inlet M_0 should be greater than or equal to 1.5. Under these conditions the stable gas flow at the input to the channel will not be upset and reverse flows or powerful shock waves will not arise.

2/2

USSR

UDC: 621.391.883.2

SLAVIN, V. Ye.

"Algorithm for Optimizing the Process of Radio Communications in Interference With a Moving Object"

Tr. Sib. fiz.-tekhn. in-ta pri Tomsk. un-te (Works of the Siberian Physico-technical Institute Associated With Tomsk University), 1970, vyp. 51, pp 291-295 (from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6A42)

Translation: An algorithm is constructed for solving the problem of setting up radio communications with a moving object against a background of interference. The algorithm, which is set up for a limited stay of the object in the zone of action of the radio line, ensures transmission to the object of a predetermined number of commands with reception of the same number of acknowledgments, transmission of a given number of messages with reception of acknowledgments, and reception of a predetermined number of messages. The problem is solved by the criterion of obtaining maximum information in the course of a communications session. The resultant algorithm permits carrying out analysis of the process of radio communication in interference and synthesis of an optimum communications system with the aid of a high-speed digital computer. Two tables, bibliography of three titles. N. S. 1/1

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USSR

SLAVIN, Yu.

"Research on the Control of Brucellosis in the Uzbek SSR"

Tashkent, Pravda Vostoka, 29 May 73, p 3

Abstract: In work conducted during the past 20 years, a dry antibrucellosis vaccine for the control of brucellosis of animals has been developed. Orders for this vaccine are now being placed by the Main Veterinary Administration, Ministry of Agriculture USSR, with the Uzbek Biological Combine. Research on the control of brucellosis is being conducted in Uzbekistan by the Uzbek Scientific Research Veterinary Institute (UzNIVI). According to Doctor of Veterinary Sciences N. Kh. Shevchenko, Deputy Scientific Director of UzNIVI, credit for the development of the dry vaccine must be given not only to its originators (N. Nevskiy, M. Abidzhanov, V. Grin'ko, and others), but also to veterinary practitioners who applied it at farms and eliminated brucellosis at a number of sovkhoses of the Uzbek SSR. The dry vaccine in the form of a powder is added to the combination feed and consumed by all animals of the herd at a farm. On being consumed by the animals, the vaccine not only exerts an effective prophylactic action, preventing transmission of brucellosis from diseased to healthy animals, but also makes it possible to detect diseased animals. By using this property of the vaccine, brucellosis of farm animals

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USSR

SLAVIN, Yu., Pravda Vostoka, 29 May 73, p 3

in the Uzbek SSR will be completely eradicated within two years, according to estimates made at UzNIVI. Scientists abroad have become interested in the dry antibrucellosis vaccine; requests for information have been received from England, Australia, and France. According to Doctor of Veterinary Sciences N. Isamov, Head of the Radiobiology Laboratory, UzNIVI, a new method for diagnosing brucellosis has been developed at UzNIVI, which is based on the application of radioactive tracer atoms. This method has been accepted by the Technical Council of the Ministry of Agriculture Uzbek SSR.

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F. Mathematical Problems of Semiotics

USSR

UDC: 8.74

SLAVINA, L. A., TRIBIS, L. I.

"On Algorithmic Elimination of Bilingual Lexical Ambiguity"

Minsk, Chastnyye vopr. avtomat. analiza tekstov--sbornik (Special Problems of Automatic Text Analysis--collection of works), 1972, pp 290-310 (from RZh-Kibernetika, No 5, May 73, abstract No 5V894 by T. Nikolayeva)

Translation: The paper deals with the specifics of a linguistic symbol for a computer: machine perception of a symbol has to do only with the signifier. Therefore to translate polysemous words into another language it becomes essential to pick the signifier in the other language. It is necessary to find diagnosing features which determine the translation equivalent in the given context. The paper is an investigation on algorithmic elimination of machine lexical ambiguity of 137 English word forms representing 50 nouns and verbs. A preliminary experiment on a text mass of 1.5 million words and work with four informants made it possible to dis-

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USSR

SLAVINA, L. A., TRIBIS, L. I., Chastnyye vopr. avtomat. analiza tekstov, 1972, pp 290-310

tinguish 270 Russian word equivalents. The following are distinguished: 1) lexical diagnosing features; 2) morphological diagnosing features; 3) formal graphemic features. Types of lexical diagnosing features are described. The concept of text segmentation is introduced to define the context (papers by M. V. Daneyko and V. M. Petrovskaya). A segmentation fragment is presented. The authors define the diagnosing force of isolated segments with respect to a zero segment containing the word to be translated. A list of standard operators is given. For more effective access to the computer memory the diagnosing features are arranged in order of decreasing frequency. A set of codes is described -- information interdependent with the word form to be analyzed. Examples are given of machine processing of English words. The article ends with a description of the work of an algorithm for eliminating lexical ambiguity; the flowchart of the algorithm is given. An algorithm is presented for

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USSR

SLAVINA, L. A., TRIBIS, L. I., Chastnyye vopr. avtomat. analiza
tekstov, 1972, pp 290-310

eliminating bilingual lexical ambiguity of the noun "adjust-
ment" and a list is given of the diagnosing features for this
word.

3/3

USSR

UDC 621.3.035.2

KRAVETSKIY, G. A., DERGUNOVA, V. S., SLAVINA, L. M., GUSEVA, N. P., and
SAKOSUDOV, V. V.

"Joining Graphite With Graphite and Metal by Electric-Arc Welding"

Moscow, Tsvetnyye Metally, No 7, Jul 71, pp 44-47

Abstract: A method of joining graphite parts with graphite and metallic parts by means of a metallic interlayer deposited on the surface of the graphite part by the electric-arc welding practice is discussed. The following materials with a mean linear expansion coefficient with respect to graphite and metal were investigated for their utilization as interlayers: V, Ti, Mo, W, Zr, Nb, and Kovar. It was found that Ti and Zr are the most promising interlayer materials. The use of Kovar as an interlayer material; is recommended for welding graphite with stainless steel and other steel types. Three illustrations, three tables, six biblio. refs.

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USSR

UDC 539.621

KOSTETSKIY, B. I., BARMASHENKO, A. I., and SLAVINSKAYA, L. V., Ukrainian Academy of Agricultural Sciences

"The Role of Crystal Structure and Orientation of Single Crystals in the Formation of the External Friction Process"

Kiev, Metallofizika, No 40, 1972, pp 24-27

Abstract: The principles of formation of the deformation constituent of an external friction force were investigated for four crystal structures (copper (f.c.c.), silicon (f.c.c.), zinc (HCP), and niobium (b.c.c.) in connection with crystallographic orientation. The relationship of friction parameters and plastic deformation process to crystallographic orientation was shown. The change in dislocation structure in the friction contact zone with the change of friction conditions was investigated. The diffraction pattern of layer deformation at the surface and subsurface zone of friction contact was shown. 12 figures, 1 table, 18 bibliographic references.

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USSR

UDC 621.791.754:621.643:669.715

BUKAROV, V. A., ISHCHENKO, Yu. S., PISHCHIK, V. T. AND SLAVINSKIY, V. D.,
Engineers

"Pulse-Arc Welding of Aluminum Alloy Tubes Using Nonconsumable Electrodes"

Moscow, Svarochnoye Proizvodstvo, No 11, Nov 70, pp 14-15

Abstract: Results are presented from technological studies of pulsed argon-arc welding of joints in tubes of AMg6 and SAV1 alloys using a tungsten electrode without filler wire and reverse polarity current. This type of welding provides satisfactory quality of welded seams for these alloys. A new technology has been developed for welding tubing with wall thicknesses up to 2 mm, with programmed welding mode changes achieved by changing the pulse repetition frequency of current pulses. A pulse device has been developed, allowing welding by a pulsed arc using standard direct current power supplies.

1/1

1/2 014 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--SIMPLIFIED DETERMINATION OF CUMENE HYDROPEROXIDE -U-
AUTHOR--(03)-LEVSHTEYN, V.A., SLAVKINA, N.G., PANINA, K.V.
COUNTRY OF INFO--USSR
SOURCE--NEFTEPERERAB. NEFTEKHIM. (MOSCOW) 1970, (5), 47-8
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--CUMENE, HYDROPEROXIDE, THERMAL ANALYSIS, PHENOL, ACETONE,
THERMOMETRY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3006/1087 STEP NO--UR70314/70/006/005/0047/0048
CIRC ACCESSION NO--AP0134776
UNCLASSIFIED

2/2 014

UNCLASSIFIED

PROCESSING DATE--130370

CIRC ACCESSION NO--AP0134776

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. CUMENE HYDROPEROXIDE (I) WAS DETD. THERMOMETRICALLY IN THE OXIDN. BATCH, OXIDATE, AND END PRODUCT IN THE COMBINED PRODUCTION OF PHOH AND ME SUB2 CO. TO 4 ML OF AN EQUIMOLAR MIXT. OF PHOH AND ME SUB2 CO AND 2.5 ML OXIDATE WAS ADDED 1 DROP 96PERCENT H SUB2 SO SUB4, THUS DECOMPG. I WITH LIBERATION OF HEAT AND INCREASING THE TEMP. TO 60-70DEGREES. THE TEMP. OF THE MIXT. WAS DETD. WITH PRECISION OF 0.1DEGREES. THE CONCN. OF I WAS DETD. BY MEANS OF THE DIFFERENCE OF THE INITIAL AND MAX. TEMP. WITH A GRAPH, PLOTTED WITH ARTIFICIAL MIXTS. OF I IN ISO,PRPH. THE RELATIVE DETN. ERROR WAS SIMILAR TO 1.5PERCENT. THE DETN. LASTED 3-5 MIN. FACILITY: KUIBYSHEV. ZAVOD. SINTEZSPIRTA, KUIBYSHEV, USSR.

UNCLASSIFIED

Acc. Nr.

AP0034225

Abstracting Service:
CHEMICAL ABST. 4-70

Ref. Code
UR 0028

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74189b Complex hexachloride of cerium(IV) with cesium.
 Bayanov, A. P.; Slavkina, R. I. (Kafedra Obshch. Anal. Khim.,
 Sib. Met. Inst., Novokuznetsk, USSR). *Zh. Neorg. Khim.*
 1970, 15(1), 275-8 (Russ). Cs_2CeCl_6 formed as a yellow cryst.
 ppt. when $Ce(IV)$ and $CsCl$ solns. were mixed together. Soly.
 of Cs_2CeCl_6 increased in the order $CCl_4 < 96\% EtOH < 12$
 $N HCl < 6N HCl$. Cs_2CeCl_6 is stable in Et_2O and the above-
 mentioned solvents but decomp. in water with evolution of Cl
 and decoloration of the soln. HMJR

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REEL/FRAME

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USSR

UDC 621.382.002

SLAVNIKOV, V.S.

"Production And Investigation Of Aluminum Nitride Films"

V sb. Vopr. mikroelektroniki (Problems Of Microelectronics--Collection Of Works), Kiev, "Nauk.dumka," 1971, pp 160-165 (from Rib-mikroelektronika i yeye primeneniye, No 10, October 1971, Abstract No 10B426)

Translation: As compared with other dielectrics, films of aluminum nitride have the closest value of the temperature expansion coefficient ($4.8 \cdot 10^{-6} \text{deg}^{-1}$) to the temperature expansion coefficient of gallium arsenide ($5.7 \cdot 10^{-6} \text{deg}^{-1}$) and are characterized by good dielectric properties. Aluminum nitride films were deposited by the reactive sputtering method in a two-electrode system on GaAs wafers heated to a 300°C temperature. 2 ill. 22 ref. I.M.

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USSR

UDC 621.374.4(088.8) 4

KURMAYEV, A. ZH., MIKHAYLOV, A. M., GEL'BSHTEYN, L. S., SLAVNIN, V. A., ODINTSOV, L. N., KOZLOV, A. I., KOROLEVA, R. A., STREL'NIKOV, A. D.

"Pulse Repetition Rate Dividing Circuit"

USSR Author's Certificate No 277845, Filed 9 Jan 69, Published 20 Oct 70 (from RZh-Radiotekhnika, No 4, Apr 71, Abstract No 4C247P)

Translation: A frequency dividing circuit is proposed, which contains a cycle signal source, a square-wave source, a switch in the cycle signal circuit, a frequency divider and a comparison circuit. In order to improve the noise resistance of the cycle pulse time selection in the presence of low frequency noise, the device is also equipped with a pulse converter included between the divider and the comparison circuit. The converter output is connected to the control input of the switch in the cycle pulse circuit.

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1/2 019 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--CORRELATION BETWEEN THE THERMAL STABILITY OF A VINYL IDENE CHLORIDE
ACRYLONITRILE COPOLYMER WITH ITS INTRAMOLECULAR STRUCTURE -U-
AUTHOR-(04)-SEMCHIKOV, YU.D., SLAVNITSKAYA, N.N., RYABOV, A.V., DOLOSKOVA,
L.M.
COUNTRY OF INFO--USSR
SOURCE--VYSOKOMOL. SOEDIN., SER. B 1970, 12(5), 328-9
DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--THERMAL STABILITY, ACRYLONITRILE, COPOLYMERIZATION, MOLECULAR
STRUCTURE, CHLORINATION, VINYLIDENE RESIN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3006/1235

STEP NO--UR/0460/70/012/005/0328/0329

CIRC ACCESSION NO--AP0134909

UNCLASSIFIED

2/2 019

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0134909

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THERMAL DECOMP. OF RADICAL, BULK POLYMD, VINYLIDENE CHLORIDE (I) ACRYLONITRILE (II) COPOLYMERS (III) AT 170DEGREES IN VACUO GAVE A MAX. OF THE DEHYDROCHLORINATION RATE FOR III CONTG. SIMILAR TO 33PERCENT II (OVERLAPPING WITH THE MAX. NO OF I I II TRIADS IN III) AND A MIN. AT 50-60PERCENT II FOR III PROBABLY CONTG. II I II TRIADS; WHEREAS SIMILAR DECOMP. OF A MIXT. OF I AND II HOMOPOLYMERS SHOWED INCREASING DEHYDROCHLORINATION RATES APPROACHING THOSE OF III AT II CONCNS. GREATER THAN 60PERCENT. THUS, AT LESS THAN OR EQUAL TO 60PERCENT II CONTENT THERE WAS AN INTRAMOL. INFLUENCE BY II ON DEHYDROCHLORINATION OF I IN III; BUT AT GREATER THAN 60PERCENT II CONTENT, THE EFFECT WAS INTERMOL.

UNCLASSIFIED

1/2 008 UNCLASSIFIED
TITLE--MASSLESS AND MASSIVE YANG MILLS FIELD --U-- PROCESSING DATE--13NOV70
AUTHOR--(02)--SLAYNOV, A.A., FADDEYEV, L.D.
COUNTRY OF INFO--USSR S
SOURCE--TEORETICHESKAYA I MATEMATICHESKAYA FIZIKA, 1970, VOL 3, NR 1, PP
18-23
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--FIELD THEORY, S MATRIX
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3003/1022 STEP NO--UR/0646/70/003/001/0018/0023
CIRC ACCESSION NO--AP0130057
UNCLASSIFIED

2/2 008 UNCLASSIFIED PROCESSING DATE--13NOV70
CIRC ACCESSION NO--AP0130057
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE RELATIONSHIP BETWEEN THE
MASSLESS AND MASSIVE YANG MILLS THEORIES IS DISCUSSED. IT IS SHOWN THAT
THE MASSIVE THEORY S MATRIX IN THE LIMIT $M \rightarrow 0$ DOES NOT TURN INTO
THE MASSLESS THEORY S MATRIX UNLIKE THE CASE OF THE ABELIAN GAUGE GROUP.
FACILITY: MATEMICHESKIY INSTITUT IM. V. A. STEKLOVA AKADEMII
NAUK SSSR.

UNCLASSIFIED