USSR

UDC: 581.332.4

TOKAREV, A. M., TSUKAREV, E. A., Moscow Scientific Research and Design Institute of PERT Systems in Industry

"A Device for Modeling the Distribution of Resources"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 4, Feb 71, Author's Certificate No 292167, Division G, filed 14 Aug 69, published 6 Jan 71, p 133

Translation: This Author's Certificate introduces a device for modeling the distribution of resources. The device contains a photosensitive element with light source which rotates relative to a fixed scale, kipp oscillators, coincidence circuits, an adder and an oscillograph. As a distinguishing feature of the patent, the speed of the device is increased by connecting the output of the photoelectric element to the input of the network of kipp oscillators, which are interconnected in series through coincidence circuits. The outputs of the kipp oscillators are connected through the adder to the oscillograph.

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USSR

UDC 621.377.623.24-52:681.327.22(088.8)(47)

KOVALEV, A. M., TOKAREV, A. S.

"Device for Shaping Current in Deflecting Coils of Cathode Ray Tubes"

Ustroystvo dlya formirovaniya tokov v otklonyayushchikh katushkakh elektronnoluchevoy trubki (cf. English above), Institute of Automatics and Electrometry of the Siberian Department of the Academy of Sciences USSR, USSR Author's certificate, Class H 04 n 3/18, No 323869, announced 18 June 1970, published 9 February 1972 (from RZh-Avtomatika, telemekhanika i vychislitel'naya tekhnika, No 11, Nov 72, Abstract No 11B399 P)

Translation: A device is proposed which contains a dc amplifier with an oscillating circuit, a deflecting system, and a composite emitter repeater. The device is distinguished by the fact that in order to increase the rate of shaping the deflecting current, the dc amplifier output is connected to the input of the composite emitter repeater through an additional winding connected by induction with the winding of the deflecting system. The output of the repeater is connected to a supply source through a diode and connected with the collector of an output transistor, and a winding of the deflecting system is connected to the emitter circuit of this transistor. The base of the output transistor is connected through a stabilitron to the emitter of the first transistor of the composite emitter repeater. 1 ill.

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USSR

Devices

4

UDC 681.327

DOLGOVESOV, B. S., KOVALEV, A. M., KOTOV, V. N., LUBKOV, A. A., NESTERIKHIN, YU. YE., OBERTYSHEV, K. F., TOKAREV, A. S., YAKIMOVICH, A. P., Novosibirsk

"Problems of Constructing Devices for Operative Interaction of Man with a Computer"

Novosibirsk, Avtometriya, No 2, 1972, pp 35-39

Abstract: Two types of devices corresponding to the basic requirements for systems for operative interaction of man with a computer -- a computer operating in the time sharing mode and peripheral devices numbering from 1 to 1,000 -- have been developed at the Institute of Automation and Electrometry of the Siberian Department of the USSR Academy of Sciences. One of these devices -- the Ekran -- was discussed previously [B. S. Dolgovesov, et al, Avtometriya, No 4, 1971; B. S. Dolgovesov, et al., Avtometriya, No 4, 1971; A. M. Kovalev, et al., Avtometriya, No 4, 1971]. The other -- the Simbol -- is investigated in the present article. A block diagram of the Simbol alphanumeric system is presented, and the algorithms for the various operating modes of the system are discussed. The algorithms of all modes of the system are executed by means of a microprogrammed control circuit. An effort was made to achieve the fastest possible system for which the principal cycle of the microprogrammed control unit was reduced to a minimum. Where possible the single pulse instructions

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OLGOVESOV, B. S., et al., Avtometriya, No 2, 1972, pp 35-39

are processed simultaneously; a very high cycle frequency is selected -- 2.5 millihertz. The operating logic of the device can be changed. One of the basic parameters of the operative interaction device along with broad functional possibilities is the information capacity. Thus, much attention was given to the high speed of individual units, in particular, the speed of the symbol genorator. The programmed segment method was used as the basis for constructing the symbol generator which provides 1,024 symbols with an image regeneration frequency of 50 hertz. An example image photograph from the Simbol screen is shown.

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USSR

UDC 663.13.+66.093.8

TOKAREV, B. I., Candidate of Technical Sciences

"Protein From Nonfood Vegetable Raw Material"

Moscow, Zhurnal Vsesoyuznogo Khimicheskogo Obshchestva imeni D. I. Mendeleyev, Vol 17, No 5, 1972, pp 517-520

Abstract: Protein feed yeasts are now being produced by three industrial sectors in the USSR -- the microbiological, pulp and paper, and food industries. In the microbiological industry almost all production is concentrated in hydrolysis plants which process sawmill wastes, firewood and nonfood wastes of agriculture. The pulp and paper industry turns out yeasts by processing sulfite liquors. In the food industry yeasts are obtained mainly from alcohol plant wastes. Hydrolysis plants account for ~50 percent of the country's total protein feed yeast output. The production of feed yeasts from nonfood vegetable raw materials will play a leading role in the current five-year plan. Measures are being taken to accelerate the start-up of hydrolysis yeast plants that are under construction and bring large yeast production capacity on stream at a number of operating plants. The construction of new large-capacity hydrolysis yeast plants will also be launched, with four of them to come on stream by 1975. The raw material for these plants will be firewood with a

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USSR

TOKAREV, B. I., Zhurnal Vsesoyuznogo Khimicheskogo Obshchestva imeni D. I. Mendeleyev, Vol 17, No 5, 1972, pp 517-520

slight admixture of sawmilling and woodworking wastes. The new specialized hydrolysis yeast plants now in the planning and construction stage follow existing technology and use equipment analogous to existing equipment, but much larger in size. Modified percolation hydrolysis regimes have been developed. Two new methods have been suggested to provide more efficient biochemical processing of the hydrolyzates. In one, which so far has been checked only under laboratory conditions, the hydrolyzate is steam-blown at atmospheric pressure in a column-type apparatus. In the second simpler method, the hydrolyzate which has gone through the neutralization, sludge and cooling stages, is air-blown, resulting in partial removal of volatile impurities, oxidation of nonvolatile components and coagulation of colloids. Such methods assure the processing of the hydrolyzates in undiluted form, but since these methods have not yet had the proper industrial testing, existing hydrolysis yeast plants and those under construction use the process of yeast growing with dilution of the nutrient medium.

Feed yeasts as a rule are grown on prepared hydrolysis media at hydrolysis plants in air-lift yeast-growing equipment. Scientific research and design organizations of the hydrolysis industry have developed and tested new designs

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USSR

TOKAREV, B. I., Zhurnal Vsesoyuznogo Khimicheskogo Obshchestva imeni D. I. Mendeleyev, Vol 17, No 5, 1972, pp 517-520

for yeast-growing equipment with a productivity 30-40 percent greater than for existing equipment of the air-lift type. Some of these designs are being installed at hydrolysis yeast plants that are under construction. Fundamentally new intensive mass-exchange designs have recently been developed and are being tested.

In addition to upgrading the quality of hydrolysis media, developing optimal yeast-growing regimes and improving designs, it is also important to select fertile yeast strains which are stable in the hydrolysis media and grow faster.

The use of flotation simplifies the yeast separation concentration stage before drying. The sugar and yeast yield from wood can be increased by continuous methods of hydrolysis with diluted sulfuric acid and especially gaseous hydrogen chloride. Work is under way to create a hydrolysis apparatus with bottom feed of the raw material for continuous countercurrent hydrolysis of wood with diluted sulfuric acid. Lignin may be an important source for obtaining additional protein at hydrolysis plants. A closed water-utilization scheme is provided for planned and newly constructed hydrolysis yeast plants with maximum recycling of plant effluents. Estimates show that by making comprehensive use of the hydrolyzate components and by obtaining yeasts from lignin, the total biomass yield from a ton of wood can be brought up to 300-340 kg.

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USSR

UDC: 621.396.69:621.372.412

AKSHIN, A. I., VINTOVKIN, S. I., TITOV, V. I., TOKAREV, G. A.

"Effect of Ionizing Radiation on the Piezoelectric Properties of Quartz Plates"

V sb. Radiatsion. fiz. nemet. kristallov (Radiation Physics of Nonmetallic Crystals--collection of works), Minsk, "Nauka i tekhn.", 1970, pp 220-229 (from RZh-Radiotekhnika, No 2, Feb 71, Abstract No 2V483)

Translation: An investigation was made of the change in fundamental piezoelectric properties of AT- and DT-cut quartz plates at room temperature over a broad frequency range (300 kHz-10 MHz) exposed to X-radiation ($E \approx 400$ kev), gamma radiation (Co-60), a stream of electrons with energies of 0.2-1.0 and 2 MeV, protons (6.3 MeV) and alpha particles (25 MeV). It is shown that X-rays and gamma rays have an identical effect on the one hand, as do electrons of various energies on the other hand on changing the natural frequency of AT-cut quartz plates at doses of $\sim 2 \cdot 10^6$ rad. Four illustrations, bibliography of one title. N. K.

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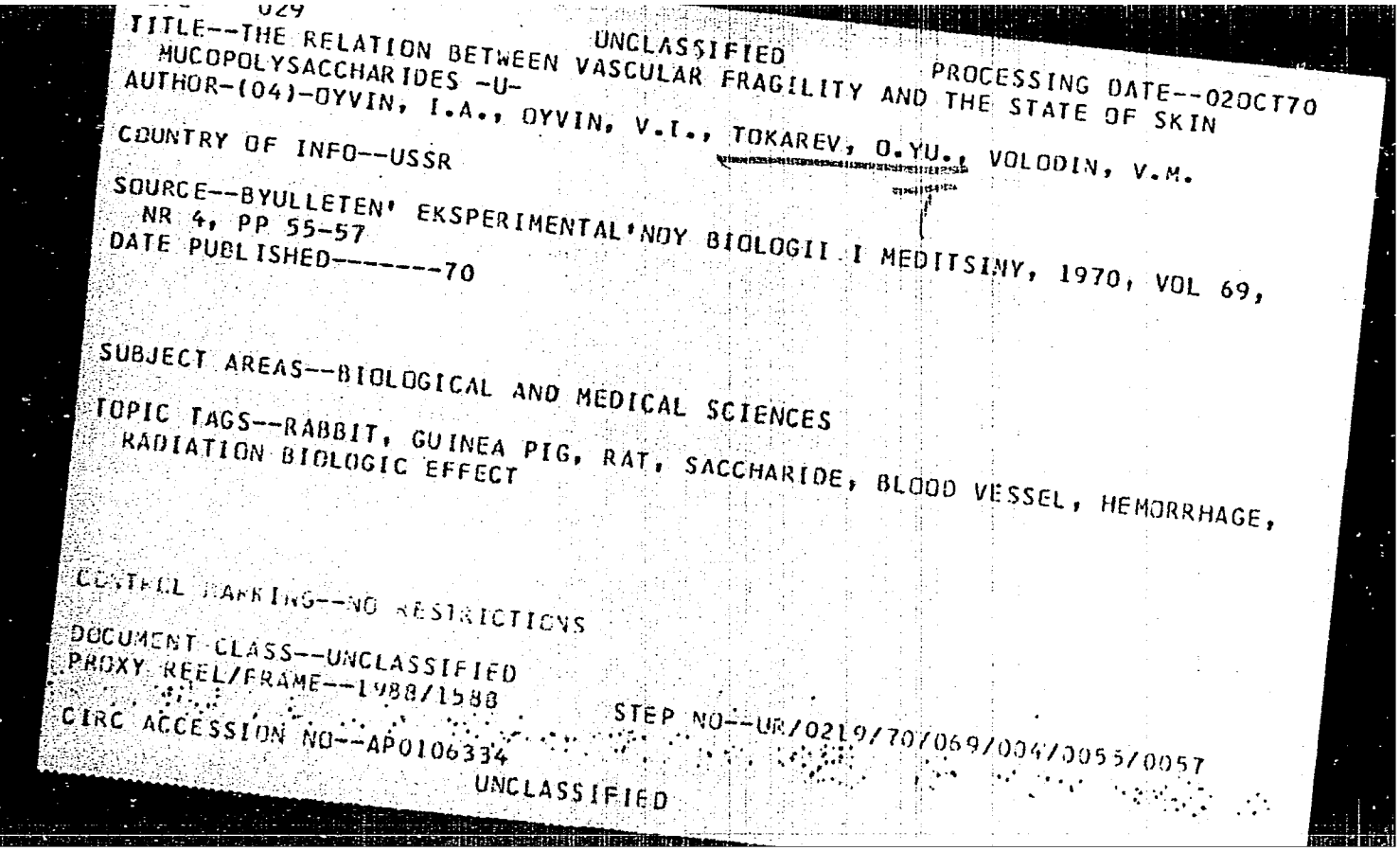


029

UNCLASSIFIED

TITLE--THE RELATION BETWEEN VASCULAR FRAGILITY AND THE STATE OF SKIN MUCOPOLYSACCHARIDES -U-

PROCESSING DATE--02OCT70

AUTHOR-(04)-OYVIN, I.A., OYVIN, V.I., TOKAREV, O.YU., VOLODIN, V.M.

COUNTRY OF INFO--USSR

SOURCE--BYULLETEN' EKSPERIMENTAL'NOY BIOLOGII I MEDITSINY, 1970, VOL 69, NR 4, PP 55-57

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--RABBIT, GUINEA PIG, RAT, SACCHARIDE, BLOOD VESSEL, HEMORRHAGE, RADIATION BIOLOGIC EFFECT

CONTROL MARKING--NO RESTRICTIONS

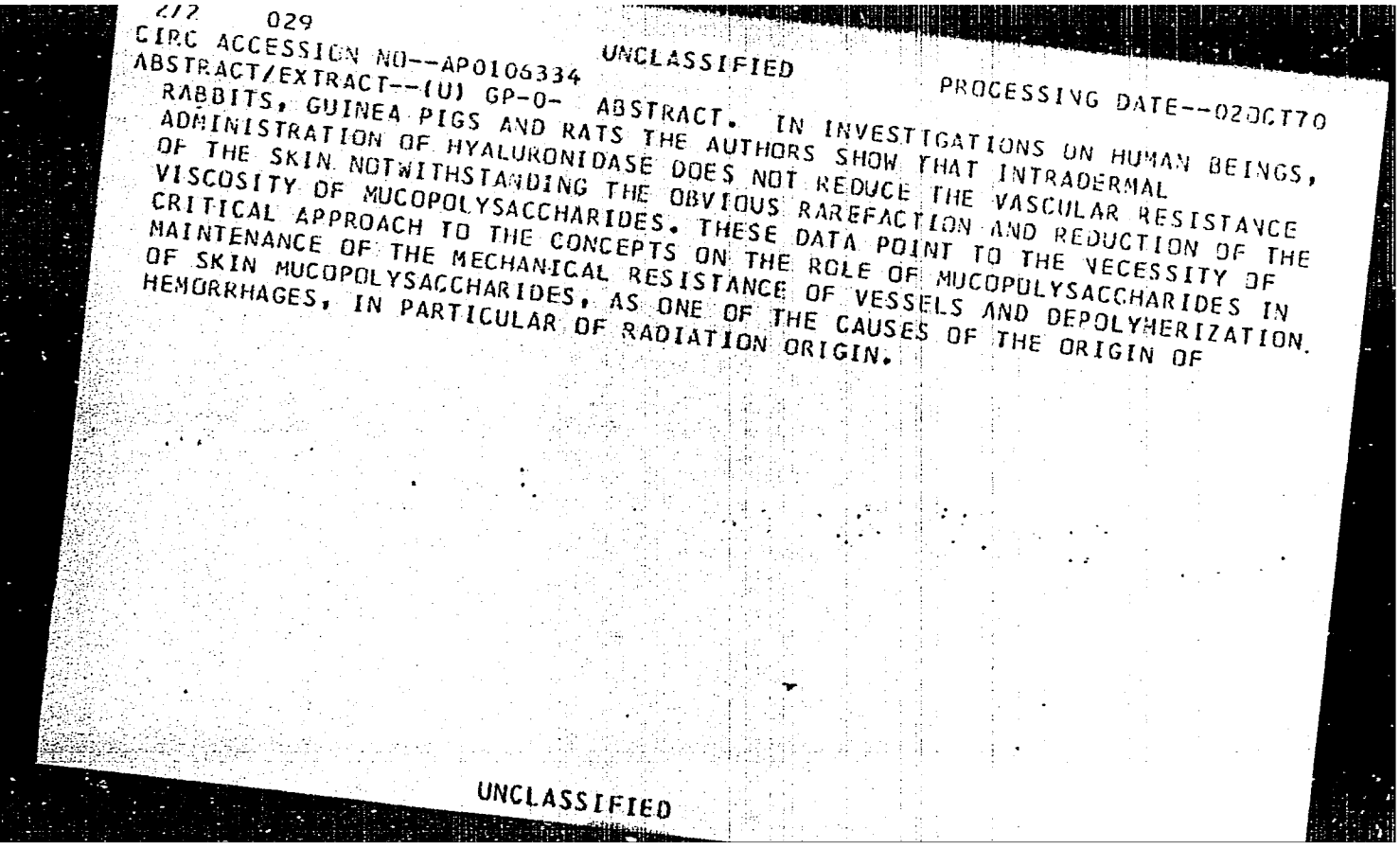
DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1988/1588

STEP NO--UR/0219/70/069/004/0055/0057

CIRC ACCESSION NO--AP0106334

UNCLASSIFIED



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UNCLASSIFIED

CIRC ACCESSION NO--AP0106334 PROCESSING DATE--02OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN INVESTIGATIONS ON HUMAN BEINGS, RABBITS, GUINEA PIGS AND RATS THE AUTHORS SHOW THAT INTRADERMAL ADMINISTRATION OF HYALURONIDASE DOES NOT REDUCE THE VASCULAR RESISTANCE OF THE SKIN NOTWITHSTANDING THE OBVIOUS RAREFACTION AND REDUCTION OF THE VISCOSITY OF MUCOPOLYSACCHARIDES. THESE DATA POINT TO THE NECESSITY OF CRITICAL APPROACH TO THE CONCEPTS ON THE ROLE OF MUCOPOLYSACCHARIDES IN MAINTENANCE OF THE MECHANICAL RESISTANCE OF VESSELS AND DEPOLYMERIZATION OF SKIN MUCOPOLYSACCHARIDES, AS ONE OF THE CAUSES OF THE ORIGIN OF HEMORRHAGES, IN PARTICULAR OF RADIATION ORIGIN.

UNCLASSIFIED

USSR

BUBNOV, Yu. Z., LUR'YE, M. S., TOKAREV, P. D. UDC 621.382

"A Device for Vacuum Application of Films of Semiconductor Compounds"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 22, Aug 71, Author's Certificate No 309416, Division H, filed 17 Feb 70, published 9 Jul 71, p 204

Translation: This Author's Certificate introduces a device for vacuum application of films of semiconductor compounds. The device contains an enclosed chamber in which the substrate is located together with a shield and the material to be vaporized. The unit also contains heating elements. As a distinguishing feature of the patent, films of stoichiometric composition and structure are produced by making the ratio of the length of the chamber to its diameter 0.5-1.5.

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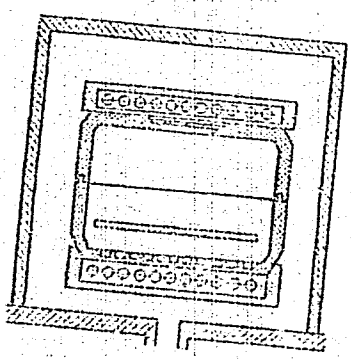
USSR

BUBNOV, Yu. Z., et al., Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 22, Aug 71, Author's Certificate No 309416, Division H, filed 17 Feb 70, published 9 Jul 71, p 204



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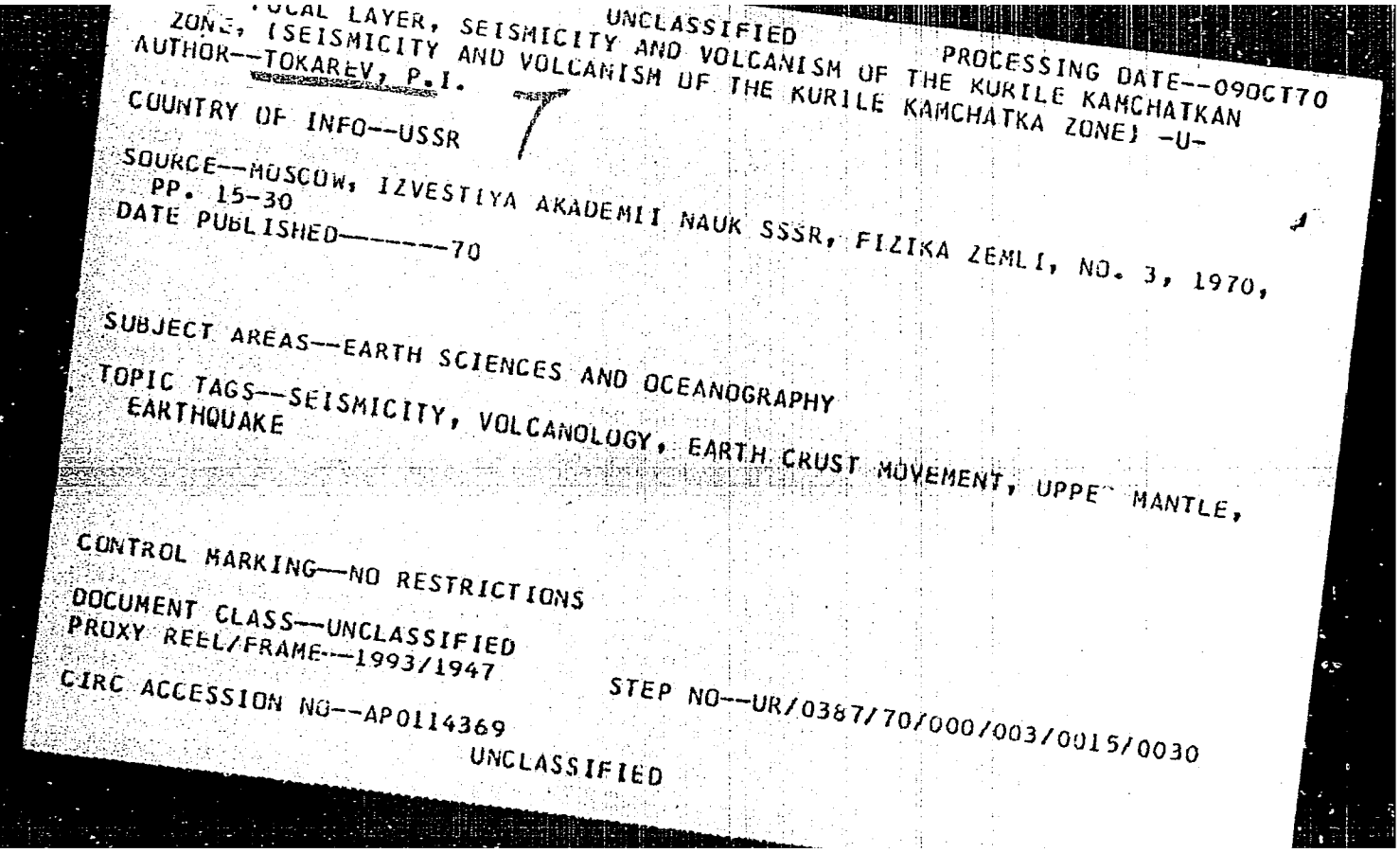

UNCLASSIFIED PROCESSING DATE--09OCT70

FOCAL LAYER, SEISMICITY AND VOLCANISM OF THE KURILE KAMCHATKAN ZONE, (SEISMICITY AND VOLCANISM OF THE KURILE KAMCHATKA ZONE) -U-

AUTHOR--TOKAREV, P.I.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, IZVESTIYA AKADEMII NAUK SSSR, FIZIKA ZEMLI, NO. 3, 1970, PP. 15-30

DATE PUBLISHED-------70

SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY

TOPIC TAGS--SEISMICITY, VOLCANOLOGY, EARTH CRUST MOVEMENT, UPPER MANTLE, EARTHQUAKE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1993/1947

STEP NO--UR/0387/70/000/003/0015/0030

CIRC ACCESSION NO--AP0114369

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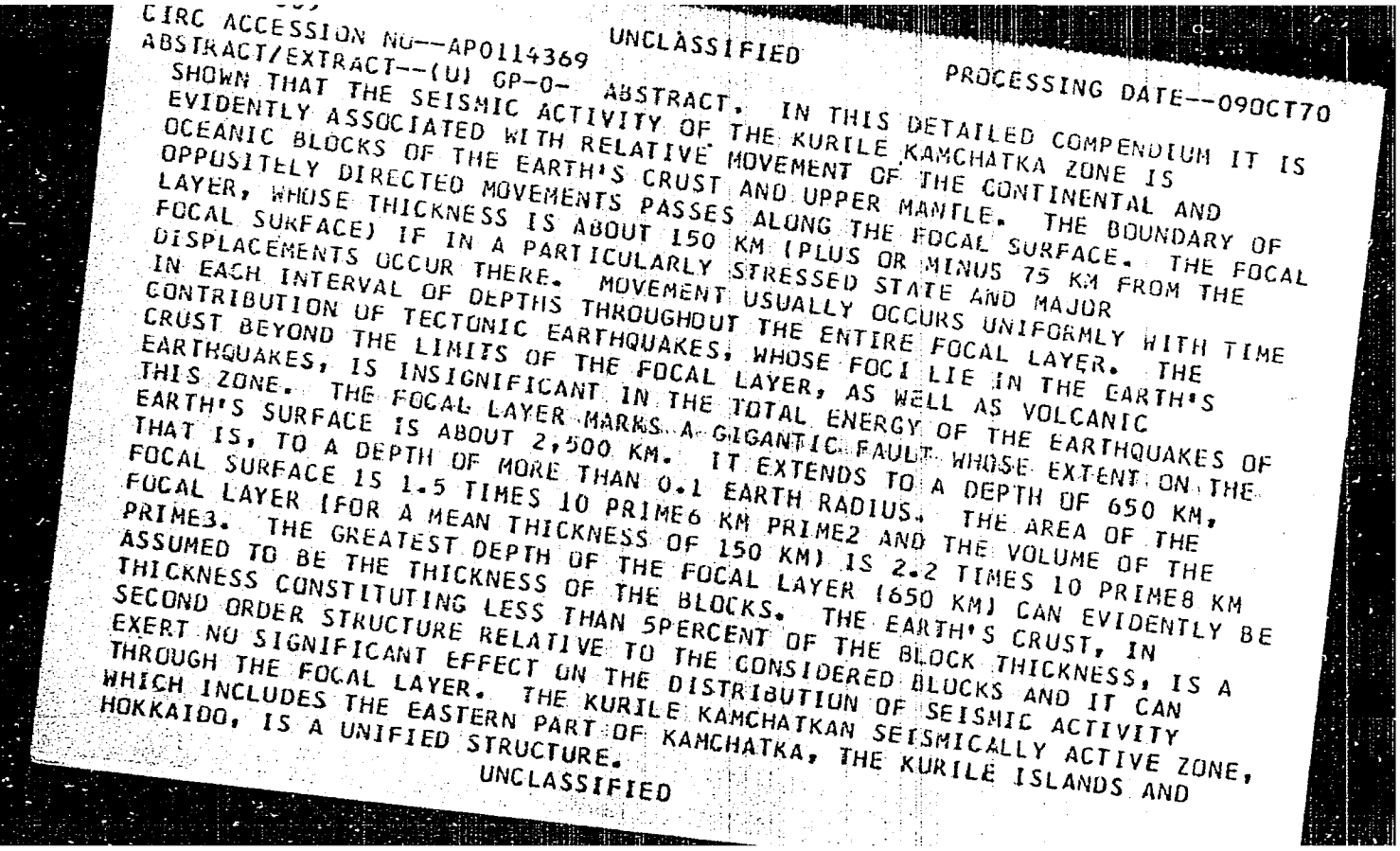

CIRC ACCESSION NO--AP0114369 UNCLASSIFIED PROCESSING DATE--09OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN THIS DETAILED COMPENDIUM IT IS SHOWN THAT THE SEISMIC ACTIVITY OF THE KURILE KAMCHATKA ZONE IS EVIDENTLY ASSOCIATED WITH RELATIVE MOVEMENT OF THE CONTINENTAL AND OCEANIC BLOCKS OF THE EARTH'S CRUST AND UPPER MANTLE. THE BOUNDARY OF OPPOSITELY DIRECTED MOVEMENTS PASSES ALONG THE FOCAL SURFACE. THE FOCAL LAYER, WHOSE THICKNESS IS ABOUT 150 KM (PLUS OR MINUS 75 KM FROM THE FOCAL SURFACE) IF IN A PARTICULARLY STRESSED STATE AND MAJOR DISPLACEMENTS OCCUR THERE. MOVEMENT USUALLY OCCURS UNIFORMLY WITH TIME IN EACH INTERVAL OF DEPTHS THROUGHOUT THE ENTIRE FOCAL LAYER. THE CONTRIBUTION OF TECTONIC EARTHQUAKES, WHOSE FOCI LIE IN THE EARTH'S CRUST BEYOND THE LIMITS OF THE FOCAL LAYER, AS WELL AS VOLCANIC EARTHQUAKES, IS INSIGNIFICANT IN THE TOTAL ENERGY OF THE EARTHQUAKES OF THIS ZONE. THE FOCAL LAYER MARKS A GIGANTIC FAULT WHOSE EXTENT ON THE EARTH'S SURFACE IS ABOUT 2,500 KM. IT EXTENDS TO A DEPTH OF 650 KM, THAT IS, TO A DEPTH OF MORE THAN 0.1 EARTH RADIUS. THE AREA OF THE FOCAL SURFACE IS 1.5 TIMES 10 PRIME6 KM PRIME2 AND THE VOLUME OF THE FOCAL LAYER (FOR A MEAN THICKNESS OF 150 KM) IS 2.2 TIMES 10 PRIME8 KM PRIME3. THE GREATEST DEPTH OF THE FOCAL LAYER (650 KM) CAN EVIDENTLY BE ASSUMED TO BE THE THICKNESS OF THE BLOCKS. THE EARTH'S CRUST, IN THICKNESS CONSTITUTING LESS THAN 5PERCENT OF THE BLOCK THICKNESS, IS A SECOND ORDER STRUCTURE RELATIVE TO THE CONSIDERED BLOCKS AND IT CAN EXERT NO SIGNIFICANT EFFECT ON THE DISTRIBUTION OF SEISMIC ACTIVITY THROUGH THE FOCAL LAYER. THE KURILE KAMCHATKAN SEISMICALLY ACTIVE ZONE, WHICH INCLUDES THE EASTERN PART OF KAMCHATKA, THE KURILE ISLANDS AND HOKKAIDO, IS A UNIFIED STRUCTURE.

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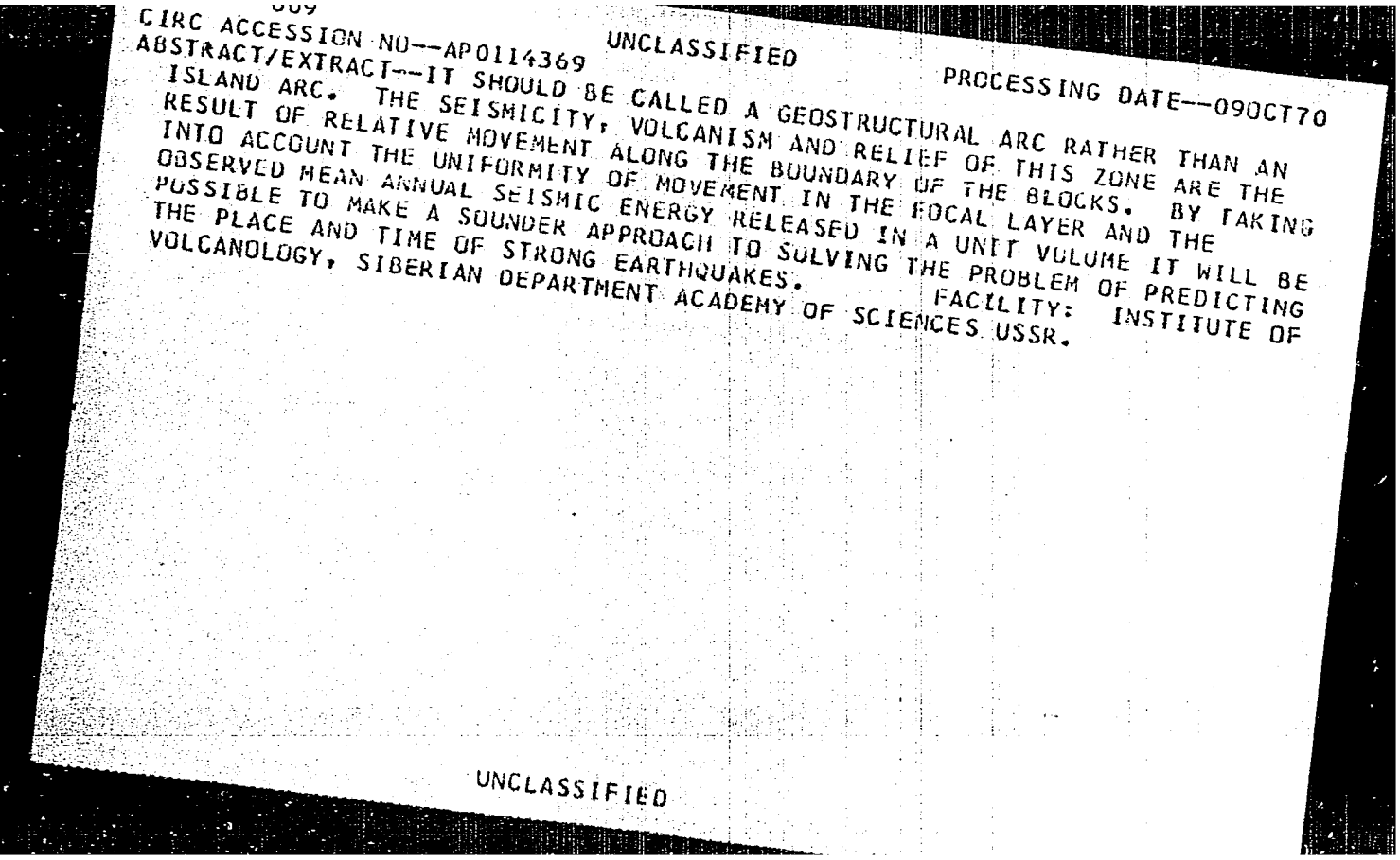

009
CIRC ACCESSION NO--AP0114369 UNCLASSIFIED PROCESSING DATE--090CT70
ABSTRACT/EXTRACT--IT SHOULD BE CALLED A GEOSTRUCTURAL ARC RATHER THAN AN ISLAND ARC. THE SEISMICITY, VOLCANISM AND RELIEF OF THIS ZONE ARE THE RESULT OF RELATIVE MOVEMENT ALONG THE BOUNDARY OF THE BLOCKS. BY TAKING INTO ACCOUNT THE UNIFORMITY OF MOVEMENT IN THE FOCAL LAYER AND THE OBSERVED MEAN ANNUAL SEISMIC ENERGY RELEASED IN A UNIT VOLUME IT WILL BE POSSIBLE TO MAKE A SOUNDER APPROACH TO SOLVING THE PROBLEM OF PREDICTING THE PLACE AND TIME OF STRONG EARTHQUAKES. FACILITY: INSTITUTE OF VOLCANOLOGY, SIBERIAN DEPARTMENT ACADEMY OF SCIENCES USSR.

UNCLASSIFIED

USSR

UDC 621.771.073.8.9

KREKNIN, L.T., SHAVRIN, O.I., TREFILOV, V.G., DMITROV, L.N., BRYNDIN, V.V., and TOKAREV, P.S., Izhevsk Metallurgical Plant

"Thermomechanical Treatment of Cold Rolling Rollers"

Moscow, Metallurg, No 9, Sep 71, pp 31-32

Abstract: A method of high-temperature thermomechanical treatment of cold rolling rollers 20-40 mm in diameter is described. The HRC hardness obtained is not less than 60-62 and the depth of the hardened layer is about 4-5 mm. By varying process parameters, any desired layer depth can be obtained. A comparison of microstructure of samples after thermomechanical treatment at a depth of 5 mm and after conventional high-frequency hardening at 1.5-3 mm shows that in the latter case the martensite needles are smaller.

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TOKAREV, S.I.

JPRS 56,459

14 July 72

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EFFECT OF A MODIFIED ATMOSPHERE ON BLOOD ACID-ALKALI EQUILIBRIUM

[Article by S.I. Tokarev, Moscow, Aviatsionno-kosmicheskaya meditsina, Russian, 1971, pp 260-262]

We studied blood acid-alkali equilibrium during man's five-day confinement in a medium with a high CO_2 content (PCO_2 22.8-45.6 mm Hg) during prolonged experiments. During man's five-day confinement during prolonged exposure in the pit (by 0.01-0.145) and an increase in a medium (liter). A shift in the level of true bicarbonates (TB) (by 3-8 meq/ is direction of a respiratory nature was established in an acid- during presence in an atmosphere with PCO_2 = 22.8 mm Hg. With PCO_2 = 30.4 mm Hg, on the first day there was evidence of decompensated compensation, but on the days which followed acidosis was also completely compensated. A further increase in PCO_2 in the sur- rounding medium (PCO_2 = 38 and 45.6 mm Hg) led to the develop- ment of decompensated shifts in pH of a respiratory and meta- bolic nature. Accordingly, during prolonged (up to five days) presence in a hypercapnic medium the human body can adapt quite fully to an increased CO_2 concentration (up to 22.8 mm Hg).

Due to the possible use of an atmosphere at reduced at- mospheric pressure in the cabins of spaceships it was of inter- est to investigate the blood acid-alkali equilibrium during pro- longed presence in a hypercapnic atmosphere at reduced at- mospheric pressure when there are normal and reduced O_2 content. this purpose two experiments were conducted in the pressure chamber (two men in each experiment) with prolonged barometr- ic pressure when there are normal and reduced O_2 content. For days) presence in an atmosphere with a pressure of 760 mm Hg (two persons) with PCO_2 = 22.8 mm Hg and 30.0 mm Hg at an altitude" of 5,000 m at normal PO_2, one experiment (two persons) with presence in an atmosphere with PCO_2 = 22.8 mm Hg during hypoxia and a rarefaction corresponding to an alti- tude of 3,200 m, and two experiments (each with two men) with a constantly increasing PO_2 and decreasing PO_2. It was established as a result of these investigations that measurements of

USSR

UDC 613.164(574.31-25)

TOKAREV, V. A., Kazakh Institute of Industrial Hygiene and Occupational Diseases, Karaganda

"A Noise Map of Karaganda"

Moscow, Gigiyena i Sanitariya, No 12, 1972, pp 38-42

Abstract: The average noise levels in the Kazakh city of Karaganda are very high, ranging from 59 db on residential streets to 78 db on the main thoroughfares. The enormous volume of round-the-clock motor traffic, especially diesel trucks, is the most important factor. The streets are mostly narrow and there are no buffer zones or landscaping between the residential quarters and the numerous automobiles, trucks, and motorcycles. A map with different colors reflecting the various noise levels of the through and local streets is useful in showing where corrective measures could be taken to increase the "acoustic comfort" of the residents. Some specific suggestions are offered for this purpose.

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USSR

TOKAREV, V. A., Kazakh Scientific Research Institute of Labor Hygiene and Occupational Diseases

"Hygienic Evaluation of Transportation Noise in the Main Throughfare Streets of Karaganda"

Alma-Ata, Zdravookhraneniye Kazakhstana, No 6, 1972, pp 10-11

Abstract: Karaganda's inadequately planned growth has brought about traffic congestion, accident hazard, and loud noise. In narrow streets and on intersections, noise produced by trucks, buses, motorcycles, and motor bikes reaches 100 db in low (63 c/sec) and medium (500 c/sec) frequencies. The main throughfares, which are frequently intersected by cross roads and railroad lines, have a drive way width of 7-9 m, a side walk width of 1.5-3 m, and a traffic rate of 255-1,250 vehicles/hr. In a recent interview with 2,075 persons residing along the busy routes, 95-100% complained of penetrating noise upsetting their lives, with 40-65% specifically complaining of disturbed sleep, mental work, and entertainment (radio and television). Most (67%) of those living in street-facing rooms are unable to open their windows in the summer. The noise is heard inside apartments 24 hrs per day in 37%, between 0600 and 2400 in 32%, and between 0700 and 2300 in 30%. The following recommendations are

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USSR

TOKAREV, V. A., Zdravookhraneniye Kazakhstana, No 6, 1972, pp 10-11

made: improving road surface; building wide roads (100-120 m) divided into speed lanes; planting hedges and trees between the road, sidewalk, screening buildings (stores, restaurants, and other municipal facilities), and apartment houses; constructing under- and overpasses for pedestrians; and building through-fare routes around the city.

2/2

USSR

TOKAREV, V. F. UDC: 621.372.412

"On the Problem of Optimum Synthesis of a Low-Noise Multistage SHF Oscillator"

Moscow, Radiotekhnika i Elektronika, Vol 15, No 12, Dec 70, pp 2555-2558

Abstract: The author investigates the effect which the frequency of a master quartz-crystal oscillator has on the noise properties of a multistage SHF oscillator in the presence of sources of wide-band noise and fluctuations of the input capacitance of active nonlinear elements in its stages. The optimum frequencies of a quartz-crystal oscillator which minimize noises in the output oscillations are determined for given criteria.

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USSR

VALEYEV, K. G., MEL'NIKOV, B. N., TOKAREV, V. I., and SHMAKOV, I. P.

UDC 533.652/.661.013

"Method of Determining the Optimal Takeoff Envelope of an Aircraft With Minimum Localized Noise"

Samolestostr. i tekhn. vozd. flota. Resp. mezhved. nauchno-tekhn. sb. (Aircraft Construction and the Technical Air Fleet, Republic Interdepartmental Scientific-Technical Collection), Vypusk (Issue) 21, 1970, pp 27-31 (from RZh-Mekhanika, No 12, Dec 70, Abstract No 12B353, by G. S. Aronin)

Translation: A solution to a system of equations of aircraft motion in the vertical plane at takeoff forming a noise criterion at a minimum is derived. The surface density of acoustic energy swept along during the takeoff period at a given point at a location lying in the plane of the takeoff trajectory is adapted as the noise criterion. The problem is solved by a method based on a study of the first variation of a functional characterizing the noise criterion adopted. The angle of attack and the thrust are chosen as the control functions. Results of calculations of the takeoff trajectory, optimal in the sense described above, of an aircraft with characteristics similar to the Tu-124 are presented. The angle of attack

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USSR

VALEYEV, K. G., et al., Samolestostro. i tekhn. vozd. flota. Resp. mezhved. nauchno-tekhn. sb. (Aircraft Construction and the Technical Air Fleet, Republic Interdepartmental Scientific-Technical Collection), Vypusk (Issue) 21, 1970, pp 27-31 (from RZh-Mekhanika, No 12, Dec 70, Abstract No 12B353, by G. S. Aronin)

bounded from below and from above was chosen as the control parameter. Based on analysis of the calculations, it was noted that to reduce the flight noise the aircraft velocity in approaching the listening point must be increased. This method of piloting can prove very effective for aircraft with high thrust-to-load ratios.

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USSR

UDC: 628.1.034:628.175:628.3

TOKAREV, V. I., and TOKAREVA, L. R., Donetsk Universary

"Method of Processing Waste Water from the Production of Basic Fuchsin for Microbiological Purposes"

USSR Author's Certificate No 239473, filed 6/12/67, published 25/07/69, (Translated from Referativnyy Zhurnal Khimiya, No 3, Vol 2, 10 Feb 70, Abstract No 3 I519 P)

Translation: The method suggested differs in that in order to exclude discharge of waste waters into bodies of water, decrease water consumption and the liberation of anthranilic acid, the filtrate, after precipitation of the basic fuchsin, is treated with caustic soda to pH ≈ 4.8 with subsequent distillation of water and sublimation of the solid residue.

M. N.

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USSR

UDC: 621.73.042

GENERSON, I. G., KHINSKIY, P. D., TOKAREV, V. N., LIBMAN, P. M., KRYLOV, V. N.

"New Technology for Production of Forgings of Large Turbine Wheels"

Kuznechno-Shtampovochnoye Proizvodstvo, No 1, Jan 73, pp 3-7.

Abstract: The Neva Machine Building Plant imeni V. I. Lenin has developed a new technology for the production of forgings of large turbine discs, assuring high metal quality. The technological features of the new process are as follows: 1. The discs are made of steel melted in an arc electric furnace by the method of deep decarburization. 2. During pouring of the steel into ingots of relatively small size, designed to yield one disc per ingot, the steel is evacuated. 3. An increased volume of metal is removed from the axial zone of the ingot. The primary stages of experimental work in production of turbine discs by the new technological process and results of their examination are presented.

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USSR

TOKAREV, V. V. (Moscow)

UDC 62-50

"Optimization of Parameters of a Dynamic System, Universal for a Series of Maneuvers Under Various Degrees of Informability. III. Choice of Universal System, Given Incomplete Information on Maneuvers (Game Approach)"

Moscow, Avtomatika i Telemekhanika, No 11, Nov 71, pp 5-17

Abstract: The article considers the problem of the optimal design of a dynamic system which is universal for a given class of maneuvers when there is incomplete information on the maneuver parameters (a game approach). The following problems are formulated:

1. There is no a priori or current information on maneuvers. All that is known is the set Y_0 of possible values y of the parameters of a maneuver. The choice of system x (from among those designed) to perform the next maneuver must be made before its parameters are known: i.e., the strategies of the designer cannot be the functions $x(y)$. This is a limiting case of the one considered in an earlier article by the author and R. N. OVSYANNIKOV.

USSR

TOKAREV, V. V., Avtomatika i Telemekhanika, No 11, Nov 71, pp 5-17

2. There is no a priori information, but current information is being received. Of a priori data, the designer, as in the first case, has knowledge only of the set Y_o. Before the next maneuver begins, its parameters become known.

3. There is complete a priori information but no current information. Before the commencement of designing the set Y_o and the distribution ν (Y) of the maneuver, recurrence rate by types are known. The system to perform the next maneuver is to be indicated before the parameters of this maneuver become known.

Solution algorithms are given, and analytic and numerical results are presented for an example from flight mechanics involving (1) the choice of a universal propulsion system of limited power in the absence of maneuver information or (2) the choice of a given number of propulsion systems of limited power in the presence of current, and absence of, a priori maneuver information.

2/2

USSR

GRAFMAN, Z. I., TOKAREV, ZH. V.

UDC 669.71.042.6

"Effect of the Structural Design of the Pouring Gate System on the Formation of Pores in Castings Made of AL9 Alloy When Feeding the Metal from the Bottom"

Usadochn. protessy v splavakh i otlivkakh -- V sb. (Shrinkage Processes in Alloys and Castings -- collection of works), Kiev, Naukova Dumka Press, 1970, pp 308-310 (from RZh-Metallurgiya, No 4, Apr 71, Abstract No 4G186)

Translation: A method and results of studying the effect of the structural design of the pouring gate system on the formation of defects of a shrinkage origin when feeding the metal into the mold from the bottom are presented. Recommendations are developed for selecting the structural designs of pouring gate systems corresponding to obtaining tight castings from alloys based on aluminum.

1/1

USSR

UDC: 621.373.826

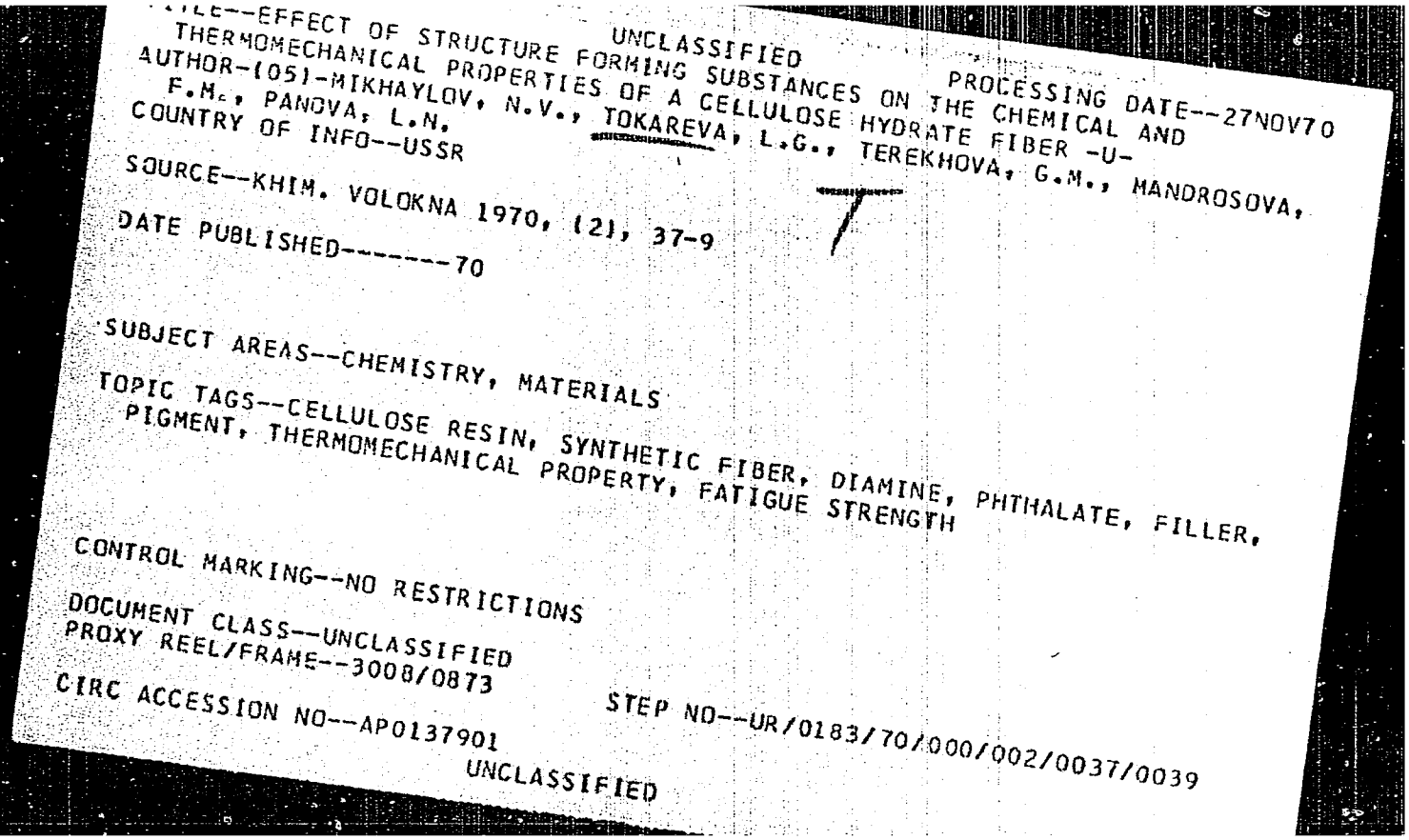
PODGAYETSKIY, V. M., SKVORTSOV, B. V., TOKAREVA, A. N., BARABANOVA, V. N.

"A Gas-Discharge Flash Tube for Laser Pumping"

USSR Author's Certificate No 313241, filed 20 Jan 70, published 24 Apr 72 (from RZh-Radiotekhnika, No 12, Dec 72, abstract No 12D259P)

Translation: This Author's Certificate introduces a gas-discharge flash tube for laser pumping. The device contains electrode units and an optically transparent envelope filled with the working gas. To increase the effectiveness of pumping a neodymium glass active body, a mixture containing at least two inert gases under a pressure of from 200 to 600 mm Hg is used as the working gas. The following mixtures can be used: a mixture of xenon and krypton in a ratio of $\frac{1}{2}:\frac{1}{2}$ (by volume) under a pressure of 350-450 mm Hg with a discharge gap 11-12 mm in diameter; a mixture of xenon and neon in a ratio of $\frac{3}{5}:\frac{2}{5}$ (by volume) under a pressure of 350-450 mm Hg with a discharge gap 11-12 mm in diameter; a mixture of xenon, krypton and neon in a ratio of $\frac{1}{3}:\frac{1}{3}:\frac{1}{3}$ (by volume) under a pressure of 550-650 mm Hg for a discharge gap diameter of 11-12 mm, or a mixture of xenon and helium in a ratio of $\frac{9}{10}:\frac{1}{10}$ (by volume) under a pressure of 350-450 mm Hg with a discharge gap diameter of 11-12 mm.

1/1



TITLE--EFFECT OF STRUCTURE FORMING SUBSTANCES ON THE CHEMICAL AND THERMOMECHANICAL PROPERTIES OF A CELLULOSE HYDRATE FIBER -U-

AUTHOR-(05)-MIKHAYLOV, N.V., TOKAREVA, L.G., TEREKHOVA, G.M., MANDROSOVA, F.M., PANOVA, L.N.

COUNTRY OF INFO--USSR

SOURCE--KHIM. VOLOKNA 1970, (2), 37-9

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--CELLULOSE RESIN, SYNTHETIC FIBER, DIAMINE, PHTHALATE, FILLER, PIGMENT, THERMOMECHANICAL PROPERTY, FATIGUE STRENGTH

CONTROL MARKING--NO RESTRICTIONS

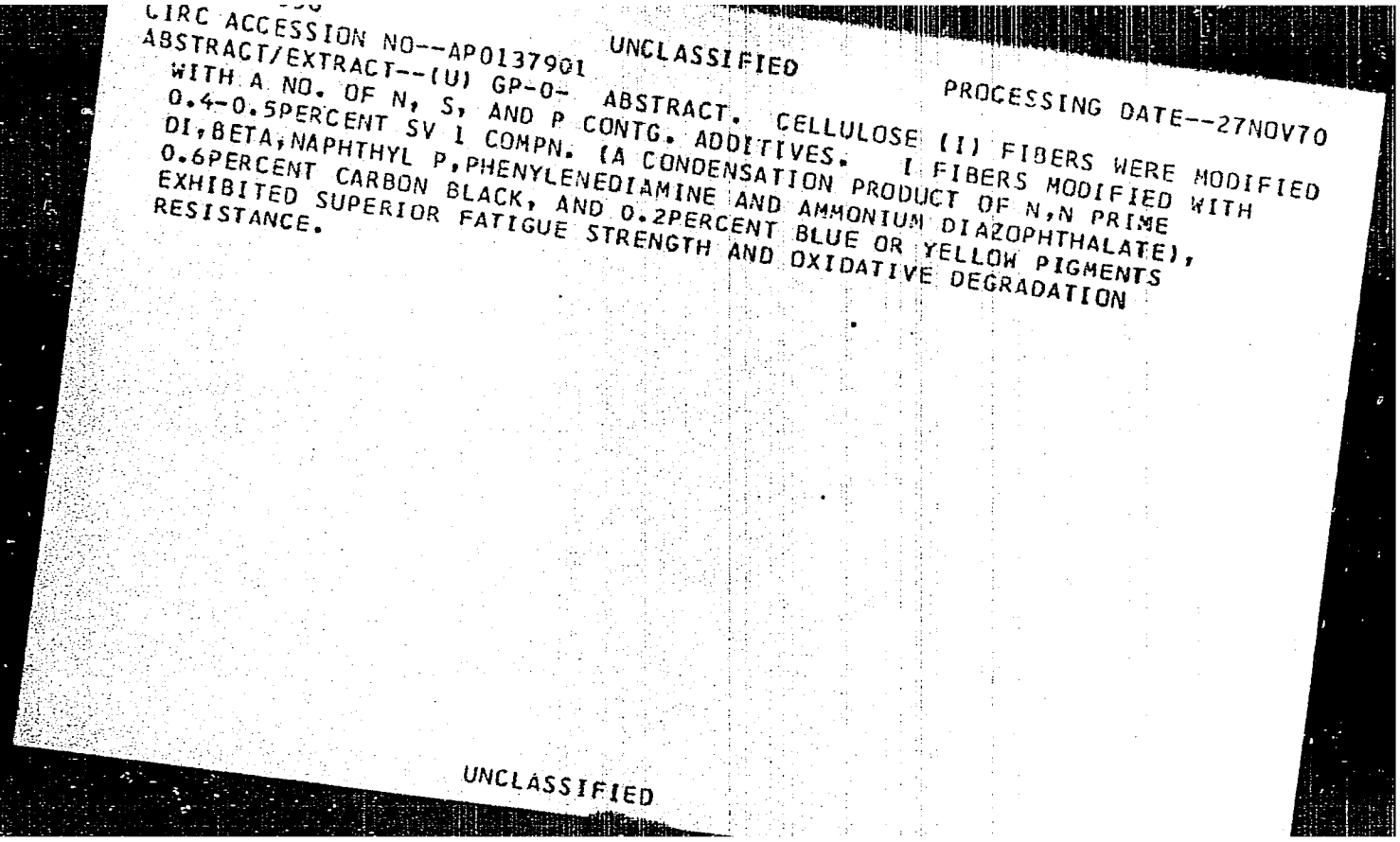
DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3008/0873

STEP NO--UR/0183/70/000/002/0037/0039

CIRC ACCESSION NO--AP0137901

UNCLASSIFIED



CIRC ACCESSION NO--AP0137901 UNCLASSIFIED PROCESSING DATE--27NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CELLULOSE (I) FIBERS WERE MODIFIED WITH A NO. OF N, S, AND P CONTG. ADDITIVES. I FIBERS MODIFIED WITH 0.4-0.5PERCENT SV I COMPN. (A CONDENSATION PRODUCT OF N,N PRIME DI,BETA,NAPHTHYL P,PHENYLENEDIAMINE AND AMMONIUM DIAZOPHTHALATE), 0.6PERCENT CARBON BLACK, AND 0.2PERCENT BLUE OR YELLOW PIGMENTS EXHIBITED SUPERIOR FATIGUE STRENGTH AND OXIDATIVE DEGRADATION RESISTANCE.

UNCLASSIFIED

USSR

UDC 621.762.002.5(088.8)

DRUSHININ, L. K., LIEPINA, YE. D., KUVSHINOV, P. S., SIMONOV, L. P., SAFRONOV, B. V., PERFILOV, L. S., and TOKAREVA, L. I.

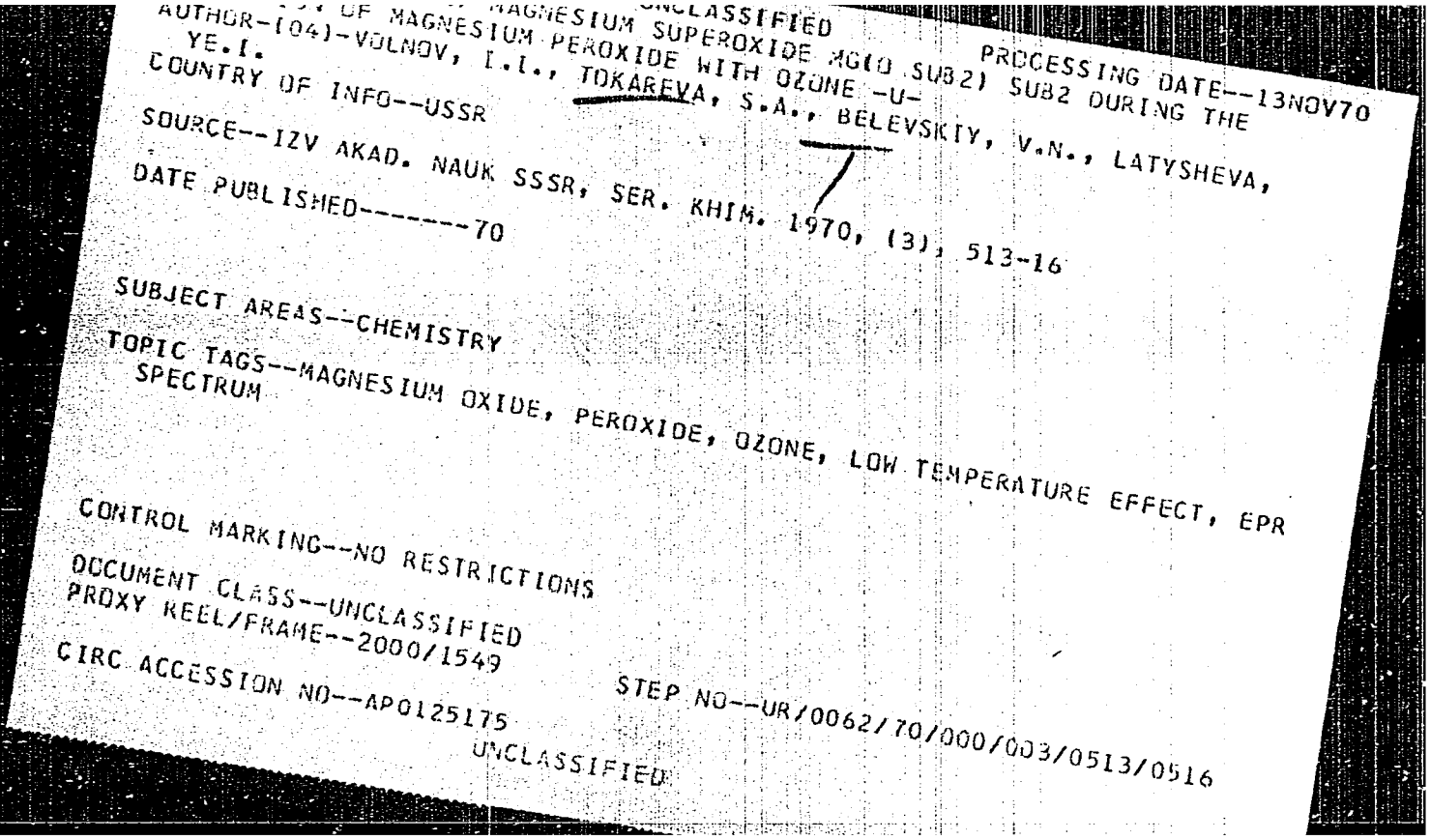
"Apparatus for Making Powders and Granules by Centrifugal Pulverization of Melt"

Ussr Authors' Certificate No 272501, Cl. 31 b^3, 9/00; 49 1, 3, $\lceil$B 22 f 9/00, B 05 b 3/12$\rceil$, filed 12 Sep 68, published 2 Sep 70 (from RZh-Metallurgiya, No 3, Mar 71, Abstract No 3G470P by G. Derkacheva)

Translation: An apparatus is suggested for making powders and granules by centrifugal pulverization of a melt. The apparatus consists of a rotating ring with a hole in the bottom for delivery of the material to be pulverized, a local heat source situated above this material, and a cooler which is unique in that, in order to increase powder and granule quality, it is rigidly fastened to the outside of the ring.

1/1

- 6 -



UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--[illegible] OF MAGNESIUM SUPEROXIDE MGO (SUB2) SUB2 DURING THE REACTION OF MAGNESIUM PEROXIDE WITH OZONE -U-

AUTHOR-(04)-VOLNOV, I.I., TOKAREVA, S.A., BELEVSKIY, V.N., LATYSHEVA, YE.I.

COUNTRY OF INFO--USSR

SOURCE--IZV AKAD. NAUK SSSR, SER. KHIM. 1970, (3), 513-16

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--MAGNESIUM OXIDE, PEROXIDE, OZONE, LOW TEMPERATURE EFFECT, EPR SPECTRUM

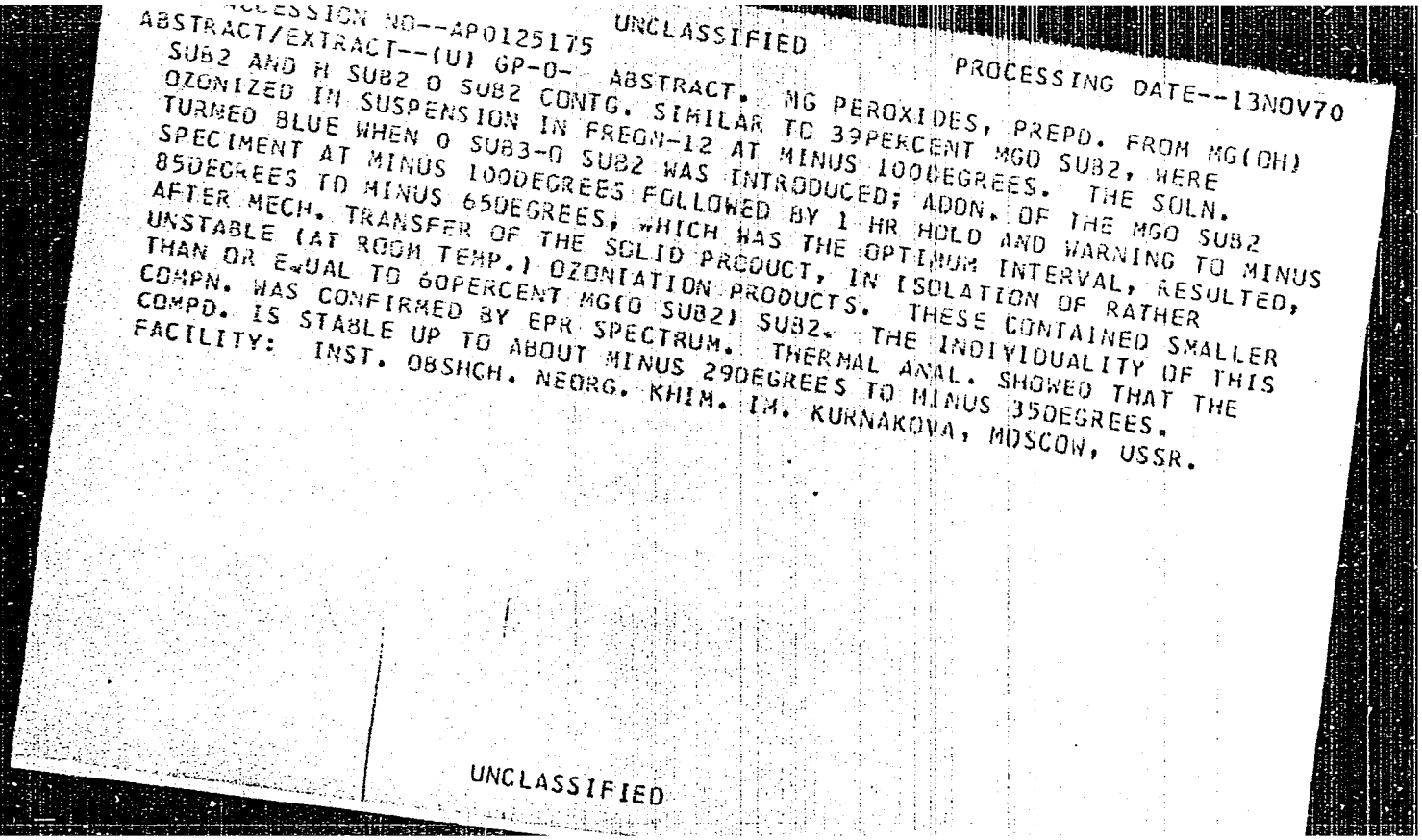
CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/1549

CIRC ACCESSION NO--AP0125175 STEP NO--UR/0062/70/000/003/0513/0516

UNCLASSIFIED

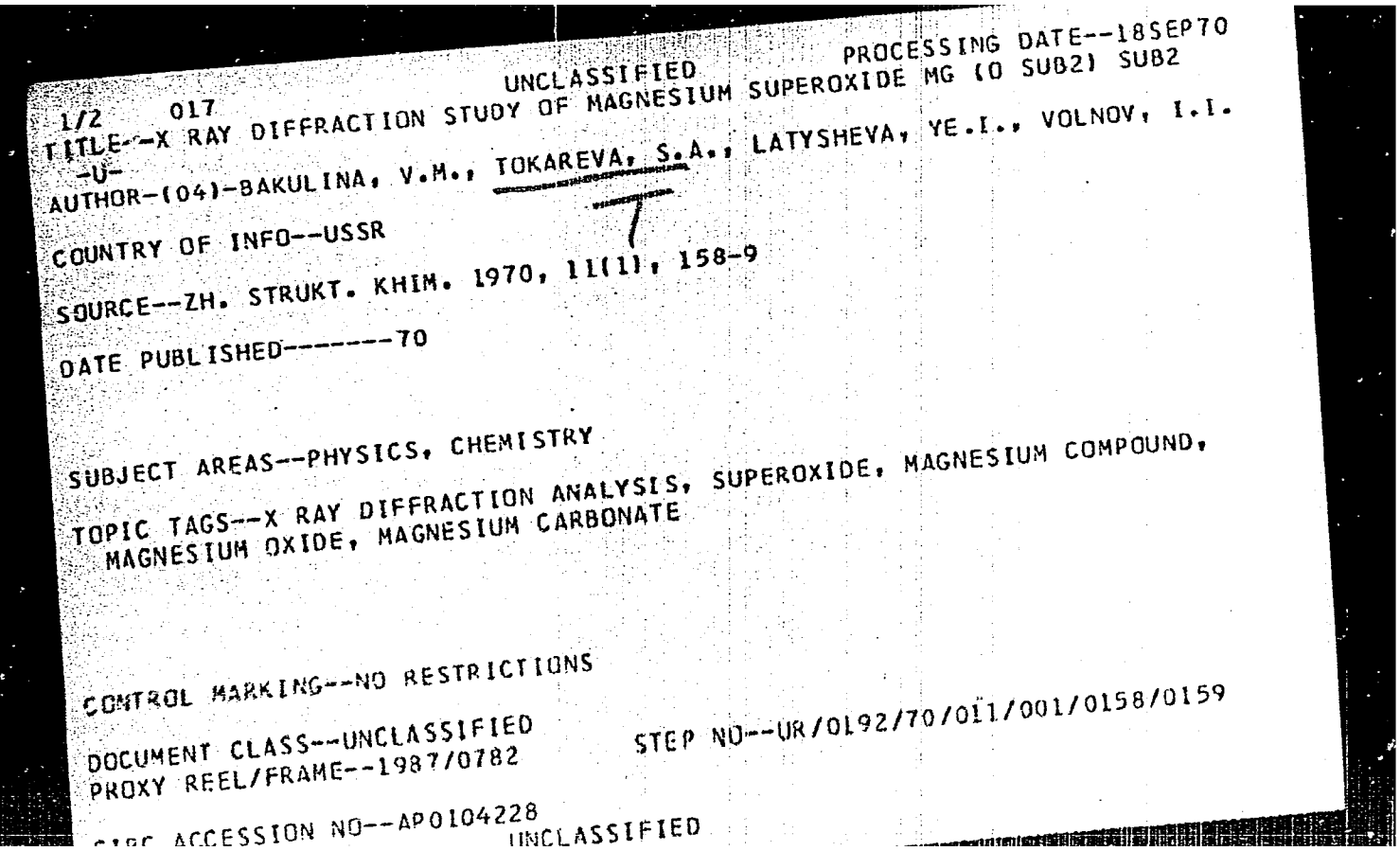


ACCESSION NO--AP0125175 UNCLASSIFIED PROCESSING DATE--13NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. MG PEROXIDES, PREPD. FROM MG(OH) SUB2 AND H SUB2 O SUB2 CONTG. SIMILAR TO 39PERCENT MGO SUB2, WERE OZONIZED IN SUSPENSION IN FREON-12 AT MINUS 100DEGREES. THE SOLN. TURNED BLUE WHEN O SUB3-O SUB2 WAS INTRODUCED; ADDN. OF THE MGO SUB2 SPECIMENT AT MINUS 100DEGREES FOLLOWED BY 1 HR HOLD AND WARNING TO MINUS 85DEGREES TO MINUS 65DEGREES, WHICH WAS THE OPTIMUM INTERVAL, RESULTED, AFTER MECH. TRANSFER OF THE SOLID PRODUCT, IN ISOLATION OF RATHER UNSTABLE (AT ROOM TEMP.) OZONIATION PRODUCTS. THESE CONTAINED SMALLER THAN OR EQUAL TO 60PERCENT MG(O SUB2) SUB2. THE INDIVIDUALITY OF THIS COMPN. WAS CONFIRMED BY EPR SPECTRUM. THERMAL ANAL. SHOWED THAT THE COMPD. IS STABLE UP TO ABOUT MINUS 29DEGREES TO MINUS 35DEGREES.

FACILITY: INST. OBSHCH. NEORG. KHIM. IM. KURNAKOVA, MOSCOW, USSR.

UNCLASSIFIED



1/2 017 UNCLASSIFIED PROCESSING DATE--18SEP70

TITLE--X RAY DIFFRACTION STUDY OF MAGNESIUM SUPEROXIDE MG (O SUB2) SUB2 -U-

AUTHOR-(04)-BAKULINA, V.M., TOKAREVA, S.A., LATYSHEVA, YE.I., VOLNOV, I.I.

COUNTRY OF INFO--USSR

SOURCE--ZH. STRUKT. KHIM. 1970, 11(1), 158-9

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS, CHEMISTRY

TOPIC TAGS--X RAY DIFFRACTION ANALYSIS, SUPEROXIDE, MAGNESIUM COMPOUND, MAGNESIUM OXIDE, MAGNESIUM CARBONATE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1987/0782 STEP NO--UR/0192/70/011/001/0158/0159

CIRC ACCESSION NO--AP0104228 UNCLASSIFIED

2/2 017 UNCLASSIFIED PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0104228

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SAMPLES OF OZONIZED MGO SUB2 CONTG. 60PERCENT MG(O SUB2) SUB2, 20PERCENT MG(OH) SUB2, 10PERCENT MGO SUB2, AND 4-5PERCENT MGCO SUB3 WERE EXAMD. BY POWDER, PHOTOGRAPHIC METHOD (CAMERA DIAM. 86 MM, CU KALPHA) AT LIQ. N TEMP. THE LINES CORRESPONDING TO MG(O SUB2) SUB2 (C-A EQUALS 1.1, A EQUALS 11.44 ANGSTROMS), MG(OH) SUB2, AND MGO SUB2 WERE FOUND. THE LINES CORRESPONDING TO MGCO SUB3 WERE NOT VISIBLE.

UNCLASSIFIED

Corrosion

UDC 669.784'24:620.193.41:669.15'24'26-194

USSR

GULYAYEV, A. P., and TOKAREVA, T. B., Moscow, Chemical Machine Building Institute

"Influence of Carbon and Nickel on Intercrystalline Corrosion of Austenitic Chrome-Nickel Stainless Steels"

Moscow, Metallovedeniye i Termicheskaya Obrabotka Metallov, No 2, 1971, pp 29-37

Abstract: This work presents a study of chrome-nickel stainless steels of five groups with various carbon contents, containing 9, 12, 19, 30 and 40% Ni, with a constant chromium content of around 20%. It is demonstrated that an increase in the carbon and nickel content increases the tendency of chrome-nickel steels to intercrystalline corrosion, although steels with 40% Ni are less inclined to intercrystalline corrosion than steels with 30% Ni (with equal carbon content). Unstabilized chrome-nickel steels with 9-12% Ni containing not over 0.02% C or 19-40% Ni containing not over 0.006% C show practically no intercrystalline corrosion. A decrease in the content of carbon or nickel (the latter with low carbon content) causes a decrease in the temperature-time area of intercrystalline corrosion.

1/2

USSR

GULYAYEV, A. P., and TOKAREVA, T. B., Metallovedeniye i Termicheskaya Obrabotka Metallov, No 2, 1971, pp 29-37

When comparing steels in the states of maximum tendency toward intercrystalline corrosion, carbon increases the corrosion rate while nickel has a similar effect in steels containing up to 0.015% carbon. At higher carbon contents the effect is reversed. The depth of corrosion is decreased with increasing tempering temperature.

2/2

Entomology

USSR

UDC 614.449.577.51-084.484:615.285.7

ALEKSEYEV, A. N., AVDEYEVA, YE. V., TUROV, I. S., and TOKAREVA, T. G., All-Union Scientific Research Institute of Disinfection and Sterilization, Ministry of Health USSR, and Moscow State Univerasity imeni M. V. Lomonosov, Moscow

"The Chemosterilizing Effect of Organofluorine Compounds on Larvae and Imagoes of Fleas That Are Ectoparasites of Rodents"

Moscow, Meditsinskaya Parazitologiya i Parazitarnyye Bolezni, Vol 40, No 1, Jan/Feb 71, pp 28-32

Abstract: Sodium fluoroacetate and fluoroacetamide in sublethal doses were administered to imagoes of the fleas Ceratophyllus connimilis and Xenopsylla cheopsis by feeding them on an apparatus previously described by A. N. Alekseyev (Med. parazitol., No 4, 467, 1965). Larvae of the fleas were given these compounds by feeding them on excrement from imagoes that received the poison by being fed either through a membrane or on the blood of poisoned mice used as hosts. The F-containing poisons in doses of approximately 0.5×10^{-3} gamma inhibited reproduction and reduced the fertility offleas, when administered to either male or female adult fleas. They also reduced to a marked extent the fertility of imagoes grown from larvae that had received poison, besides having a toxic effect on the larvae. Inhibition of fertility was more pronounced

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APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203320003-6"

USSR

ALEKSEYEV, A. N., et al., Meditsinskaya Parazitologiya i Parazitarnyye Bolezni, Vol 40, No 1, Jan/Feb 71, pp 28-32

when larvae received the poison at an early stage (the 1st or 2nd vs. 3rd instar). Imagoes and larvae of X. cheopsis were less sensitive to the effect of the organofluorine compounds than those of C. consimilis.

2/2

1/2 020 UNCLASSIFIED PROCESSING DATE--16OCT70

TITLE--D,P REACTIONS ON SOME TITANIUM AND CHROMIUM ISOTOPES -U-

AUTHOR-(05)-ALEKSEYEV, V.V., POLYANSKIY, V.N., TERENTSKIY, K.O., TOKAREVSKIY, V.V., SHCHERBIN, V.N.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, SER. FIZ. 1970, 34(1), 194-200

DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS, NUCLEAR SCIENCE AND TECHNOLOGY

TOPIC TAGS--TITANIUM ISOTOPE, CHROMIUM ISOTOPE, DIFFERENTIAL CROSS SECTION, EXCITED NUCLEUS, DEUTERON BOMBARDMENT, PROTON SCATTERING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1988/0275 STEP NO--UR/0048/70/034/001/0194/0200

CIRC ACCESSION NO--AP0105349

UNCLASSIFIED

2/2 020 UNCLASSIFIED PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0105349

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE (D,P) REACTION WAS STUDIED FOR ENRICHED ISOTOPES OF PRIME48 TI(97.8PERCENT), PRIME49 TI(72.5PERCENT), PRIME50 CR(90.0PERCENT), AND PRIME52 CR(83.7PERCENT) AT A D ENERGY OF 13.6 MEV. THE DIFFERENTIAL CROSS SECTIONS ARE MEASURED FOR TRANSITIONS TO THE GROUND, AND TO THE 1ST EXCITED STATE. THEORETICAL PREDICTIONS ARE COMPARED WITH THE EXPTL. DATA. FACILITY: KIEV. GOS. UNIV. IM. SHEVCHENKO, KIEV, USSR.

UNCLASSIFIED

Nuclear Physics

USSR

VERESHCHAGIN, A. N., TERENETSKIY, K. O., CHERNOV, I. P. and TOKAREVSKIY, V. V., Institute of Physics of the Academy of Sciences UkrSSR, Kiev State University imeni T. G. Shevchenko

"On the Nature of the 'Third Maximum' in Angular Distributions of Elastically Scattered Deuterons"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya, Vol. 34, No. 2, Feb 70, pp 460-463

Abstract: Anomalies in angular distributions observed in studying differential cross sections for the elastic scattering of 13.6 Mev deuterons over a wide range of atomic weights are discussed, particularly the anomalous behavior of the so-called "third maximum" in the neighborhood of nuclei with $A \approx 50$: while the remaining maxima of the angular distributions are shifted towards smaller angles as A increases, the position of the third maximum for Ti^{48}, $Cr^{50,52,54}$ and Fe^{56} shifts towards greater angles as A increases. The third maximum for nuclei with $A > 55$ merges with the fourth and is not detectable experimentally. In this article, new experimental data and a more realistic optical potential is used to find an explanation for this anomaly. The elastic scattering of 13.6 Mev deuterons by Ca, Ti, and Mn nuclei was measured on the U-120 cyclotron

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203320003-6"

USSR

VERESHCHAGIN, A. N., et al, Izvestiya Akademii nauk SSSR, Seriya fizicheskaya, Vol. 34, No. 2, Feb 70, pp 460-463

of the Scientific Research Institute of Nuclear Physics at Tomsk Polytechnical Institute. The optimal potential parameters were calculated for the different isotopes using both theoretical and experimental cross sections. It was found that the experimental data in the region of the third maximum are satisfactorily explained by taking into account spin-orbital interaction.

USSR

UDC 619:616.988.43:576.809.8

KOZHAYEVA, G. I., PROSTYAKOV, A. P., TOKARIK, E. F., and SYUSYUKIN, A. A., All Union Scientific Research Foot-and-Mouth Institute

"Purification of Cultural Foot-and-Mouth Disease Virus"

Moscow, Veterinariya, No 1, Jan 71, pp 41-42

Abstract: The starting material was A_{22} virus replicated in a monolayer of primary trypsinized pig epithelial and calf kidney cells. The virus-containing material was subjected to a series of procedures beginning with freezing, thawing, and centrifugation and ending with filtration through Sephadex G-100 or G-200, both in order to obtain different fractions and to remove proteins and nucleic acids. Some 99.3% of the ballast proteins and 99.2% of the tissue nucleic acids were thus removed. Despite the many manipulations of the virus, its infectious titer at the end was higher than in the original suspension. The purified preparation can be lyophilized for the accumulation of virus material or for deproteinization in order to obtain infectious RNA with a molecular weight no lower than 100,000.

1/1

1/2 007 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--2,ISOPROPYLNAPHTHALENE -U-

AUTHOR-(05)-TOKARSKAYA, I.I., BIKCHURINA, L.KH., SHMELEV, A.S., AKHMETOVA, S.Z., ABRAMOVICH, Z.I.

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 263,583

REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,

DATE PUBLISHED--10FEB70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--NAPHTHALENE, ALKYLATION, CHEMICAL PATENT

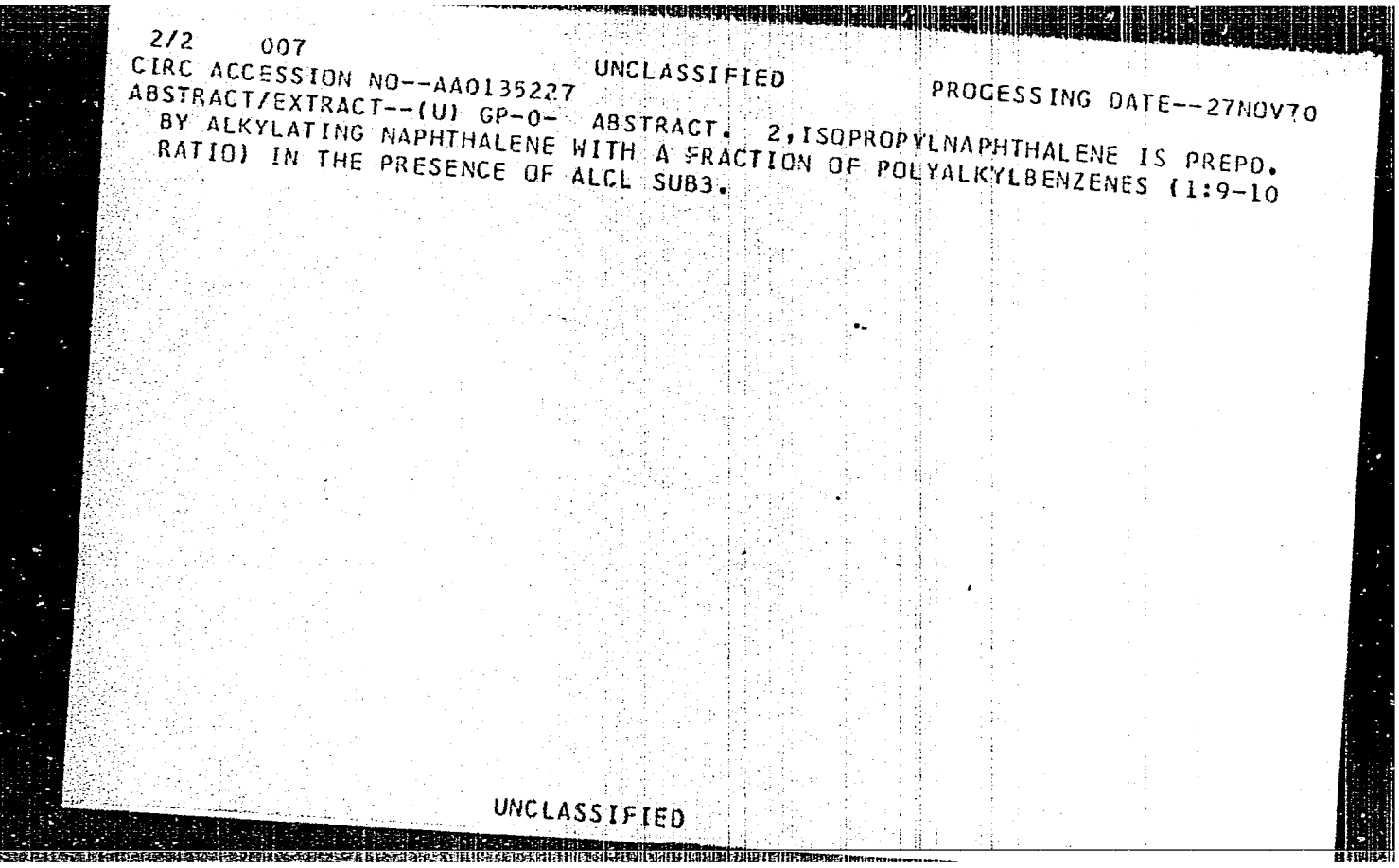
CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/1586 STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0135227

UNCLASSIFIED



2/2 007 UNCLASSIFIED PROCESSING DATE--27NOV70
CIRC ACCESSION NO--AA0135227
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. 2,ISOPROPYLNAPHTHALENE IS PREPD. BY ALKYLATING NAPHTHALENE WITH A FRACTION OF POLYALKYLBENZENES (1:9-10 RATIO) IN THE PRESENCE OF ALCL SUB3.

UNCLASSIFIED

1/2 018 UNCLASSIFIED PROCESSING DATE--16OCT70

TITLE--NATURE OF THE THIRD MAXIMUM IN ANGULAR DISTRIBUTIONS OF ELASTICALLY SCATTERED DEUTERONS -U-

AUTHOR-(04)-VERESHCHAGIN, A.N., TERENETSKIY, K.O., CHERNOV, I.P., TOKAREVSKIY, V.V.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, SER. FIZ. 1970, 34(2), 460-3

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS, NUCLEAR SCIENCE AND TECHNOLOGY

TOPIC TAGS--DEUTERON SCATTERING, ELASTIC SCATTERING, ANGULAR DISTRIBUTION, SCATTERING CROSS SECTION, CALCIUM ISOTOPE, TITANIUM ISOTOPE, MANGANESE ISOTOPE, SPIN ORBIT COUPLING, NUCLEAR MODEL, DIFFERENTIAL CROSS SECTION, CYCLOTRON/(U)U120 CYCLOTRON

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1988/0205 STEP NO--UR/0048/70/034/002/0460/0463

CIRC ACCESSION NO--AP0105281

UNCLASSIFIED

2/2 018 UNCLASSIFIED PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0105281

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A STRONGLY RELATIVISTIC OPTICAL POTENTIAL AND A POSSIBILITY OF OBTAINING FURTHER EXPTL. DATA ALLOWED FOR A STUDY OF FORMING THE 3RD MAX. THAT REPRESENTS AN ANOMALY IN THE ANGULAR DISTRIBUTION OF CROSS SECTIONS OF THE ELASTIC SCATTERING OF 13.6 MEV D ON NUCLEI WITH A APPROXIMATELY EQUAL TO 50. IN THE U-120 CYCLOTRON, THE ELASTIC SCATTERING OF THESE D WAS STUDIED ON PRIME40 CA, PRIME46-50 TI, AND PRIME55 MN NUCLEI. SCATTERED D WERE REGISTERED WITH TELESCOPES CONSISTING OF SI(LI) DETECTORS FORMED BY THIN (DE-DX) AND THICK (E) SPECTROMETERS OF THICKNESSES 150 AND 1500 MM, RESP. THE SELECTION OF D WAS BASED UPON THE (DE-DX)E LAW. GEOMETRIC CONDITIONS OF THE EXPT., MONITORING THE FLUX AND EXPRESSING THE ABS. VALUES WERE DESCRIBED BY V. V. ALEXEEV, ET AL. (1968). ERRORS OF ABS. VALUES FOR DIFFERENTIAL CROSS SECTIONS DID NOT EXCEED PLUS OR MINUS 10PERCENT. THE CALCN. OF DIFFERENTIAL CROSS SECTIONS WAS BASED UPON THE OPTICAL MODEL OF THE NUCLEUS, TAKING SPIN ORBITAL INTERACTION INTO ACCOUNT. INTRODUCING THE SPIN ORBITAL INTERACTIONS INTO THE OPTICAL MODEL OF THE NUCLEUS YIELDS A RELIABLE ELUCIDATION OF EXPTL. RESULTS IN THE 3RD MAX. REGION. FACILITY: INST. FIZ., KIEV, USSR.

UNCLASSIFIED

1/2 015 UNCLASSIFIED PROCESSING DATE--16OCT70

TITLE--ELASTIC SCATTERING OF PROTONS ON NUCLEI OF AVERAGE ATOMIC WEIGHT -U-

AUTHOR-(03)-PROKOPENKO, V.S., TOKAREVSKIY, V.V., SHCHERBIN, V.N.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, SER. FIZ. 1970, 34(1), 126-35

DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS, NUCLEAR SCIENCE AND TECHNOLOGY

TOPIC TAGS--PROTON SCATTERING, ELASTIC SCATTERING, DIFFERENTIAL CROSS SECTION, COULOMB INTERACTION, ANGULAR DISTRIBUTION, ZINC ISOTOPE, COPPER ISOTOPE, NICKEL ISOTOPE, IRON ISOTOPE, COBALT ISOTOPE, CHROMIUM ISOTOPE, VANADIUM ISOTOPE, TITANIUM ISOTOPE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1988/0239 STEP NO--UR/0048/70/034/001/0126/0135

CIRC ACCESSION NO--AP0105315

UNCLASSIFIED

2/2 015 UNCLASSIFIED PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0105315

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE BEAM OF 6.9-MEV P ACCELERATED IN A CYCLOTRON WAS FOCUSED BY A QUADRUPOLE LENS TO THE SCATTERING CHAMBERL. TARGETS WERE FREE LAYERS ENRICHED BY THE CORRESPONDING ISOTOPE. THE DIFFERENTIAL CROSS SECTION OF ELASTIC SCATTERING IN UNITS SIGMA-SIGMA SUBR (SIGMA IS DETD. EXPTL., SIGMA SUBR IS THE COULOMB CROSS SECTION) AS A FUNCTION OF THE ANGLE THETA IS GRAPHICALLY REPRESENTED FOR THE FOLLOWING NUCLEI: PRIME45 SC, PRIME46 TI, PRIME48 TI, PRIME49 TI, PRIME50 TI, PRIME51 V, PRIME50 CR, PRIME52 CR, PRIME56 FE, PRIME58 FE, PRIME59 CO, PRIME58 NI, PRIME60 NI, PRIME62 NI, PRIME64 NI, PRIME63 CU, PRIME65 CU, PRIME64 ZN, PRIME66 ZN, PRIME67 ZN, PRIME70 ZN. AT ANGLES THETA SUBK SMALLER THAN 40DEGREES THE ELEC. INTERACTION PREDOMINATES AND, THEREFORE, SIGMA-SIGMA SUBR IS CLOSE TO 1. AT ANGLES 40-80DEGREES A SEVERE DECREASE IN DIFFERENTIAL CROSS SECTIONS OCCURS WHICH IS APPROX. THE SAME FOR ALL NUCLEI. IF THE ANGLE OF SCATTERING IS SIMILAR TO 80DEGREES ALL CURVES HAVE A DEEP MIN. THE GREATEST DIFFERENCES IN CROSS SECTIONS ARE OBSD. AT ANGLES THETA LARGER OR EQUAL TO 90DEGREES. AN ANAL. OF ALL EXPTL. DATA IN THE FRAME OF THE OPTICAL MODEL WAS PERFORMED. BY ASSUMING THAT AT P ENERGY OF 6.9 MEV THE ABSORPTION OCCURS MAINLY IN THE NUCLEAR SURFACE THE COMPLEX POTENTIAL WITH 6 PARAMETERS WAS CHOSEN. IT IS CONCLUDED THAT THE (PN) CHANNEL EXHIBITS THE MOST SUBSTANTIAL INFLUENCE ON THE DEPTH OF THE REAL PART OF THE POTENTIAL.

UNCLASSIFIED

USSR

UDC: 621.372.8:535

KINBER, B. Ye., MAL'TSEV, N. Ye., and TOKATLY, V. I.

"Geometrical Optics of Irregular Waveguides"

Tr. Akust. in-ta (Transactions of the Acoustical Institute) 1970, No. 13, pp 77-85 (from RZh-Radiotekhnika, No. 3, March 71, Abstract No. 3B212)

Translation: Matching beam structures in two-dimensional irregular waveguides, identical to Brillouin waves in waveguides whose walls permit separation of different waves, are constructed. Resume

1/1

CSO: 1860-W

- END -

USSR

UDC: 621.372.82

KINBER, B. Ye., MAL'TSEV, N. Ye., TOKATLY, V. I.

"Asymptotic Theory of Irregular Waveguides and Horns"

Moscow, Radiotekhnika i Elektronika, Vol 15, No 12, Dec 70, pp 2512-2521

Abstract: A new method is proposed for calculating irregular waveguides. The field in the waveguide is sought in asymptotic form as the sum of two fields of radial type where each field is characterized by congruence of rays and radiation pattern. The solution is reduced to a sequence of two problems: determining the geometric structure of self-consistent congruences of the rays, i.e. the congruences which are brought into themselves after reflection from two walls of the waveguide; and determining the asymptotic expansion of the amplitudes of the fields from the boundary conditions. Both these problems are reduced to the solution of functional equations. Examples of calculation are given. The condition of detachment of the field from the walls of a horn is analyzed.

1/1

USSR

UDC 539.374

NIKITIN, L. V., and TOKBERGENOV, Dzh. B.

"The Stamping of a Spherical Shell"

Alma-Ata, Izvestiya Akademii Nauk, KazSSR, Seriya Fiziko-Matematicheskaya, No 3, May-Jun 72, pp 44-50

Abstract: An investigation was made of the stamping process of an axisymmetrical thin-walled spherical shell subjected to the action of pressure produced by explosion in a closed system. The mechanical condition of the material is described according to the theory of plastic flow, the intensity of stresses is considered a known function of the intensity of deformation rates. On the example of explosion stamping of a spherical shell, detailed calculations are presented with different geometric parameters and indices of polytropy and explosion intensity. The results are discussed by reference to diagrams showing dependences of particle velocities on the radius of the sphere and of the sphere final radius on the blasting charge intensity. The diagrams demonstrate that the radial velocity of particles depends on the volume of the blasting charge before the detonation, the intensity of the blasting charge, the degree of strain hardening, and the polytropy factor. Five illustr., nineteen formulas, five biblio. refs.

1/1

1/2 016 UNCLASSIFIED PROCESSING DATE--02OCT70

TITLE--USE OF INFRARED SPECTROSCOPY FOR STUDYING THE STATE OF WATER AND DETERMINING TRACES OF WATER IN CARBON TETRACHLORIDE -U-

AUTHOR-(03)-KARYAKIN, A.V., TOKHADZE, V.L., MAYSURADZE, G.V.

COUNTRY OF INFO--USSR

SOURCE--ZH. ANAL. KHIM. 1970, 25(2) 315-18

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--IR SPECTROSCOPY, WATER, CARBON TETRACHLORIDE, MOLECULAR INTERACTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1992/1496 STEP NO--UR/0075/70/025/002/0315/0318

CIRC ACCESSION NO--AP0112490

UNCLASSIFIED

2/2 016 UNCLASSIFIED

CIRC ACCESSION NO--AP0112490 PROCESSING DATE--02OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A SPECTROANAL. METHOD FOR H SUB2 O DETN. IN CCL SUB4 IN THE 4000-3000 CM PRIME NEGATIVE1 RANGE IS DESCRIBED AND THE STATE OF THE H SUB2 O IN THE COMPD. WAS STUDIED. A HIGHER SENSITIVITY OF SYMMETRIC VIBRATIONS BAND TO THE CHANGES OF THE INTERMOLECULAR INTERACTION WAS CONFIRMED WHICH IS ESSENTIAL IN THE USE OF ONE OR ANOTHER VALENCE VIBRATION BAND FOR ANAL. PURPOSES. ONLY THE BAND OF ASYMMETRIC VIBRATIONS OF H SUB2 O MOLS. CAN BE RECOMMENDED FOR QUANT. DETNS. BECAUSE IT IS NEARLY INSENSITIVE TO THE CHANGES OF INTERMOL. INTERACTION IN THE SOLN. AND THE ABSORBANCE IS DEPENDENT ON H SUB2 O CONCN. THE SENSITIVITY OF H SUB2 O DETSN. IS 1 TIMES 10 PRIME NEGATIVE4 WT. PERCENT. TWO VERY INTENSE BANDS ARE FOUND WITH MAX. AT 3641 AND 3705 CM PRIME NEGATIVE1. THE LATTER BAND BELONGS TO THE ASYMMETRIC VIBRATIONS OF H SUB2 O MOLS. THE ERROR OF THE DETN. OF H SUB2 O ABSORBANCE IN THIS BAND IS 5-10PERCENT.

UNCLASSIFIED

Radiobiology

USSR

UDC 616.001.28

TOKHIYAN, S. R., Radiobiology Section, Ministry of Health Armenian SSR

"Role of the Functional State of the Hypothalamus in the Bioelectric Reaction of the Cerebral Cortex to Radiation"

Yerevan, Biologicheskiy Zhurnal Armenii, Vol 23, No 8, Aug 70, p 100

Abstract: The effect of subjection of the hypothalamus to electrocoagulation in the area of the mamillary bodies on the bioelectric activity and reactivity of the cerebral cortex exposed to radiation was studied. Rabbits were irradiated on the 16th day after electrocoagulation. Immediately after electrocoagulation, a decline in the excitability and functional activity of cortical neurons in the posterior section of the cortex and a decrease in the amplitude reaction to light were recorded. A slight increase in reactivity and amplitude was briefly recorded on the electroencephalogram after irradiation. This increase was followed by a sharp decline in the bioelectric activity of the cortex, which continued for a period of 34-35 days. The decline in bioelectric activity of the cerebral cortex was considerably more pronounced in experimental animals than in control rabbits subjected to radiation only.

1/1

USSR

UDC 616.001.28

ARUTYUNYAN, R. K., and TOKHIYAN, S. R., Sector of Radiobiology, Ministry of Health Armenian SSR

"Hematological and Electrocardiographic Shifts in Radiation Sickness Induced on a Background of Impaired Function of the Posterior Hypothalamus"

Yerevan, Biologicheskiy Zhurnal Armenii, Vol 23, No 10, 1970, pp 84-87

Abstract: Male rabbits were subjected to bilateral electrolytic coagulation of mammilary bodies at the P-3 level. At the height of the clinical development of dioncephalic pathology, the animals were irradiated once with a dose of 600 r. Destruction of mammilary bodies caused a slight rise of rectal temperature, body weight loss, koratitis, conjunctivitis, loss of hair, and occasional paralysis. The animals also refused food and water. The number of erythrocytes in peripheral blood dropped progressively, accompanied by leucocytosis. The electrocardiograms showed lower voltage of the QRS-complex and a slower heartbeat. All symptoms reached a peak 14-15 days after the operation. Control animals showed no statistically significant changes at that time. After irradiation, the animals with destroyed mammilary bodies showed a much more acute course of the disease in comparison to the controls. The experimental animals experienced long-lasting anemia, accute leukoponia, lymphopenia, and neutrophilia; four of 17 animals died.

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- 17 -

USSR

UDC: 681.3:16

TOKHODZILO, P. V., KOLOMOYSKAYA, I. N., BEREZINETS, L. P.

"Cybernetics and Computer Equipment in the Ukraine. Bibliographic Guide"

Kibernetika I Vychislitel'naya Tekhnika Na Ukraine. Bibliogr. Ukazatel' [English version above], Kiev, Nauk. Dumka Press, 1970 (translated from Referativnyy Zhurnal Avtomatika, Telemekhanika I Vychislitel'naya Teknika, No 3, 1971, Abstract No 3 B24 K).

Translation: The index is published in six parts: part 1, theoretical cybernetics and computer methods, 261 pp; part 2, engineering cybernetics, 220 pp; part 3, mathematical modeling and specialized computer equipment, 178 pp; part 4, computer equipment, 179 pp; part 5, economic cybernetics and systems engineering, 201 pages; part 6, biological and medical cybernetics, botany, 114 pp.

1/1

Acc. Nr: AP0038105 7 Ref. Code: UR 0326

PRIMARY SOURCE: Fiziologiya Rasteniy, 1970, Vol 17, Nr 1, pp 54-57

DEPENDENCE OF DARK FORMATION OF ANTHOCYANINS IN BUCKWHEAT SEEDLINGS ON DURATION OF PRELIMINARY ILLUMINATION

A. K. TOKHVER

Institute of Experimental Biology, Academy of Sciences of Est. SSR, Harku

Anthocyanin formation was studied in buckwheat seedlings in the dark and also in intermittent and continuous red light (1.3 and 6.8 W/m²) after preliminary exposure of the seedlings to white light (38 W/m²) of various duration. Accumulation of anthocyanins is not increased by continuous or intermittent (1 min. light, 59 min. dark) red light illumination compared with dark accumulation. A pulse of far red light (20 W/m², 5 min) following the white light exposure suppressed subsequent anthocyanin formation in the dark. The degree of inhibition decreased with increase of the exposure time in white light and if the duration of the latter exceeded 24 hours a stimulating effect of the far red pulse was even observed. It is suggested that for dark formation of anthocyanins in buckwheat seedlings phytochrome P_{730} is required. On the other hand decrease of accumulation of anthocyanins in the dark observed after prolonged light exposures (15 hours) is apparently not related to P_{730} deficiency in the seedlings.

02

USSR

UDC 616.342-078.7-001.28-086

TOKIN, I. B., Institute of Radiation Hygiene, Ministry of Health RSFSR, Leningrad

"Absorption of Lipids by Duodenal Epithelial Cells on Exposure to Ce^{144} Radiation"

Leningrad, Arkhiv Anatomii, Gistologii, i Embriologii, Vol 58, No 6, Jun 70, pp 35-43

Abstract: Wistar rats were given oral doses of 25μ microcuries of Ce^{144} chloride within a period of 10 days. Two hours after the first and the last administration of isotope, the animals were fed 0.5 ml corn oil, and subsequently, at intervals from 30 min to 6 hr, duodenum samples were taken for analysis under the electron microscope. Practically no secondary radiation effects were observed over the entire range of radiation doses studied in these tests (6 to 20 rad). All cells studied had the usual structure. Slight variations, for instance in the organization of mitochondria, are within physiological limits. The over-all process of lipid absorption was practically unchanged. Yet, lipid absorption was intensified due to increased membrane permeability, activation of intracellular transport, and enhanced

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USSR

TOKIN, I. B., Arkhiv Anatomii, Gistologii, i Embriologii, Vol 58, No 6, Jun 70, pp 35-43

enzymatic activity of acid and alkaline phosphatsases and ATP-ase. Mechanisms ensuring close contact between cells were seriously weakened. During the entire process of penetration through the cells, the lipids are isolated from the cytoplasmic ground substance by intracellular membranes.

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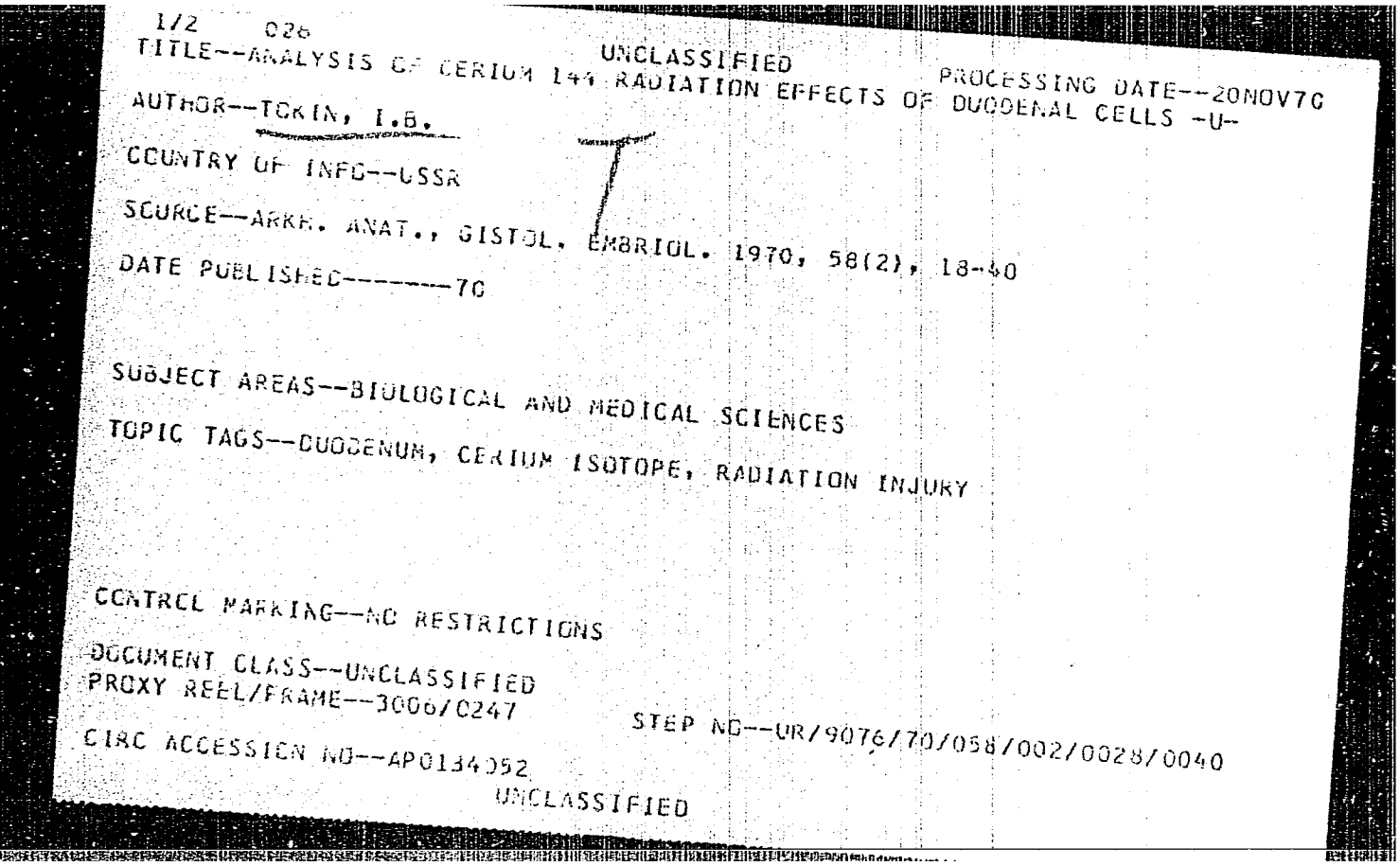


1/2 026 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--ANALYSIS OF CERIUM 144 RADIATION EFFECTS OF DUODENAL CELLS -U-

AUTHOR--TOKIN, I.B.

COUNTRY OF INFO--USSR

SOURCE--ARKH. ANAT., GISTOL. EMBRIOL. 1970, 58(2), 18-40

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--DUODENUM, CERIUM ISOTOPE, RADIATION INJURY

CONTROL MARKING--NO RESTRICTIONS

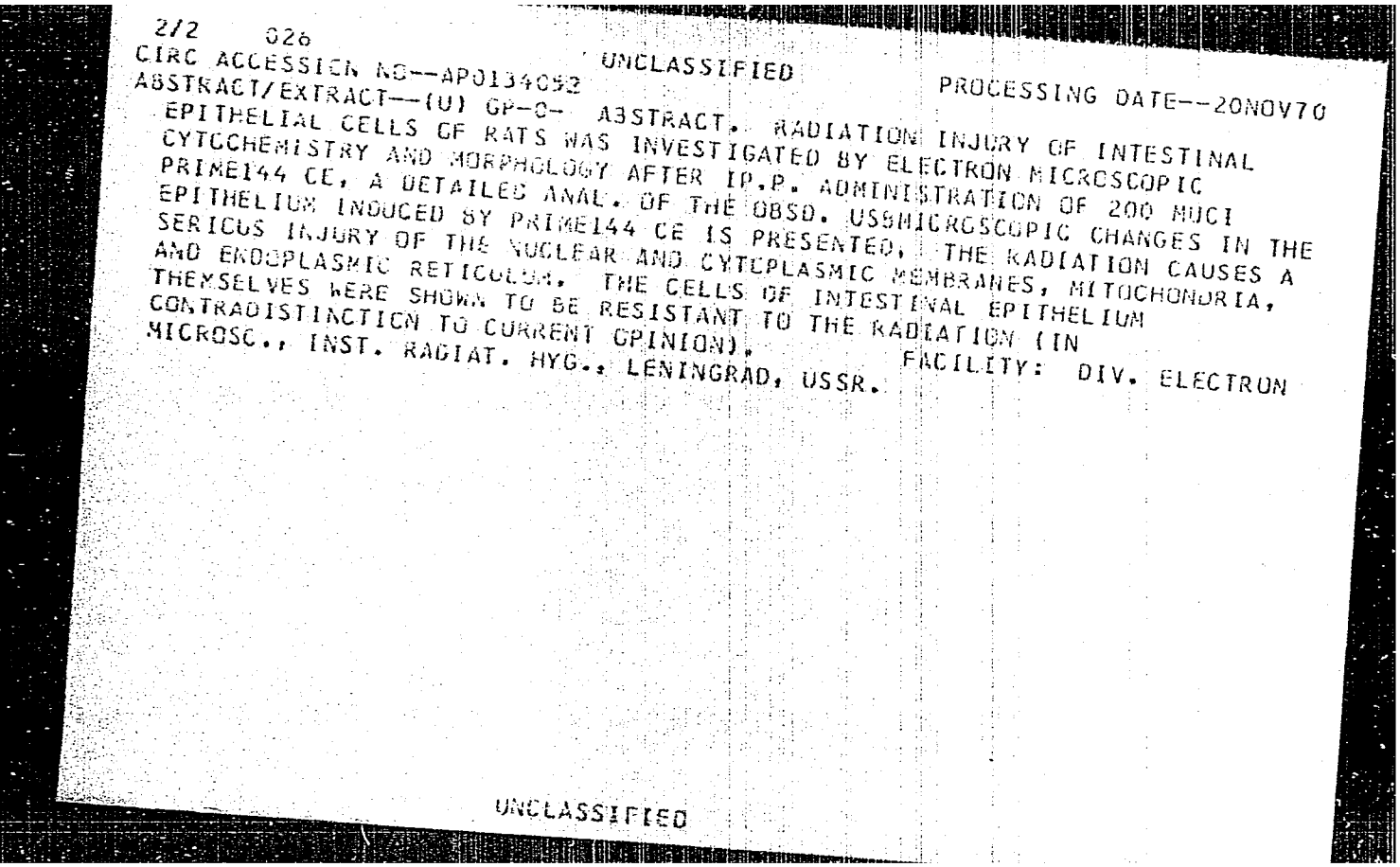
DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/0247

STEP NO--UR/9076/70/058/002/0028/0040

CIRC ACCESSION NO--AP0134052

UNCLASSIFIED



2/2 026 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0134092

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. RADIATION INJURY OF INTESTINAL EPITHELIAL CELLS OF RATS WAS INVESTIGATED BY ELECTRON MICROSCOPIC CYTOCHEMISTRY AND MORPHOLOGY AFTER IP.P. ADMINISTRATION OF 200 NUCI PRIME144 CE, A DETAILED ANAL. OF THE OBSD. USSMICROSCOPIC CHANGES IN THE EPITHELIUM INDUCED BY PRIME144 CE IS PRESENTED. THE RADIATION CAUSES A SERIOUS INJURY OF THE NUCLEAR AND CYTOPLASMIC MEMBRANES, MITOCHONDRIA, AND ENDOPLASMIC RETICULUM. THE CELLS OF INTESTINAL EPITHELIUM THEMSELVES WERE SHOWN TO BE RESISTANT TO THE RADIATION (IN CONTRADISTINCTION TO CURRENT OPINION).

FACILITY: DIV. ELECTRON MICROSC., INST. RADIAT. HYG., LENINGRAD, USSR.

UNCLASSIFIED

USSR

UDC 576.851.555.097.29.098.31

ISPOLATOVSKAYA, M. V., TOKINOVA, T. N., CHERIKOVSKAYA, YE. N., and BORISHPOLETS, Z. I., Laboratory of the Biochemistry of the Metabolism of Pathogenic Microbes, Institute of Epidemiology and Microbiology imeni N. F. Gamaleya, Academy of Medical Sciences USSR, Moscow

"Neuramidase in the Cells and Toxins of Cl. Perfringens"

Moscow, Voprosy Meditsinskoy Khimii, Vol 19, No 1, Jan/Feb 73, pp 49-54

Abstract: Neuramidase is present in the cells and toxins of synchronous cultures of Cl. perfringens. Low toxicity strains have a more active cellular neuraminidase, while high toxicity strains have a more active extracellular neuraminidase. The peak activity of cellular neuraminidase occurs with 3-5 hrs of cell growth, while the activity of extracellular neuraminidase reaches its maximum after 9-12 hrs of cell growth and remains at this level for at least 24 hrs. The latter has an optimum pH of 4-5 and a high immunogenic activity, and it is 50% inactivated by heating at 60°C for 1 hr. The cellular neuraminidase has an optimum pH of 5-9, cannot be neutralized with antitoxin serum, and is thermostable. Both neuraminidases are equally resistant to EDTA and cysteine and sensitive to salts of heavy metals, urea, ethylenechlorhydrin, sodium dodecylsulphate, and polyanions. Both pass through Sephadex filters at the same rate.

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USSR

UDC 576.851.555.098.31.078.2

ISPOLATOVSKAYA, M. V., KLIMACHEVA, L. V., TOKINOVA, T. N., and LARINA, I. A., Institute of Epidemiology and Microbiology imeni Gamaleya, Academy of Medical Sciences USSR, Moscow

"Immunochemical Study of Enzymes of the Cl. perfringens Toxic Complex"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 4, Apr 71, pp 89-93

Abstract: A study was made of toxins formed by Cl. perfringens upon cultivation on a meat-pancreas medium. Lecithinase, collagenase, hyaluronidase, and neuraminidase were isolated and purified by previously described methods. The first three enzymes were converted by the action of CH_2O into compounds devoid of enzyme activity. Neuroaminidase was not inactivated by CH_2O; the Cl. perfringens toxoid retained neuraminidase activity. The enzymes and inactivated compounds had antigenic properties and induced formation of antibodies upon immunization of mice and rabbits. All enzymes reacted with immune serum Cl. perfringens toxin and also with immune serum to the respective inactivated enzyme. The antibodies to collagenase and hyaluronidase were highly specific; they did not protect mice against a Cl. perfringens culture or the toxin, but only inhibited collagenase or hyalaronidase activity. The toxins and toxoids

USSR

ISPOLATOVSKAYA, M. V., et al, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 4, Apr 71, pp 89-93

were stable to the denaturing effect of urea and ehtylene chlorohydrin, while collagenase, hyaluronidase, and collagenase were denatured by them. The stability of Cl. perfringens toxin to the action of the denaturing agents was due to the fact that the lethal factor, lecithinase, was resistant to their action. Lecithinase and its nontoxic derivative, inactivated lecithinase, passed at the same rate through Sephadex G-75 and formed precipitation lines in agar with the respective antisera. This indicated that formation of the toxoid is not associated with polymerization of the protein molecules of lecithinase. A study of the lecithinase of Cl. perfringens showed that it is a zinc-containing enzyme. By reacting the lecithinase with cysteine, Zn could be removed from it and the enzyme inactivated in this manner. Stable inactivated lecithinase was obtained upon removal of Zn, which had toxoid properties.

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USSR

UDC 539.3

GALKIN, A. A., Academician Ukrainian Academy of Sciences, TOKIY, V. V., ZAYTSEV, V. I.

"Effect of Comprehensive Hydrostatic Pressure on the Interaction of Dislocations"

Moscow, Doklady Akademii Nauk SSSR, Vol 204, No 2, 1972, pp 313-315

Abstract: Earlier papers on this subject of the effect of hydrostatic pressure on dislocations have taken contradictory views, and it is with the intent of reconciling them that the authors of the present paper have investigated the matter. They begin their analysis with an equation for the potential energy of the body under pressure, and they view this quantity energy, as the sum of the characteristic dislocation energies and the deformation field plus the sum of the dislocation energies and the energy causing the deformation field. From the formulas derived in this theoretical article, they find that the pressure increases the interaction between the dislocations and activates the processes which annihilate dislocations of opposite sign. It is noted that their theoretical results agree closely with the experimental results. The authors are connected with the Donetsk Physico-Technical Institute.

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USSR

TOKLIKISHVILI, S. K.

UDC 517.948.32:517.544

"On a Solution of a Conjunction Boundary Value Problem in the Case of Analytical Functions of Many Complex Variables"

Tr. Gruz. politekhn. in-t (Works of the Georgian Polytechnical Institute), 1969, No 5 (133), pp 77-92 (from RZh-Matematika, No 7, Jul 1970, Abstract No 7B425)

Translation: Let D_k^+ be a region in the plane of the complex variable z_k bounded by a simple, smooth closed curve C_k, and let D_k^- supplement $D_k^+ \cup C_k$ to the full plane. Consideration is given in the article to a special case of the problem of linear conjunction for 2^n functions $\Phi^{\pm\cdots\pm}(z_1,\ldots,z_n)$ which are respectively holomorphic in the polycylindrical regions $D_1^\pm \times \ldots \times D_n^\pm$. In the case $n = 2$ this problem reduces to finding the functions $\Phi^{\pm\pm}(z_1,\ldots,z_n)$ from the condition

$$\Phi^{++}(t_1, t_2) - A(t_1, t_2)\Phi^{-+}(t_1, t_2) = B(t_1, t_2)[\Phi^{+-}(t_1, t_2) - C(t_1, t_2)\Phi^{--}(t_1, t_2)] + g(t_1, t_2), \quad (1)$$

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USSR

TOKLIKISHVILI, S. K., Tr. Gruz. politekhn. In-t, 1969, No 5(133), pp 77-92

in which $(t_1, t_2) \in C_1 x C_2$, the given functions A, B, C, and G satisfy the Hölder boundary condition on $C_1 x C_2$, $B(t_1, t_2) \neq 0$ on $C_1 x C_2$, and the function $A(t_1, t_2)(B(t_1, t_2))$ is the limit of the function $A^+(t_1 z_2)(B^-(t_1, z_2))$ which is holomorphic with respect to z_2 in D_2^+ (D_2^-) for all $t_1 \in C_1$, where $A^+(t_1, z_2) \neq 0$ on $C_1 x D_2^+$ ($C^-(t_1, z_2) \neq 0$ on $C_1 x D_2^-$). According to the condition, the unknown functions should have a finite order at infinity.

The author's principal affirmation is that the solution of problem (1) is representable by a finite number of integrals of the Cauchy type, and the solution of the corresponding homogeneous problem depends on a finite number of polynomials. This affirmation is extended by the method of mathematical induction to the case of arbitrary n>2.

Abstractor's notes: 1. The author does not define the concept "finite order of a function of many variables at infinity," and therefore it is not clear what order a function such as $z_1 z_2$

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USSR

TOKLIKISHVILI, S. K., Tr. Gruz. politekhn. in-t, 1969, No 5(133), pp 77-92

has at the infinitely remote point (0,∞). 2. The author's statement that the solution of the homogeneous problem of linear conjunction in his assumptions depends on a finite number of polynomials is not valid. There is a contradictory example. V. Kakichev.

3/3

Forming

USSR

UDC 621.771.2

SICHEVOY, A. P., ROSENTAL', F. YE., TOKMAKOV, A. M., and SHENGUR, Yu. P., Candidates of Technical Sciences

"Increased Production and Quality of Periodical, Large-Diameter Rolling Profiles"

Dnepropetrovsk, Metallurgicheskaya i Gornorudnaya Promyshlennost', No 5, Sep-Oct 70, pp 26-29

Abstract: A review is made of the operation of the first 120 three-roller mill for rolling periodical profiles. The technological process and production plan developed by the All-Union Scientific-Research Institute of Metallurgical Machinery is described. Operational deficiencies are cited and the new rolling mill stand developed by members of the Institute is described.

USSR

UDC 621.762.002.5(088.8)

ZHERDEV, A. V., VIYNTRAUB, S. S., RYBINOV, V. A., MOSIASHVILI, V. V., and TOKMAKOV, M. K.

"Installation for Granulation of Metal Melts"

USSR Author's Certificate No. 265152, Filed 27/01/69, Published 17/06/70 (Translated from Referativnyy Zhurnal-Metallurgiya, No. 2, 1971, Abstract No. 2 G470 P)

Translation: The installation consists of a granulator body with cooler, filling device and transporter for removal of granulate. In order to produce a granulate with an even fractional composition, the upper portion of the granulator body over the cooler carries metal rods, washed by the cooler, and a powered blade drum beneath the pouring spout.

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USSR

UDC 620.179.15

TOKMAKOV, V. S. and MOYSH, YU. V., Institute of Physical Metallurgy and Metal Physics, Central Scientific Research Institute of Ferrous Metallurgy imeni I. P. Bardina

"Quality Control of Welded Pipe Seams Using an RETU-1 X-ray Television Unit"

Sverdlovsk, Defektoskopiya, No 4, Jul-Aug 72, pp 142-144

Abstract: The possibilities of quality control of weld seams in large diameter pipe were investigated using an RETU-1 television unit, developed on the basis of an RUP-150-10 x-ray unit, a URI-135T x-ray brightness amplifier with an electron-optical converter, and a PTu-111 commercial television set. With this unit the weld seams can be inspected on pipe with diameters between 529 and 1420 mm. The technical and operational characteristics of the unit were investigated at the Chelyabinsk Pipe Rolling Plant in the detection of different types of defects in weld seams on pipe 820 mm in diameter.

Data are given for the modes of operation to provide the best method sensitivity, such as: 110 kv, 2 ma for pipe with a 9-11 mm wall thickness and 115 kv, 2 ma for a 11-12 mm wall thickness when using the electron-optical system of image amplification; and 120 kv, 2ma for 9-10 mm thickness and 125 kv, 2 ma for a 11-12 mm thickness using the television screen. Improvement of

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USSR

TOKMAKOV, V. S. and MOYSH, YU. V., Defektoskopiya, No 4, Jul-Aug 72, pp 142-144

the x-ray electron-optical converters, over those now used at the Moscow Electrovacuum Instruments Plant, will make it possible to expand the applications of RETU-1 units. 2 figures, 1 bibliographic reference

2/2

TOKMAKOV, V.V.

SPS 5908

6-73

II-7. DISTRIBUTION OF THE RELATIVE SUPERSATURATION OF THE VAPOR PHASE ALONG THE DEPOSITION ZONE WHEN GROWING MONOCRYSTALLINE FILMS OF A^{III}B^{V} COMPOUNDS UNDER CONDITIONS CLOSE TO EQUILIBRIUM

[Article by G. A. Kravchik, A. K. Zakharenko, V. V. Tokmakov, A. V. Vannikov, Moscow; Novosibirsk, III Simpozium po Protsessam Rosta i Sinteza Poluprovodnikovykh Kristallov i Plenok, Russian, 12-17 June, 1972, p 17]

An experimental method of determining the deviation of the system from equilibrium state during growth of monocrystalline films of A^{III}B^{V} compounds under conditions close to equilibrium has been developed. The method takes into account the interaction of two processes which are opposite in direction and which take place during growth of the films -- deposition and etching.

The ratio of the maximum possible deposition rate $|v_0|$ to the etching rate $|v_g|$ is taken as the relative supersaturation of the vapor phase γ, that is, $\gamma = v_{dep}/v_g$. The resultant growth rate of the film $|v|$ is equal to the difference in the deposition and etching rates.

Thus, in determining the magnitude of the relative supersaturation of the vapor phase at any point of the deposition zone it is necessary first to obtain the temperature dependence of the etching rate for the specific technological growth process.

The given method was used when studying the mechanism of formation of monocrystalline films of AlGaP compounds for the gas transport method of growth.

TOKMAKOV, V.V.

JPRS 57208

6-73

3

XII-16. OPTIMIZATION OF THE PROCESS OF EPITAXIAL GROWTH IN FLOW GAS TRANSPORT SYSTEMS

[Article by A. V. Vanrukov, N. M. Kondaurov, V. V. Tokmakov, MISIS, Moscow; Novosibirsk, III Simpozium po Protsessam Rosta i Sinteza Poluprovodnikovykh Kristallov i Plenok, Russian, 12-17 June 1972, p 183]

In the example of obtaining epitaxial layers of cadmium selenide on insulating substrates of (0001) Al_2O_3 and (111) CaF_2 in an open $CdSe-H_2$ system, the possibility was demonstrated of increasing the efficiency of the process as a result of increasing the volume of the reaction space in which the epitaxial growth takes place. The conscious increase in the efficiency of the process requires an entire series of experiments with respect to

1) Investigation of the effect of the deposition rate of the material on the structure of the grown layer,

2) The study of the effect of the substrate temperature on the layer structure.

3) The study of the nature of the growth rate distribution of the layer along the crystallization zone for various temperature gradients in it.

On the basis of the first two studies, the region of epitaxial growth in the temperature and deposition rate coordinates is determined. By varying the temperature gradient in the crystallization zone and investigating the nature of the layer growth rate distribution, it is possible to find the temperature gradient for which the curve characterizing the growth rate distribution with respect to length of the crystallization zone is located for the most part in the region of epitaxial growth. This temperature gradient is optimal (ΔT_{opt}) since for it the maximum length of the epitaxial growth zone on the given substrate is observed. In the investigated system $CdSe-H_2$, for sapphire ΔT_{opt} = 5 deg/cm, and for fluorite, ΔT_{opt} = 15 deg/cm with a concentration head of $6.5 \cdot 10^{-2}$ mg/cm^3 and a diameter of the reaction tube equal to 30 mm.

USSR

UDC 669.721.5'5'296:620.193.4

TIMONOVA, M. A., AL'TMAN, M. B., TIKHONOVA, V. V., GERASIMOVA, M. N., TOKMAKOVA, G. S., LASHKO, N. F., MOROZOVA G. I.

"Effect of the Composition and Structure of Alloys of the Mg-Zn-Zr System on their Corrosion and Electrochemical Behavior"

V sb Struktura i svoystva legk. splavov (Structure and Properties of Light Alloys -- collection of works), Moscow, Nauka Press, 1971, pp 136-140 (from Rzh-Metallurgiya, No 4, Apr 72, Abstract 4I700)

Translation: A study was made of the effect of Zn on the structure and corrosion behavior of alloys of the Mg-Zn system and the Mg-Zn-Zr system with a Zn content of up to 20%; the effect of heat treatment leading to a change in the phase composition and in the quantity and shape of the segregations of intermetallide compounds on the corrosion strength of the alloys of the Mg-Zn-Zr system was also studied. The variation of corrosion resistance of the alloys is explained by the formation of cathode phases with different electrochemical properties and variation of their number and form of segregation. The increase in corrosion resistance with the introduction of Zr into the alloys of the Mg-Zn system is primarily connected with a decrease in the Fe admixture in the alloys. Six illustrations, one table, and a 6-entry bibliography.

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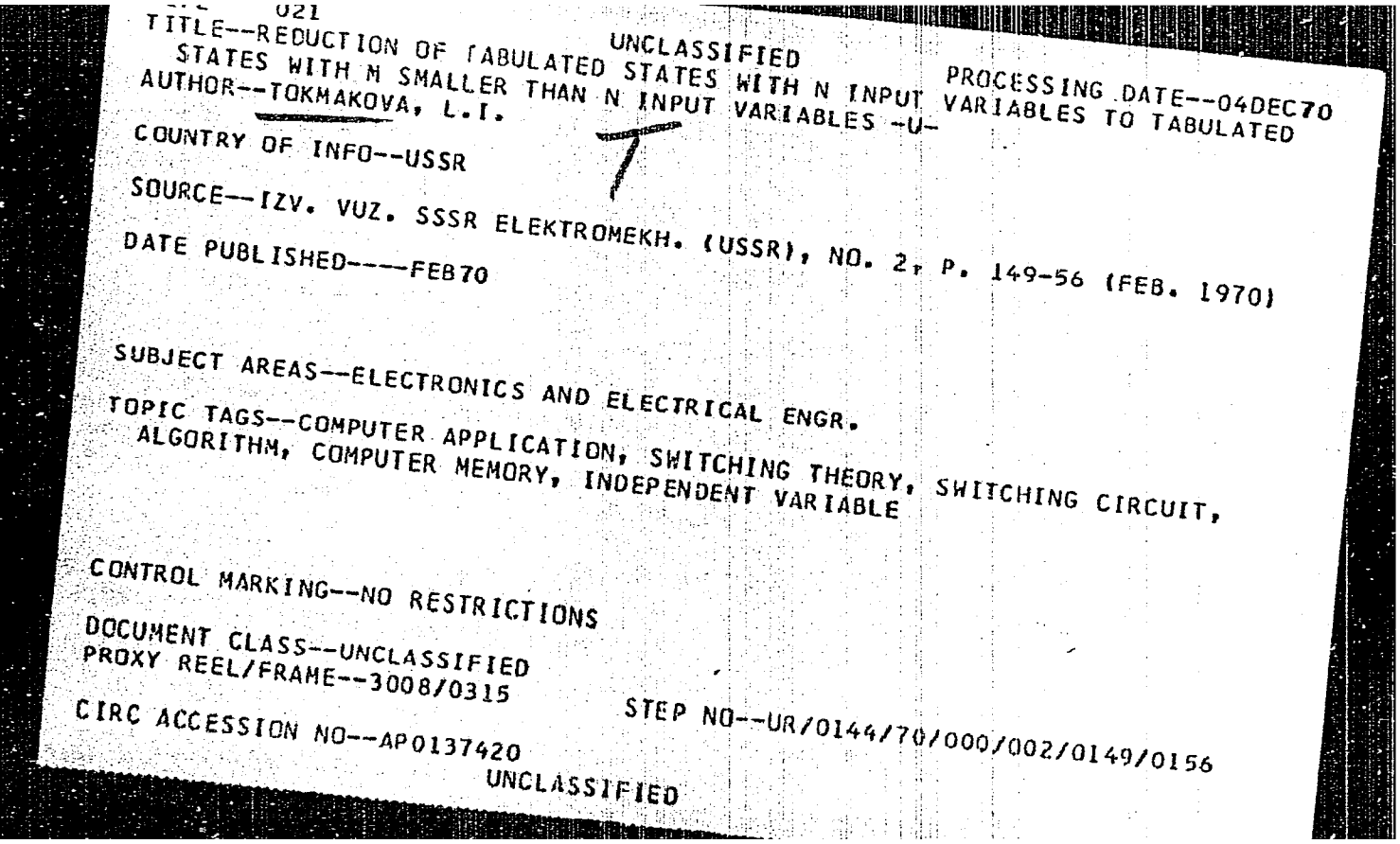
- 16 -



021

UNCLASSIFIED

TITLE--REDUCTION OF TABULATED STATES WITH N INPUT VARIABLES TO TABULATED STATES WITH M SMALLER THAN N INPUT VARIABLES -U-

PROCESSING DATE--04DEC70

AUTHOR--TOKMAKOVA, L.I.

COUNTRY OF INFO--USSR

SOURCE--IZV. VUZ. SSSR ELEKTROMEKH. (USSR), NO. 2, P. 149-56 (FEB. 1970)

DATE PUBLISHED----FEB70

SUBJECT AREAS--ELECTRONICS AND ELECTRICAL ENGR.

TOPIC TAGS--COMPUTER APPLICATION, SWITCHING THEORY, SWITCHING CIRCUIT, ALGORITHM, COMPUTER MEMORY, INDEPENDENT VARIABLE

CONTROL MARKING--NO RESTRICTIONS

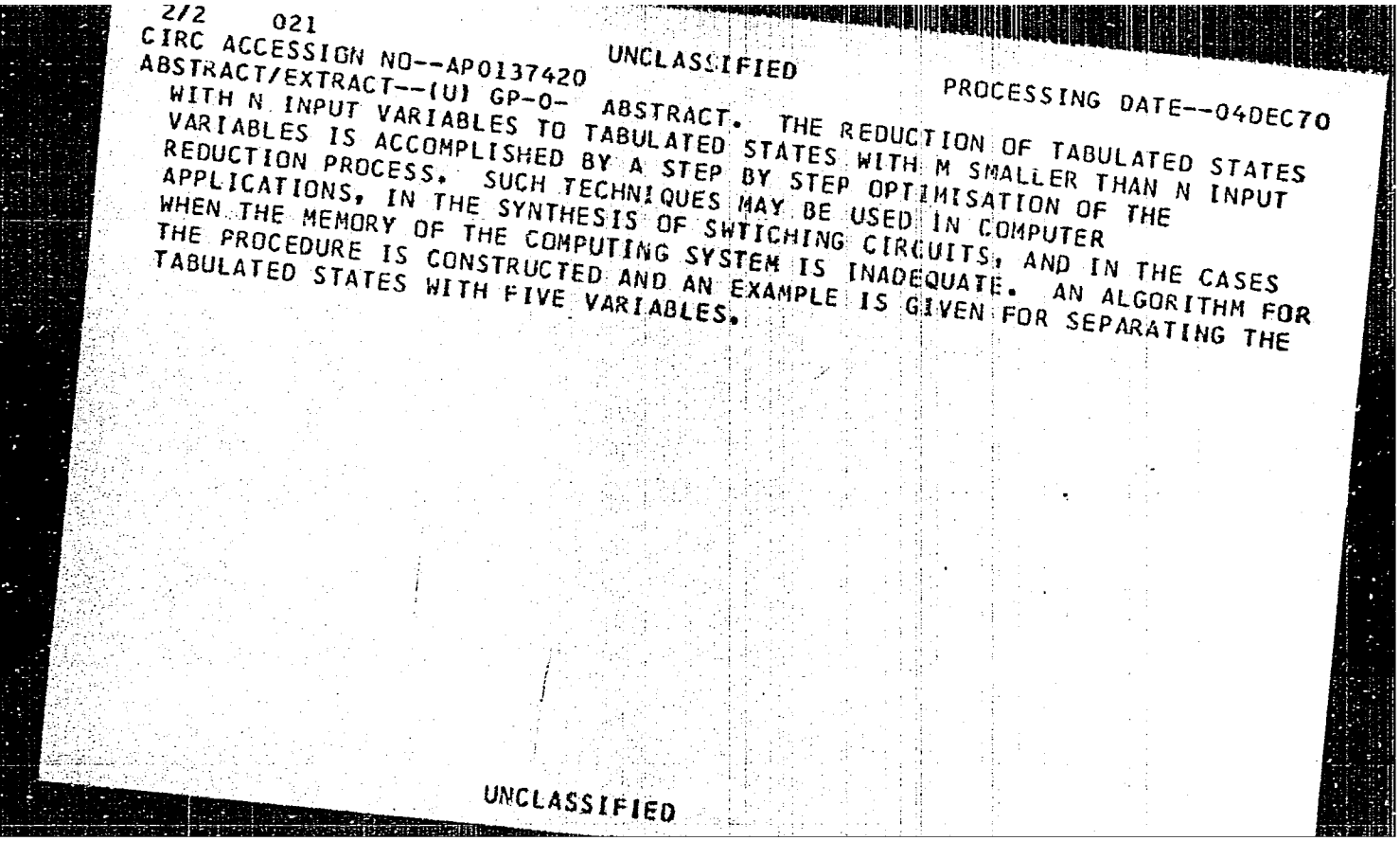
DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3008/0315

STEP NO--UR/0144/70/000/002/0149/0156

CIRC ACCESSION NO--AP0137420

UNCLASSIFIED



2/2 021 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0137420

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE REDUCTION OF TABULATED STATES WITH N INPUT VARIABLES TO TABULATED STATES WITH M SMALLER THAN N INPUT VARIABLES IS ACCOMPLISHED BY A STEP BY STEP OPTIMISATION OF THE REDUCTION PROCESS. SUCH TECHNIQUES MAY BE USED IN COMPUTER APPLICATIONS, IN THE SYNTHESIS OF SWTICHING CIRCUITS, AND IN THE CASES WHEN THE MEMORY OF THE COMPUTING SYSTEM IS INADEQUATE. AN ALGORITHM FOR THE PROCEDURE IS CONSTRUCTED AND AN EXAMPLE IS GIVEN FOR SEPARATING THE TABULATED STATES WITH FIVE VARIABLES.

UNCLASSIFIED

USSR

VASSERNIS, R. I., KIREYEVA, S. I., TOKMAKOVA, V. P., SAZONOVA, S. A., SKOROBOGATOV, B. S. UDC: 621.375.82

"Determining the Optical Power and Optical Nonhomogeneity of Active Elements of Lasers by Line Test Patterns"

Khar'kov, Monokristally i tekhnika--sbornik (Single Crystals and Technology --collection of works), vyp. 7, 1972, pp 77-82 (from RZh-Fizika, No 8, Aug 73, abstract No 8D1146 by the authors)

Translation: A method is proposed for determining the optical power of an active laser element as a "pseudolens" and also the optical nonhomogeneity of elements on a collimator instrument with the aid of line test patterns. Correspondence is observed between the lenticularity measured on the instrument and that calculated from an interference pattern. It is demonstrated that elements can be presorted with respect to nonhomogeneity.

1/1

USSR

UDC 543.422+543.424+546.183

POLETAYEV, E.V., TOKMAN, I. A. and BUKHALOVA, G. A., Institute of Chemical Sciences, Academy of Sciences Kazakh SSR, Alma-Ata

"Vibrational Spectra of Trimetaphosphates in $M^{I}PO_3$-$M^{II}(PO_3)_2$ Systems"

Alma-Ata, Seriya khimicheskaya, No 5, Sept-Oct 71, pp 6-11

Abstract: Earlier research on $M^{I}M^{II}P_3O_9$ (M^{I}= monovalent alkaline metal, M^{II}= divalent) compounds indicate the existence of various forms of trimetaphosphate anions. This study concerns the variations of the vibrational spectrum of the anion as a function of its conformability. The experiment involved $M^{I}PO_3$-$M^{II}(PO_3)_2$ binary systems. Paper chromatography confirmed the presence of $(P_3O_9)^{3-}$ cycles in the metaphosphates $Na_4Ca(P_3O_9)_2$, $Na_4Sr(P_3O_9)_2$, $Na_4Ba(P_3O_9)_2$, $KCaP_3O_9$, $CsCaP_3O_9$ and $CsSrP_3O_9$. Interpretation of the IR spectra of these metaphosphates presented in curves in the original article indicates that the form of the anion in $Na_4Ca(P_3O_9)_2$ and $Na_4Sr(P_3O_9)_2$ trimetaphosphates is similar to that of anhydrous sodium trimetaphosphate. The existence of non-plane P_3O_9 anions with C_{3v}-type symmetry in $CsCaP_3O_9$ and $CsSrP_3O_9$ trimetaphosphates is suggested. The stretching vibration frequencies of the trimetaphosphates are identified and the classification of PO_2 and POP groups by symmetry type for various P_3O_9 configurations is presented in tables. (2 illustrations, 3 tables, 8 biblio. references)

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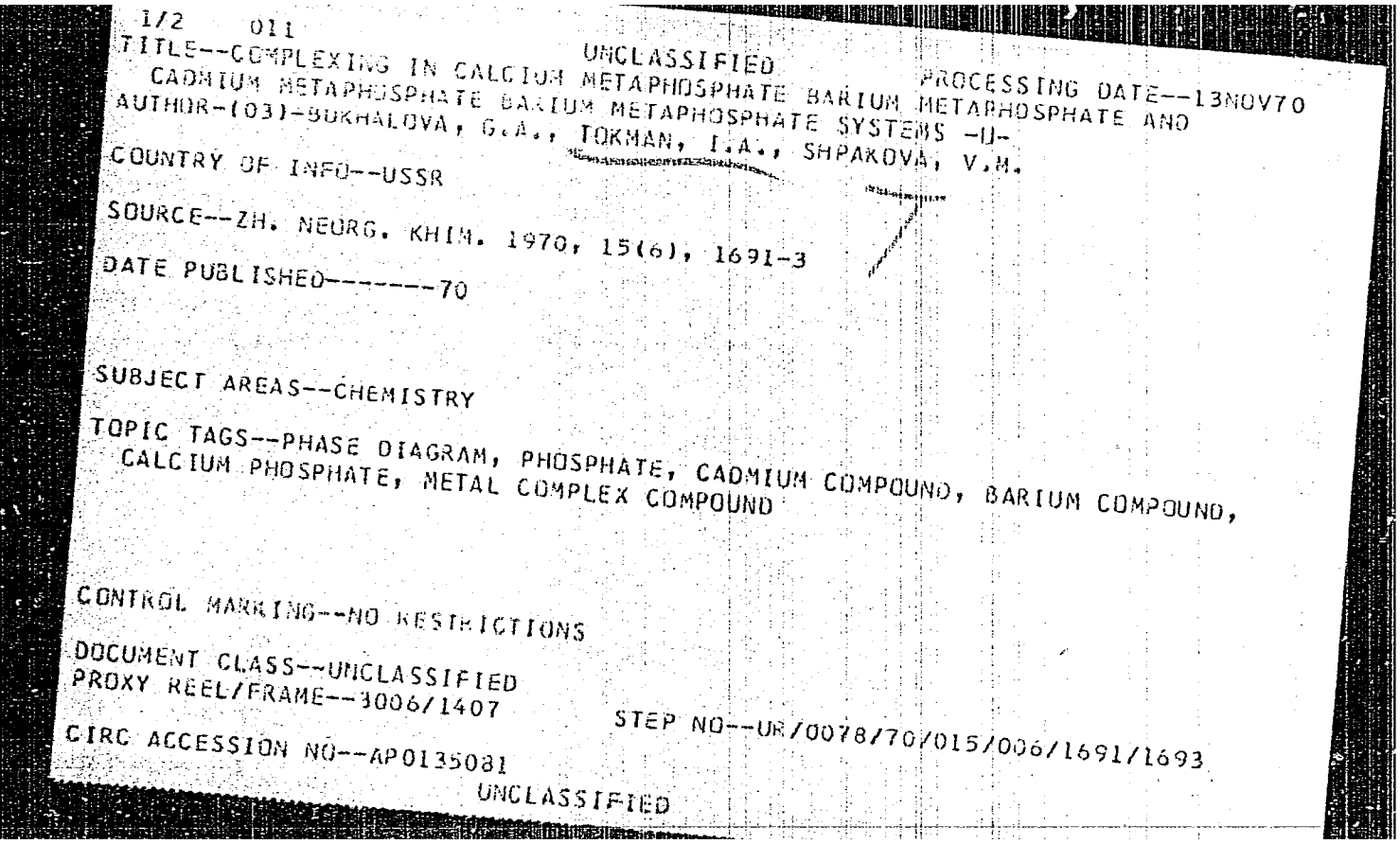


1/2 011 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--COMPLEXING IN CALCIUM METAPHOSPHATE BARIUM METAPHOSPHATE AND CADMIUM METAPHOSPHATE BARIUM METAPHOSPHATE SYSTEMS -U-

AUTHOR-(03)-SUKHALOVA, G.A., TOKMAN, I.A., SHPAKOVA, V.M.

COUNTRY OF INFO--USSR

SOURCE--ZH. NEORG. KHIM. 1970, 15(6), 1691-3

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--PHASE DIAGRAM, PHOSPHATE, CADMIUM COMPOUND, BARIUM COMPOUND, CALCIUM PHOSPHATE, METAL COMPLEX COMPOUND

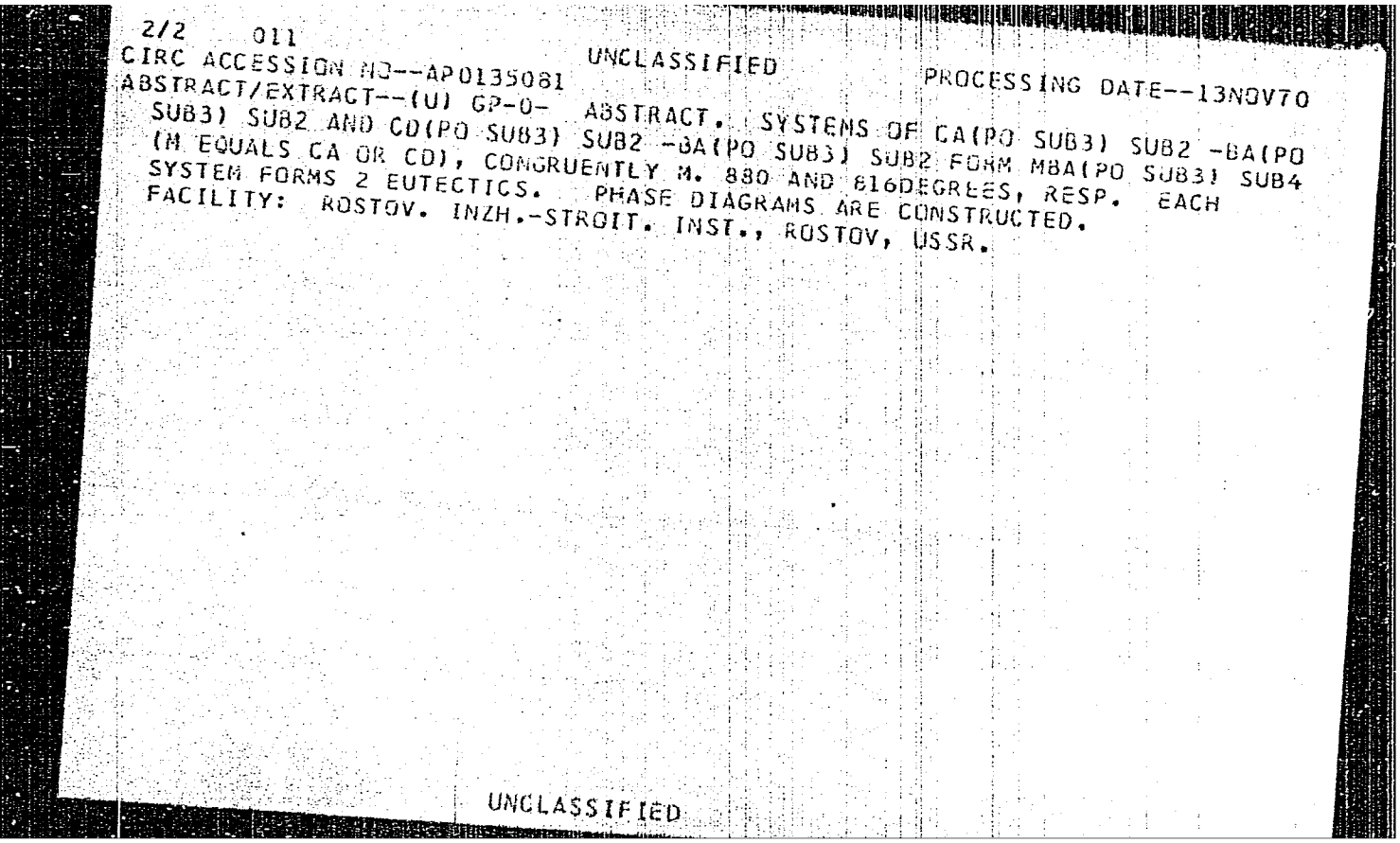
CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/1407 STEP NO--UR/0078/70/015/006/1691/1693

CIRC ACCESSION NO--AP0135081

UNCLASSIFIED



2/2 011 UNCLASSIFIED PROCESSING DATE--13NOV70
CIRC ACCESSION NO--AP0135081
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SYSTEMS OF CA(PO SUB3) SUB2 -BA(PO SUB3) SUB2 AND CD(PO SUB3) SUB2 -BA(PO SUB3) SUB2 FORM MBA(PO SUB3) SUB4 (M EQUALS CA OR CD), CONGRUENTLY M. 880 AND 816DEGREES, RESP. EACH SYSTEM FORMS 2 EUTECTICS. PHASE DIAGRAMS ARE CONSTRUCTED.
FACILITY: ROSTOV. INZH.-STROIT. INST., ROSTOV, USSR.

UNCLASSIFIED

USSR

UDC 628.165.09

TOKMANTSEV, N. K., CHERNOZUBOV, V. B., and YEGOROV, A. P.

"Thirty Four Stage Experimental Industrial Desalination Unit With Instantaneous Evaporation"

Moscow, Vodosnabzheniye i Sanitarnaya Tekhnika, No 7, 1973, pp 27-29

Abstract: The experimental industrial distillation unit with instantaneous evaporation is one of the world's largest units. In it for the first time the method of recirculating the seeding crystals is used to prevent the formation of sediment.

1/1

USSR

UDC 613.633:[622.341.1+622.341.2

TOKMURZINA, R. U., and DZHANGOZINA, D. M., Institute of Labor Hygiene and Occupational Diseases, Karaganda

"Biological Aggressiveness of Some Types of Dust Generated by Iron and Manganese Ores in Kazakhstan"

Moscow, Gigiyena Truda i Professional'nyye Zabolevaniya, No 8, Aug 70, pp 51-54

Abstract: The irritating effects of typical dusts from Fe and Mn ores of the Karazhal'sk deposit, as well as the pathological changes in rat lung produced by these dusts, were studied. The rats were given 50 mg of dust suspended in physiological saline intratracheally and then sacrificed 1, 2, and 6 mos later. Dust of hematite-magnetite Fe ore produced a pneumoconiosis whose severity increased with an increasing content of free SiO_2 in the dust. Mn ore dust had a fibrogenic effect, which was ascribed to the action of free SiO_2 combined with an inflammatory effect of Mn on lung tissue. Fe-Mn ore dust gave rise to sideromanganoconiosis and had the strongest fibrogenic effect. Its action was due to the combined effect of Fe and Mn, rather than to that of SiO_2. The chemical composition of ore dusts of the types studied is given.

1/1

USSR

IVANOV, G. A., SITNIKOV, L. S., TOKOVENKO, S. Ye., UTYAKOV, L. L.

UDC: 681.325.5

"A Frequency Subtractor"

USSR Author's Certificate No 292234, filed 6 Oct 69, published 2 Mar 71 (from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 10, Oct 71, Abstract No 10B369 P)

Translation: Frequency subtractors are known which contain a storage element and a transistorized switch. The proposed device is distinguished from conventional units by the fact that it contains a comparator, a resistive divider in the collector of the transistor, and a diode, and the storage element is made as a capacitive accumulator circuit whose output is connected through the diode to the collector of the transistorized switch and through the comparator to the centertap of the resistive divider. This improves the operational reliability of the device and simplifies it. One illustration.

1/1

USSR

UDC: 621.317.755

SITNIKOV, L. S., TOKOVENKO, S. Ye., UTYAKOV, L. L., YAKOVLEV, V. T.

"A Time-Mark Generator for a Cathode-Ray Oscilloscope"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 4, Feb 71, Author's Certificate No 292243, Division H, filed 20 Jan 69, published 6 Jan 71, pp 150-151

Translation: This Author's Certificate introduces a time-mark generator for a cathode ray oscilloscope. The device contains a pulse light source, a shaper, series-connected capacitor storage counters with two inputs, a source of stable-frequency signals and a selector switch. As a distinguishing feature of the patent, in order to simplify the device, connected to one of the inputs of the capacitor storage counters is a series circuit comprised of a synchronizing pulse oscillator and reference phase pulse oscillator. The output of this last pulse oscillator is connected through a synchronizer to a coincidence module whose second input is connected through the selector switch to the outputs of the capacitor storage counters, and the output of the coincidence module is connected to the shaper.

1/1

USSR

UDC 542.91+661.718.1

BEYSHENGIYEV, ZH., DEHUNDURAYEV, K., ALDASHEVA, A., KOZHAKHMETOVA, R. I., TONTOBEKOVA, T.

"Phosphorylation of 10-(2,3-Epoxypropyl)phenothiazine"

Leningrad, Zhurnal Obshchey Khimii, Vol 41, No 10, 1971, pp 2207-2209

Abstract: In a continuing search for physiologically active phenothiazine derivatives, a study was made of the reaction of 10-(2,3-epoxypropyl)phenthiazine with β-alkoxyvinylphosphonic anhydrides, thio- and dithioanhydrides. A series of previously unknown crystalline heterocyclic esters were prepared by the cited reaction. The reaction with thioanhydrides gave the esters with a 1,2,3-oxaphosphathiazole ring structure, as indicated by their IR spectra. The yields, mp, and elemental analysis data of the products are tabulated and their preparation is described.

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USSR

2

UDC 542.91+661.718.1

DZHUNDUBAYEV, K. D., BEYSHEKEYEV, Zh., ALDASHEVA, A., KOZHAKHMETOVA, R. I., SULAYMANOV, A., TOKTOBEKOVA, T., Institute of Organic Chemistry, Academy of Sciences of the Kirgiz SSR

"Synthesis of Mixed Phosphites Based on 10-[β-Hydroxypropyl(ethyl)]phenothiazine"

Leningrad, Zhurnal Obshchey Khimii, Vol 42(103), No 2, Feb 72, pp 337-340

Abstract: The authors studied the reaction of 10-(β-hydroxypropyl)phenothiazine and 10-(β-hydroxyethyl)phenothiazine with alkyl(aryl)phosphorous acid dichlorides, phosphorus trichloride and dimethylamidophosphorous acid dichlorides:

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USSR

UDC 543.4:546.21.082

GAYNUTDINOV, R. D., and TOKTOMYSHEV, S. Zh.

"On the Possibility of Devising an Apparatus for Measuring the Concentration of Atomic Oxygen Particles in Dissociated Gases"

Tr. Kirg. Un-ta. Ser. Fiz. N. [Works of Kirgiz University, Series of Physical Sciences], 1972, No 1, pp 66-68 (from Referativnyy Zhurnal, No 11, Nov 72, 32. Metrologiya i Izmeritel'naya Tekhnika. Single Issue. Abstract No 11, Nov 72, 32. Metrologiya i Izmeritel'naya Tekhnika. Single Issue. Abstract No 11.32. 758 by V. S.K.)

Translation: The application advantages and disadvantages of application of the method of heat sensors and mass-spectrometers for measuring concentrations of atomic oxygen in dissociated gases are discussed (complexity of measuring methods, inadequate exactness, absence of selectivity, et al.). The possibility is discussed to create an apparatus (A) on the basis of chemical detectors for measuring concentrations of oxygen atoms in dissociated gases. The apparatus must represent a photometer of a transparency degree of chemical detectors by the photoelectric method. To measure absolute concentrations of oxygen atoms, the scale of A must be graduated by an independent method in terms of absolute concentrations. The measuring of unknown concentrations of oxygen reduces to

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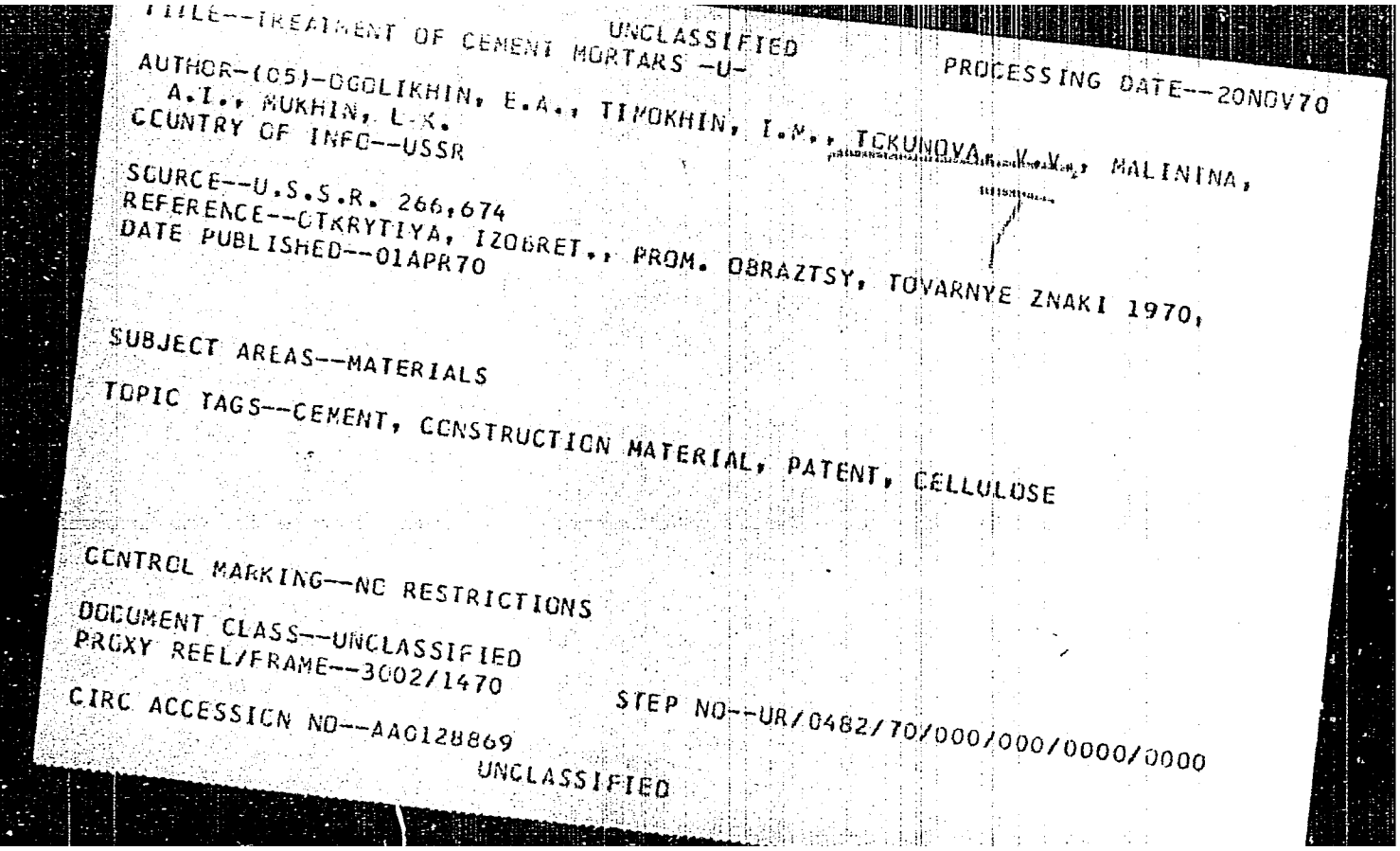
USSR

GAYNUTDINOV, R. D. and TOKTOMYSHEV, S. Zh., Tr. Kirg. Un-ta. Ser. Fiz. N., 1972, No 1, pp 66-68

irradiation of the detector in the given medium with subsequent measuring of its transparency on A. The needle on A will reckon the reading directly in concentrations. One illustr., eleven biblio. refs.

2/2



UNCLASSIFIED

TITLE--TREATMENT OF CEMENT MORTARS -U-

AUTHOR-(05)-OGOLIKHIN, E.A., TIMOKHIN, I.N., TCKUNOVA, V.V., MALININA, A.I., MUKHIN, L.K.

CCUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 266,674

REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,

DATE PUBLISHED--01APR70

PROCESSING DATE--20NOV70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--CEMENT, CONSTRUCTION MATERIAL, PATENT, CELLULOSE

CONTROL MARKING--NO RESTRICTIONS

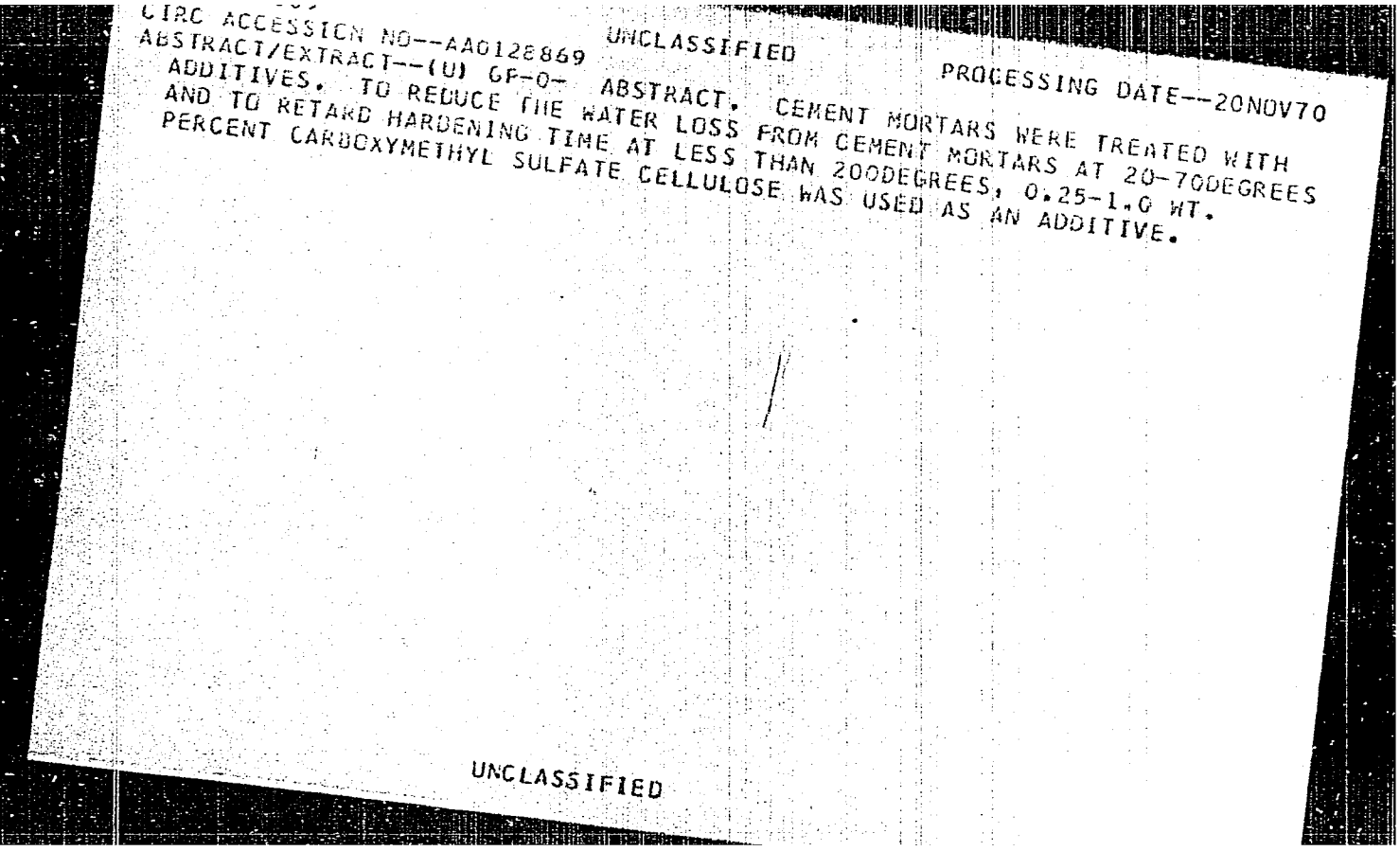
DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/1470

CIRC ACCESSION NO--AA0128869

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

UNCLASSIFIED



CIRC ACCESSION NO--AA0128869 UNCLASSIFIED PROCESSING DATE--20NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CEMENT MORTARS WERE TREATED WITH ADDITIVES. TO REDUCE THE WATER LOSS FROM CEMENT MORTARS AT 20-70DEGREES AND TO RETARD HARDENING TIME AT LESS THAN 200DEGREES, 0.25-1.0 WT. PERCENT CARBOXYMETHYL SULFATE CELLULOSE WAS USED AS AN ADDITIVE.

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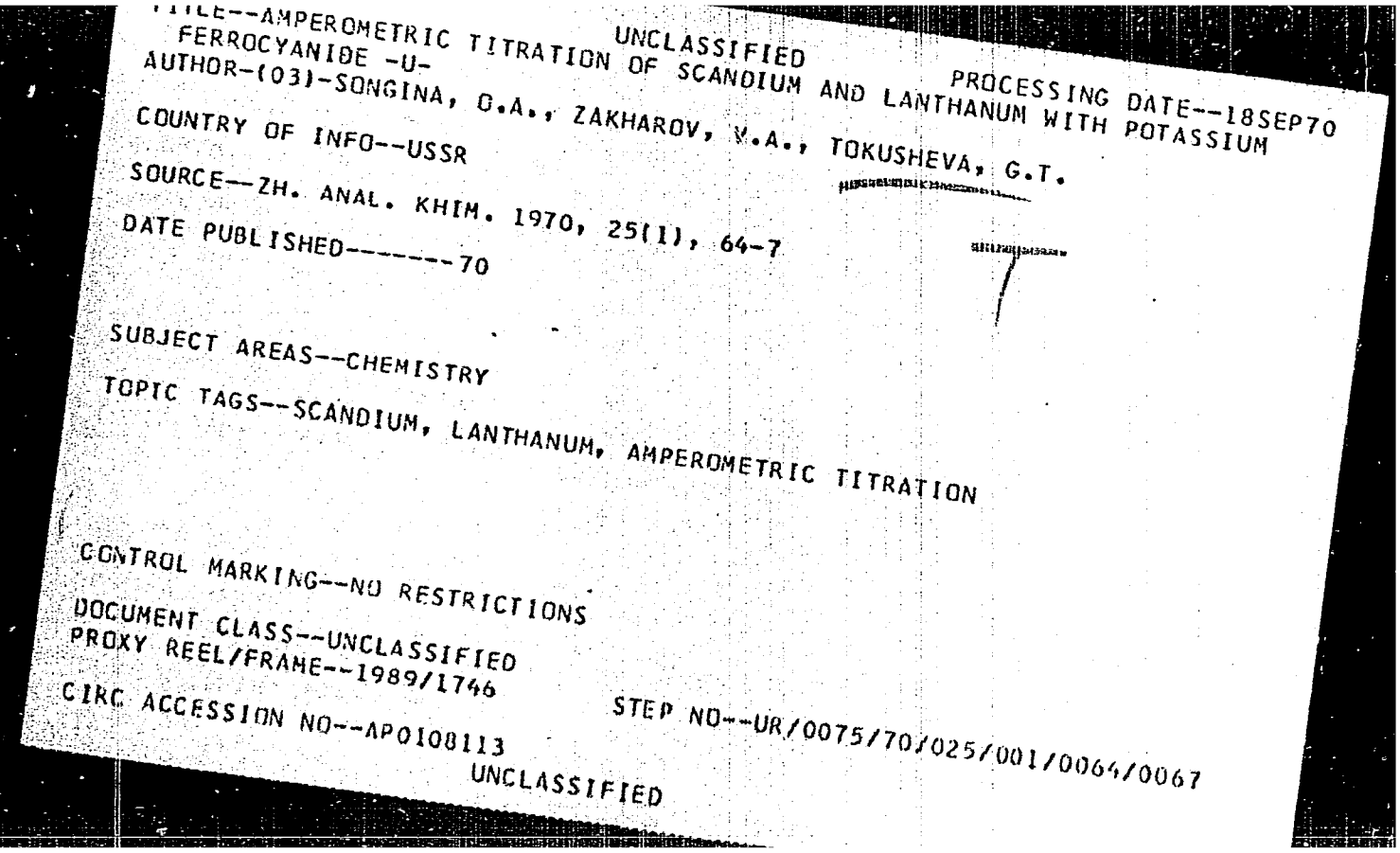


UNCLASSIFIED

TITLE--AMPEROMETRIC TITRATION OF SCANDIUM AND LANTHANUM WITH POTASSIUM FERROCYANIDE -U-

PROCESSING DATE--18SEP70

AUTHOR-(03)-SONGINA, O.A., ZAKHAROV, V.A., TOKUSHEVA, G.T.

COUNTRY OF INFO--USSR

SOURCE--ZH. ANAL. KHIM. 1970, 25(1), 64-7

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--SCANDIUM, LANTHANUM, AMPEROMETRIC TITRATION

CONTROL MARKING--NO RESTRICTIONS

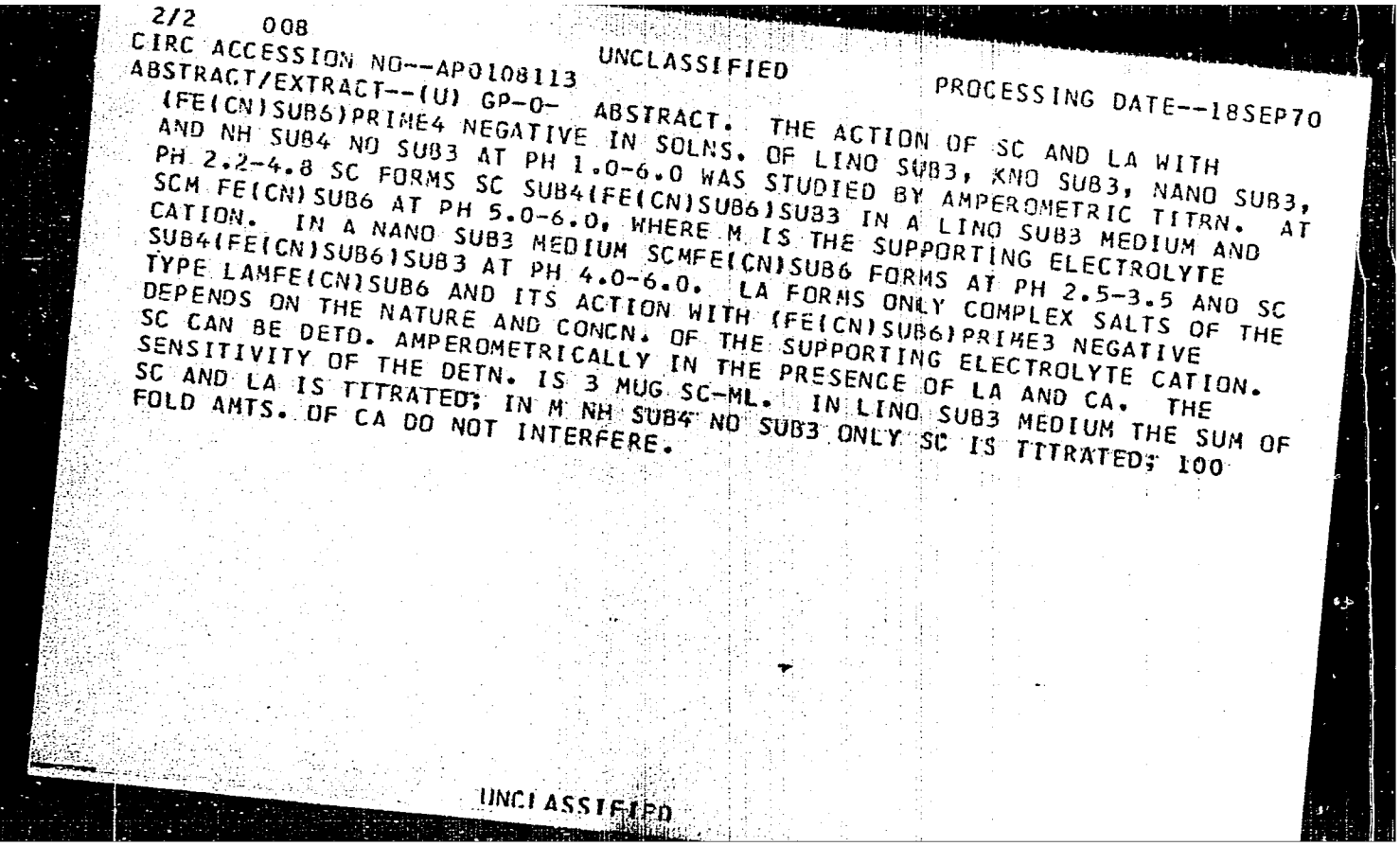
DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1989/1746

STEP NO--UR/0075/70/025/001/0064/0067

CIRC ACCESSION NO--AP0108113

UNCLASSIFIED



2/2 008 UNCLASSIFIED
CIRC ACCESSION NO--AP0108113 PROCESSING DATE--18SEP70
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ACTION OF SC AND LA WITH (FE(CN)SUB6)PRIME4 NEGATIVE IN SOLNS. OF LINO SUB3, KNO SUB3, NANO SUB3, AND NH SUB4 NO SUB3 AT PH 1.0-6.0 WAS STUDIED BY AMPEROMETRIC TITRN. AT PH 2.2-4.8 SC FORMS SC SUB4(FE(CN)SUB6)SUB3 IN A LINO SUB3 MEDIUM AND SCM FE(CN)SUB6 AT PH 5.0-6.0, WHERE M IS THE SUPPORTING ELECTROLYTE CATION. IN A NANO SUB3 MEDIUM SCMFE(CN)SUB6 FORMS AT PH 2.5-3.5 AND SC SUB4(FE(CN)SUB6)SUB3 AT PH 4.0-6.0. LA FORMS ONLY COMPLEX SALTS OF THE TYPE LAMFE(CN)SUB6 AND ITS ACTION WITH (FE(CN)SUB6)PRIME3 NEGATIVE DEPENDS ON THE NATURE AND CONCN. OF THE SUPPORTING ELECTROLYTE CATION. SC CAN BE DETD. AMPEROMETRICALLY IN THE PRESENCE OF LA AND CA. THE SENSITIVITY OF THE DETN. IS 3 MUG SC-ML. IN LINO SUB3 MEDIUM THE SUM OF SC AND LA IS TITRATED; IN M NH SUB4 NO SUB3 ONLY SC IS TITRATED; 100 FOLD AMTS. OF CA DO NOT INTERFERE.

UNCLASSIFIED