

USSR

VDOBYN, YU. A., et al, Optika i Sprekroskopiya, Vol 28, No 4,
April 1970, pp 814-817

spin. However, for heavy elements hyperfine splitting $\Delta\nu \ll 1 \text{ cm}^{-1}$, which is appreciably greater than the natural width of the levels. Thus, in a certain gas density range ($10^{15} \text{ cm}^{-3} \ll n \ll 10^{18} \text{ cm}^{-3}$) hyperfine splitting $\Delta\nu$ can exceed or compare with the collision width Γ ; therefore, it must be considered when determining the form of the line.

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1/2 034 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--IRREVERSIBLE BRAKING AND DIRECT COMPRESSION JUMPS IN ADIABATIC
STREAMS OF REAL GAS -U-
AUTHOR-(02)-DOBRODEYEV, V.P., KLYACHKIN, A.L.
COUNTRY OF INFO--USSR
SOURCE--MOSCOW, TEPLOENERGETIKA, NO 3, 1970, PP 87-89
DATE PUBLISHED-----70
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THERMODYNAMICS, REVERSIBLE THERMODYNAMICS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
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CIRC ACCESSION NO--AP0104891
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PROCESSING DATE--23OCT70

CIRC ACCESSION NU--AP0104891

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ANALYTICAL DEPENDENCES WERE ESTABLISHED BETWEEN THERMODYNAMIC PARAMETERS OF REVERSIBLE AND IRREVERSIBLE ADIABATIC BRAKING OF REAL GAS FOR USE IN THE ANALYSIS OF DIRECT JUMPS. TWO ILLUSTRATIONS. BIBLIOGRAPHY: FIVE REFERENCES.

UNCLASSIFIED

Epidemiology

USSR

DOBROKHOTOV, B. P., MESHCHERYAKOVA, I. S., DOLOTOVA, L. A., POMANSKAYA, L. A., ARSEN'YEV, V. P., LEVACHEVA, Z. A., PANINA, T. V., KATELINA, A. F. and MYASNIKOV, Yu. A., Institute of Epidemiology, and Microbiology imeni Gamaleya, Academy of Medical Sciences, and Tul'skaya Oblast Sanitary-Epidemiological Station

"Application of a New Method of Detecting Tularemia Epizootics Under Practical Conditions"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 7, 1973, pp 105-108

The timely detection, study, and prognostication of tularemia epizootics occupy an important place in the work of divisions of especially dangerous infections of sanitary-epidemiological stations inasmuch as this makes it possible to plan and carry out prophylactic measures against this infection properly. However, methods employed at the present time for detecting epizootics in nature are extremely labor-consuming and require a great deal of time both for the collection of field material and for its laboratory examination. It is practically impossible to survey each year the entire territory serviced by the station; therefore it is expedient to conduct a detailed study of circumstances in localities only after an approximate determination of the

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DOBROKHOTOV, B. P., et al., Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 7, 1973, pp 105-108

probability of the presence of tularemia epizootics in any of their parts. For this preliminary estimate it was suggested that pellets of birds of prey be examined for the presence of the tularemia microbe antigen [1]. Results of the practical application of this method under the conditions of Tul'skaya Oblast are presented in this report.

On the given territory, located in the Central Russian highlands, foci of tularemia of the meadow-field type [2] are widely distributed, the principal carrier being the ordinary field mouse and the long-time preserver of the causative agent, the tick *D. pictus*. In spite of substantial changes which have taken place in the method of conducting agriculture, these foci continue to exist; although as a result of the mass vaccination of the population, instances of disease among the people are extremely rare [3].

During 1968 to 1971 regular organized zoologic-parasitological work was carried out in the Oblast. A total of 25,832 traps were set up in the fields by workers in the Division of Especially Dangerous Infections during the time indicated; 497 cubic meters of straw were displaced; 84 hectares of the control areas were dug up and as a result 2,199 ordinary field mice were caught.

In the autumn of 1968 a large number of ordinary field mice were observed in the southern rayons of the Oblast: more than 500 per hectare; and in the

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DOBROKHOTOV, B. P., et al., Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 7, 1973, pp 105-108

north up to 1000-1500 in some places. This led to a concentration of small animals in the stacks (19 to 25% falling into the traps) and to the occurrence among them of tularemia epizootics. In December of 1968 and in January 1969 15 strains of the causative agent were isolated in Kurkinskiy and Shchekinskiy rayons of the Oblast: 5 from the carcasses of the field mice and 10 from the excrement. In the course of the entire year 1969 the number of field mice was low and the next increase was not registered until in the autumn of 1970: on isolated fields (clover) up to 2000, and in Shchekinskiy and Odoyevskiy rayons, up to 5000 per hectare. In 1971 the number of ordinary field mice in the entire Oblast was extremely low. During these years negative results were obtained in bacteriological investigations of small animals; only one culture of the tularemia microbe was isolated in June 1970 from the ticks *D. pictus* collected from cows in Suvorovskiy Rayon. Thus from 1968 to 1971 during an intensive inspection of the Oblast, the presence of tularemia was established by a bacteriological method in only three rayons -- Kurkinskiy, Shchekinskiy, and Suvorovskiy.

During 1969 to 1971, 1490 pellets of birds of prey were collected and examined in the Oblast. Their collection took place primarily in the spring

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(April - May) at the time of three-to-four-day field trips by automobile; a certain number was collected incidentally while other zoological work was being carried out. The pellets were most frequently found near poles of electro-transmission and communications lines, on stacks, and near other structures on the landscape. During the entire time in the collection of pellets approximately 30 man-days were used which comprised an extremely insignificant part of the time expended by the division for inspecting the Oblast. Unfortunately in some of the 18 rayons covered by the collection, an insufficient number of pellets were found, which did not permit the positive determination of an epizootic condition of the rodent population in their territory (See Drawing). The number of pellets collected at any point was directly dependent on the number of ordinary field mice in a given locality: under an increased concentration of these rodents more birds of prey were observed and it was possible to find more pellets.

In the spring collections pellets (which had been preserved since autumn) of ordinary and rough-legged buzzards that winter in the territory predominated (more than 90%). A large portion of the pellets of the lesser falcons had disintegrated by this time. In 88 to 96% of the pellets the remains of ordinary

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field mice were encountered; those of other kinds of mammals (mice of plowed land, field mice, grey hamsters, gophers, weasels, shrews) and birds were rarely encountered. During a selective examination in 1969, the remains of 128 small animals were detected in 85 pellets; in 1970, in 232 pellets, the remains of 356 small animals; and in 1971, the remains of 200 small animals in 140 pellets, giving an average of 1.5 small animal per pellet.

In this manner the 1490 pellets collected contained more small animals than those obtained in the fields during these years for investigation by all other methods. One should also keep in view that by consuming in nature primarily the weakened animals or their carcasses, birds of prey ensure the selection out of the animal population of precisely those individuals which are desirable for bacteriological investigation.

The presence of an antigen in the pellets positively confirmed the fact of an epizootic condition while through an analysis of the bone remains it was possible to determine the kinds of mammals involved in the epizootic process.

For the purpose of detecting the antigen the antibody neutralization reaction was employed. The material was prepared and the reaction carried out by the method described earlier [1].

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The antigen of the tularemia microbe was detected in 173 pellets collected in the territory of 11 rayons of the Oblast. Only those results were considered positive in which there was a sharp delay in hemagglutination which was observed in titrations (from the initial dry weight of the pellet); 1:10 - 1:20 in 73 cases; 1:40 - 1:80 in 67 cases; 1:160 - 1:320 in 23 cases; 1:640 - 1:1280 in 12 cases (See Table).

The number of sites where pellets were found containing an antigen was significantly greater than the number of sites where cultures were formed -- 21 against 4. This made it possible to establish with far greater precision the boundaries of epizootics that had transpired, and it testified to the fact that an epizootic situation with respect to tularemia still exists in a significant part of the territory of Tul'skaya Oblast. Moreover, the presence of epizootics was successfully established for the years having a smaller number of ordinary field mice where it is impossible to detect the causative agent of tularemia by the usually applied methods.

In such torpid epizootics the tularemia microbe antigen is detected only in 1 to 1.5% of the pellets. Cultures of the tularemia microbe from rodents can be isolated only at the time of sufficiently intensive epizootics, and in 6/10

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DOBROKHOTOV, B. P., et al., Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 7, 1973, pp 105-108

such places more than 20% of the collected pellets contained the tularemia microbe antigen.

In this way, results of an examination of pellets (by the antibody neutralization reaction) collected in early spring in meadow-field foci of tularemia can serve as a precise indication of the existence during the past winter of epizootic tularemia in the territory being surveyed and its magnitude. The revelation of this fact is extremely important in determining the enzooticity of the territory for the purpose of conducting prophylactic measures, the first and foremost being systematic vaccinations. Necessarily in a suspect territory a more thorough collection of material must be achieved for the purpose of isolating the causative agent of tularemia by ordinary bacteriological methods.

Conclusions

1. Examination of pellets of birds of prey collected in springtime in meadow-field foci of tularemia for the presence of the tularemia microbe antigen makes it possible quickly and with a small expenditure of work to establish the past winter's epizootics of this infection and their intensity over extensive areas.

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2. In the course of the years 1969 to 1971, tularemia enzooticity was established by the indicated method in 11 rayons of Tul'skaya Oblast; whereas by the bacteriological method the causative agent was detected in only 3 rayons.

3. With a sufficient amount of research material (100 to 200 pellets from each point) it will be possible to successfully detect each year even torpid tularemia epizootics, given a reduced number of ordinary field mice per focus.

4. The suggested method is completely suitable for use in work of divisions of especially dangerous infections of sanitary-epidemiological stations.

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4. Olsuf'yev, N. G., Dobrokhotov, B. P. et al., Zh. Mikrobiol., 1971, No 6, p 117.

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DOBROKHOTOV, B. P., et al., Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 7, 1973, pp 105-108

NUMBER OF PELLETS BY YEAR

RAYON	1969		1970		1971	
	Total	With Antigen	Total	With Antigen	Total	With Antigen
Kurkinskiy	149	33	24	--	22	1
Yefremovskiy	58	23	40	--	14	--
Kamenskiy	--	--	14	--	40	1
Chernskiy	--	--	8	--	117	--
Teplo-Orarevskiy	27	4	24	--	--	--
Kireyevskiy	--	--	30	--	166	2
Odoyevskiy	--	--	2	--	98	42
Dubenskiy	--	--	--	--	185	55
Leninskiy	--	--	22	--	168	5
Venevskiy	2	--	67	2	--	--
Yasnogorskiy	--	--	23	3	--	--
Zaokskiy	--	--	4	--	46	2
Aleksinskiy	--	--	12	--	36	--
Prochiye	8	--	50	--	32	--
Total	244	60	320	5	932	108

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DOBROKHOTOV, B. P., et al., Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 7, 1973, pp 105-108

Drawing

EXAMINATION OF PELLETS OF BIRDS OF PREY FOR
TULAREMIA MICROBE ANTIGEN CONTENT IN MEADOW-
FIELD FOCI OF TUL'SKAYA OBLAST

1. Sites of Formation of Cultures of Tularemia Microbe From the Smaller Mammals, From Their Excrement and Ixodic Ticks
2. Collection Point of Pellets in 1969
3. Collection Point of Pellets in 1970
4. Collection Point of Pellets in 1971

Crosshatched symbols are points where the tularemia microbe antigen was found in pellets; dotted symbols are points at which more than 5 pellets were collected.

- Key:
- | | |
|---------------|--------------|
| 1. Yasnogorsk | 7. Kireyevsk |
| 2. Venev | 8. Oloyev |
| 3. Tula | 9. Teploye |
| 4. Dubna | 10. Kurkino |
| 5. Suvorov | 11. Yefremov |
| 6. Shchekino | |

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Epidemiology

USSR

UDC 59.616.931.455(470.311)

OLSUF'YEV, N. G., DOBROKHOTOV, B. P., DUNAYEVA, T. N., KOVALEVSKIY, YU. V.,
and MESHCHERYAKOVA, I. S., Tularemia Laboratory and Laboratory of Medical
Zoology, Division of Natural Focus Infections, Institute of Epidemiology and
Microbiology, Academy of Medical Sciences USSR, Moscow

"Experience of Long-Term Study of a Natural Meadow-Field Tularemia Focus in
Southern Moscow Oblast"

Moscow, Zoologicheskii Zhurnal, Vol 51, No 9, 1972, pp 1425-1429

Abstract: Records were kept of rodent and tick densities, human tularemia out-
breaks, and epizootics in Stupinskiy and part of Podol'skiy Rayon since 1938
(when the 1st human tularemia outbreak was recorded) until 1971. Human outbreaks
followed periodic rodent density increases until 1952, after which time no
cases were reported due to a vaccination program. The principal rodent
(*Microtus arvalis*, *Micromys minutus*, *Apodemus agrarius*, *Arvicola terrestris*) and
tick (*Dermacentor pictus*, *Ixodes ricinus*, rarely *I. trianguliceps*) densities
fluctuated more or less synchronously over about 4-year periods, but maximum
densities decreased with time, particularly after 1963, probably due to improve-
ments in agricultural procedures and consequent reduction of rodent and tick
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OLSUF'YEV, N. G., et al., Zoologicheskii Zhurnal, Vol 51, No 9, 1972, pp 1425-1429

habitat. Epizootics continued to be detected however during moderate rodent density increases after 1967. Thus the tularemia focus continued to maintain itself despite agricultural innovations, though outbreaks were highly localized. It is suggested that tularemia agent can survive long periods not only in ticks but also by means of direct transfer from diseased to healthy rodents. Straw stacks left in fields during winter provide concentration areas for rodents and thus help to maintain the focus.

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USSR

UDC 911.3.616.981.455(571.12)

DUNAYEVA, T. N., ~~DOBROKHOTOV, B. P.~~, VORONTSOVA, T. A., BRIKMAN, D. I., and KOVALEVSKIY, Yu. V.

"An Attempt to Define the Distribution of Tularemia in Northern Rayons of Tyumenskaya Oblast"

V sb. Probl. osobo opasn. infektsiy (Problems of Especially Dangerous Infections -- collection of works) Vyp. 5(15). Saratov, 1970, pp 173-181 (from RZh-Meditsinskaya Geografiya, No 4, Apr 71, Abstract No 4.36.97)

Translation: Zoological, parasitological, bacteriological, and epidemiological research conducted during 1967 field trips provide evidence about the wide distribution of tularemia in the northern rayons of Tyumenskaya Oblast, all the way to shore areas of the mouth of the Ob River, the foothills of the polar Urals, and the Pur River basin. According to the high percentage of natural immunity among the local population, one can judge the significant level of epidemiological activity of the foci. A discussion is presented of the reasons for the non-correlation of skin allergy test results with tularemia incidence, and the reaction of agglutination with blood serum in the population of the North. Tularemia was first established among reindeer.

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USSR

UDC 599.32

DOBROKHOTOV, B. P., KOVALEVSKIY, Yu. V., ZHUKOV, V. I., and MOSOLOV, L. P.

"The Abundance of Small Rodents in the Fall of 1969 and Prognosis of Their Epizootic Status as Tularemia Vectors in the RSFSR in 1970"

Moscow, Byulleten' Moskovskogo Obshchestva Ispytateley Prirody, No 6, 1970, pp 46-55

Abstract: The estimates of rodent populations and forecasts of tularemia epizootics for 1970 are based on reports from all 71 republic, kray, and oblast sanitary-epidemiological stations of the RSFSR that reached the RSFSR Ministry of Health from 10 November to 15 December 1969. Employing the same analytical methods that they used for the 1969 forecasts, which proved to be quite accurate (a total of 53 cases of the disease were recorded among humans, somewhat more than in 1968), the authors predict that 1970 will be one of the mildest in the history of the USSR as far as tularemia epizootics are concerned. Their optimism is based on sharply reduced numbers of rodents due to the unfavorable weather conditions that prevailed throughout most the RSFSR in 1969. If prophylactic measures are taken promptly in the few threatened localities identified, there should be only isolated cases among human beings.

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USSR

UDC: 591.615+616.9-036.21

OLSUF'YEV, N. G., DOBROKHOTOV, B. P., DUNAYEVA, T. N., PCHELKINA, A. A., RODIONOVA, I. V., ARSEN'YEV, V. P., and PETROV, V. G., Tularemia Laboratory and Vectors Laboratory, Division of Infections with Natural Foci, Institute of Epidemiology and Microbiology, Academy of Medical Sciences USSR, Moscow

"The Effect of Sanctuaries on Natural Foci of Infections"

Moscow, Zoologicheskiiy Zhurnal, Vol 19, No 11, Nov 70, pp 1697-1704

Abstract: The Priokako-Terrasnyy Game Preserve in the southern part of Moskovskaya oblast has a varied fauna whose species composition and numbers are similar to those in natural forest biocenoses of the past. Wild ungulates and small mammals, particularly rodents, are very abundant. Studies conducted in 1968 and 1969 disclosed the presence of a great number of adult *Dermacentor pictus* and *Ixodes ricinus* ticks feeding on the ungulates. *I. trianguliceps* and *I. apronophorus* were less numerous. Microscopic examination revealed a number of microorganisms in the ticks: *tularensis* in *D. pictus*, tickborne encephalitis virus in *I. ricinus* and *D. pictus*, and *Erysipelothrix rhusiopathiae*, *Listeria monocytogenes*, and *Pastorella pseudotuberculosis* in the rodents. Sanctuaries such as game preserves tend to maintain natural foci of infections because of the

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OLSUF'YEV, N. G., et al, Zoologicheskiy Zhurnal, Vol 49, No 11, Nov 70, pp 1697-1704

relative constancy of the many populations of wild mammals and the large numbers of Ixodes ticks.

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C. Application of Theoretical Probability and
Mathematical Methods

USSR

DOBROKHOTOV, I. S. and TRUKHIN, B. V.

"Analysis of Dependences of a Deformation Diagram on Various Parameters
by Construction of a Confidence Band"

Metody Resheniya Zadach Uprugosti i Plastichnosti [Methods of Solution
of Problems of Elasticity and Plasticity -- Collection of Works], No 6,
Gor'kiy, 1972, pp 209-214 (Translated from Referativnyy Zhurnal Kiber-
netika, No 9, 1973, Abstract No 9V180)

Translation: The nature of the deformation diagram for a material gen-
erally depends essentially on many factors: temperature, deformation
rate, scale factor, etc. The influence of these factors is most sig-
nificant in the area of plastic deformations.

At the present time, there is no physical theory allowing adequate
description of the deformation diagram considering the many influencing
factors, even with accuracy to certain constants. As a rule, the de-
pendence of stress on strain and other parameters is constructed only
on the basis of experimental data. Therefore, construction of such a
dependence with a sufficient degree of accuracy requires many observations.
In the mathematical aspect, this problem is reduced to the construction

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DOBROKHOTOV, I. S. and TRUKHIN, B. V., Metody Resheniya Zadach Uprugosti i Plastichnosti, No 6, Gor'kiy, 1972, pp 209-214

of a regression on the basis of the results of observations. The form of the dependence is assumed known. This work studies the problem of construction of a confidence layer for an unknown regression which covers the regression with the required reliability.

Author's view

2/2

pects of the material. Due to the direct relationship between the depth of solidification of polymer and its thermophysical properties, the latter may be used in selecting technological conditions for the manufacturing of

High-temperature oxidation of aluminum powder
Akhmetov, Korneev, V. I.; Pevzlov, I. I.; Galin, N. F.; Petrovskaya, I. N.; Golov, S. A.

Subject: Intermetallic alloys; Investigations of metals and alloys; Intermetallic alloys; Intermetallic alloys; Intermetallic alloys

Great attention is currently being given to high-temperature oxidation of metals in science and technology.

This article was prepared during the development of investigations in high-temperature oxidation of Al powders. It presents the results of further study of the oxidation of high-temperature oxidation of Al powders in an oxygen medium and examines the oxidative stages of the process.

Standard P-1, P-2, P-3, and P-4 Al powders served as typical materials, technical or collected oxygen on the ground surface. The characteristics of Al powders are given in the table.

Characteristics of Al Powders

Grade of material	Content of impurities, %		Specific surface area, m ² /g
	Oxidized part	Trace	
P-1	57.5	---	0.973
P-2	93.5	0.03	0.225
P-3	---	---	1.015
P-4	98.3	none	0.302

The investigation was conducted by a typical installation, a diagram of which appears in Figure 1. The installation consisted of oxygen cylinder (1), reactor (2), valves to regulate oxygen flow (3), two flow meters (4), with check valves (5), regulator valve and millivoltmeter, a reactor for high-temperature oxidation of metallic powders (6), electrical power supply with induction furnace (11), weighing scale (12), millivoltmeter (13), and high-speed camera (14), and a filter to collect dust particles from the gas waste.

All powder samples up to 0.4 g in weight were sprayed in a uniform layer on quartz plate (5) and placed in the reactor.

Korneev, V. I.; Pevzlov, I. I. High-temperature oxidation of aluminum alloys. Collection of articles on investigations of heat-resistant alloys, vol. 7, USSR Academy of Sciences Publishing House, 1961.

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DOBROKHOTOV, B. P., KOVALEVSKIY, Yu. V., ZHUKOV, V. I., and MOSOLOV, L. P.

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UDC: 591.615+616.9-036.21

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C. Application of Theoretical Probability and
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description of the deformation diagram considering the many influencing
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dependence with a sufficient degree of accuracy requires many observations.
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DOBROKHOTOV, I. S. and TRUKHIN, B. V., *Metody Resheniya Zadach Uprugosti i Plastichnosti*, No 6, Gor'kiy, 1972, pp 209-214

of a regression on the basis of the results of observations. The form of the dependence is assumed known. This work studies the problem of construction of a confidence layer for an unknown regression which covers the regression with the required reliability.

Author's view

2/2

THE: High-Temperature Oxidation of Aluminum Powders
 AUTHORS: Kornoyev, V. L.; Vernidub, I. I.; Galkin, N. F.; Dobrokhov, L. N.; Gostev, Ye. A.
 SOURCE: *Izdatel'stvo "Nauka,"* 1964, 96-103

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Grade of material	Content, %			Gravimetric density g/cm ³
	Unoxidized metal	Grease	Moisture	
P-1	95.6	0.03	0.02	0.823
P-2	93.6	0.03	0.02	1.075
P-3	96.3	0.02	0.02	0.926

The investigations were conducted in a special installation, a diagram of which appears in Figure 1. The installation consisted of oxygen cylinder (1), reductor (2), valves to regulate oxygen intake (3), two flow meters (4), with choke valves (5), electronic units and millivoltsmeter (6), for high-temperature oxidation of metallic powders (8), electrical rheometer with induction sensor (11), oscillograph (10), illuminator (7), and high-speed camera (9), and a filter to collect hard particles from excess water gas spread camera (8), and a filter to collect hard particles from excess water gas spread camera (9) and placed in the reactor.

All powder samples up to 0.8 g in weight were spread in a uniform layer on quartz plate (5) and placed in the reactor.
 * Kornoyev, V. L.; Vernidub, I. I. High-temperature oxidation of dispersed aluminum. Collection of articles investigations of heat-resistant alloys, vol. 7, USSR Academy of Sciences Publishing House, 1961.

USSR

UDC 678.06-419.8:677.521]01:586

KIRILLOV, V. N., AVRASIN, Ya. D., YEFIMOV, V. A. and DOBROKHOTOVA, R. A.

"Effect of the Conditions of Thermal Treatment of Fiberglass on Their Thermophysical Properties"

Moscow, Plasticheskiye Massy, No 2, 1973, pp 58-60

Abstract: Results are reported of the study of the effect of the conditions of thermal treatment of fiber glass on its thermophysical properties in temperature range 20-300°C. It was shown that a considerable effect is exerted by thermal treatment and thermal aging on numerical values and temperature function of thermophysical properties. The type of change of the coefficient of heat transfer can be correlated to the structural aspects of the material. Due to the direct relationship between the depth of solidification of polymer and its thermophysical properties, the latter may be used in selecting technological conditions for the manufacturing of these materials. For example, on the basis of the change in thermal capacity the temperature range may be determined in which the processes of structuralization, of the emission of low-molecular-weight volatile products, destruction processes, etc., are taking place.

1/1

UDC 577.4

USSR

DOBROLYUBOV, A. I., KOZLOVSKAYA, A. B.

"Problems of Simulation and Analysis When Checking Complex Contact Relay Structures"

V sb. Tekhn. diagnostika (Technical Diagnostics -- collection of works), Moscow, Nauka Press, 1972, pp 184-188 (from RZh-Kibernetika, No 7, Jul 72, Abstract No 7V408)

No abstract

1/1

- 26 -

I/2 028 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--"AUTOMATION OF MACHINE CONTROL SYSTEMS DESIGN" -U-
AUTHOR-(03)-DOBROLYUBOV, A.I., AKUNOVICH, S.I., POPLAVSKIY, V.S.
COUNTRY OF INFO--USSR D
SOURCE--MOSCOW, MEKHANIZATSIYA I AVTOMATIZATSIYA PROIZVOODSTVA, NO. 1,
1970, PP 36-39
DATE PUBLISHED-----70
SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR, ELECTRONICS AND
ELECTRICAL ENGR.
TOPIC TAGS--AUTOMATION, MACHINE INDUSTRY, AUTOMATIC CONTROL SYSTEM,
ELECTRIC EQUIPMENT, COMPUTER, DESIGN STANDARD, ELECTRONIC CIRCUIT,
HYDRAULIC DEVICE/(U)MINSK DIGITAL COMPUTER
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REF: /FRAME--1985/0241 STEP NO--UR/0118/70/000/001/0036/0039
CIRC ACCESSION NO--AP0100763
UNCLASSIFIED

PROCESSING DATE--18SEP70

UNCLASSIFIED

2/2 028

CIRC ACCESSION NO--AP0100763
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE AUTHORS ASSERT THAT THE LABOR EXPENSE IN THE DESIGN OF MACHINE CONTROL SYSTEMS AMOUNTS TO 30 TO 50 PERCENT OF ALL OF THE ELECTRICAL EQUIPMENT DESIGN. FOR THAT REASON IT IS WORTH WHILE TO REDUCE THE LABOR THROUGH AUTOMATION. THE ENGINEERING METHOD OF THE DESIGN SHOULD BE SUFFICIENTLY ALGORITHMIZED TO ENLIST THE AID OF AN ELECTRONIC COMPUTER. THE ADVANTAGE OF SUCH A METHOD IS ILLUSTRATED BY SEVERAL EXAMPLES OF SYSTEMS DESIGNED BY DRIVE MECHANISM CONTROLLED BY A SINGLE MAGNETIC TWO POSITION SLIDE VALVE, A DIAGRAM OF WHICH IS GIVEN. THREE VARIANTS OF THE SYSTEM CONTROLLING THE MECHANISM, TWO OF WHICH ARE DESIGNED BY ORDINARY METHODS WHILE THE THIRD IS DESIGNED BY A SYNTHESIS ALGORITHM DEVELOPED BY THE BELORUSSIAN ACADEMY OF SCIENCES ARE GIVEN. DIAGRAMS OF THE ELECTRICAL CIRCUIT OF THE SYSTEM AND THE CYCLOGRAM OF ITS OPERATION IN THE FIRST VARIANT OF THE CONTROL SYSTEM ARE GIVEN. DIAGRAMS OF THE OTHER TWO VARIANTS ARE ALSO PRESENTED. COMPARISON OF THE FIRST TWO VARIANTS, DESIGNED BY ORDINARY METHODS, SHOWS THAT IN THE SYNTHESIS OF THE SYSTEM BY THE USUAL METHOD THE SOLUTION DEPENDS ON THE PAST EXPERIENCE OF THE DESIGNER. THE SECOND VARIANT IS DEFINITELY SUPERIOR AS A RESULT OF THE CLARITY AND REGULARITY OF ITS STRUCTURE AS WELL AS BY VIRTUE OF ITS USE OF ABOUT HALF THE EQUIPMENT. THE THIRD IS BETTER THAN THE FIRST TWO, HOWEVER, IN THAT IT DOES NOT REQUIRE HIGH QUALIFICATIONS AND LONG EXPERIENCE ON THE PART OF THE DESIGNER. AN ACCOMPANYING TABLE PRESENTS THE FUNCTIONAL CYCLOGRAM OF THIS THIRD SYSTEM AS OBTAINED BY THE "MINSK-22" COMPUTER.

UNCLASSIFIED

USSR



UDC 62-5.002.5(084.2)

DOBROLYUBOV, A. I., Candidate of Technical Sciences, AKUNOVICH, S. I.,
BOPLAVSKIY, V. S., Engineers

"Automatic Planning and Designing of Machine Tool Control Systems"
Moscow, Mekhanizatsiya i Avtomatizatsiya Proizvodstva, No 1, 1970,
pp 36-39

Abstract: This article contains an analysis and evaluation of ordinary and automatic methods of planning and designing machine tool control systems. Flow charts of sample systems are presented and the various components and operating process are explained.

Comparison of the systems shows that for the ordinary procedure of compiling the system the solution depends on the experience of the designer. An automatically designed system is presented which has the advantage that high qualifications and great design and planning experience are not required to realize the construction method. Increasing the number of inputs of the mechanism does not lead to an increase in the number of relays, as occurs in other systems. For example, for

USSR

DOBROLYUBOV, A. I., et al., Moscow, Mekhanizatskiya i Avtomatizatsiya
Proizvodstva, No 1, 1970, pp 36-39

control of a mechanism requiring eight inputs when synthesis by the engineering method is used, four intermediate relays are required, whereas 17 and 9 intermediate relays respectively were required for two ordinary systems. The new method of synthesizing systems permits utilization of computers, which is of great significance in achieving high rates of technical progress. A functional diagram of a system obtained on the Minsk-22 computer is presented in tabular form. The purpose of the system for automatic planning and designing of control systems developed at the Technical Cybernetics Institute of the Belorussian SSR Academy of Sciences is automatic planning and designing not only of the schematic but also of all the technical documentation entering into the plans for the schematic: the installation diagrams, the summary technical documents, and special operating documentation. The problem of automatic drawing of the schematics has been solved by using the graphical-drawing automaton ITYeKAN developed at the institute. ALGOL-60 is used for the planning and designing system software.
2/2

UDC: 531.767:629.13.014.34.69

USSR

DOBROLYUBOV, N. V., BARSUKOV, I. I., KLIMOV, I. T., URMANCHEYEV, S. A.

"A Device for Converting Small Air Speeds to an Electric Signal"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 26, 1970, Soviet Patent No 279213, Class 42, filed 2 Apr 69, p 143

Abstract: This Author's Certificate introduces a device for converting small air speeds to an electric signal, designed chiefly for helicopters. The installation contains a pressure pickup mounted on a blade of the helicopter rotor, and a pressure differential pickup. As a distinguishing feature of the patent, the construction is simplified and the reliability of the device is improved by installing an air collector in the hollow shaft of the rotor. This air collector connects the pressure pickup mounted on the rotor blade to the pressure differential pickup.

1/1

1/2 019

TITLE--SYNTHESIS OF RUBIDIUM OZONIDE IN A FLUIDIZED BED -U-
UNCLASSIFIED

PROCESSING UNIT
-U-

AUTHOR--(021)-TSENTSIPER, A.B., DOBROLYUBOVA, M.S.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (3), 690-2

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--OZONIDE, RUBIDIUM, CHEMICAL SYNTHESIS, FLUIDIZED BED

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1998/1161

STEP NO--UR/0062/70/000/003/0690/0692

NO--AP0121720

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--30OCT70

2/2 019

CIRC ACCESSION NO--AP0121720
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE TECHNIQUES USED FOR OZONIZATION OF RBO SUB2 TO FORM RBO SUB3 WERE DESCRIBED EARLIER (VOLINOV, ET AL.). PASSING AN O SUB2-O SUB3 MIXT. THROUGH RBO SUB2 IN A FLUIDIZED BED, THE LIMITING CONC. OF RBO SUB3 FORMED DEPENDED ON TEMP. AND PASSES THROUGH A MAX. AT SIMILAR TO 0DEGREES. THE LIMITING CONC. ATTAINED IS PROPORTIONAL TO GAS FEED RATE AND INVERSELY TO THE AMT. OF RBO SUB2 USED. POSSIBLE THE REACTION INVOLVES CHAIN EVENTS WHICH ACTIVATE RBO SUB2. SPECIMENS CONTG. UP TO 85PERCENT RBO SUB3 WERE PREPD. BY THIS METHOD. FACILITY: INST. OBSHCH. NEORG. KHIM. IM. KURNAKOVA, MOSCOW, USSR.

UNCLASSIFIED

172 021
UNCLASSIFIED
TITLE--REACTIONS OF ATOMIC OXYGEN WITH RUBIDIUM SUPERPEROXIDE AND RUBIDIUM
OZONIDE -U-
AUTHOR--(02)-TSENTSIPER, A.B., DOBROLYUBOVA, M.S.
COUNTRY OF INFO--USSR
SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (3), 692-4
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--PEROXIDE, RUBIDIUM COMPOUND, OZONIDE, METAL OXIDE, GLOW
DISCHARGE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1998/1332
CIRC ACCESSION NO--AP0121825
STEP NO--UR/0062/70/000/003/0692/0694
UNCLASSIFIED

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630010-7

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630010-7"

272 028

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0100763

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHORS ASSERT THAT THE LABOR EXPENSE IN THE DESIGN OF MACHINE CONTROL SYSTEMS AMOUNTS TO 30 TO 50 PERCENT OF ALL OF THE ELECTRICAL EQUIPMENT DESIGN. FOR THAT REASON IT IS WORTH WHILE TO REDUCE THE LABOR THROUGH AUTOMATION. THE ENGINEERING METHOD OF THE DESIGN SHOULD BE SUFFICIENTLY ALGORITHMIZED TO ENLIST THE AID OF AN ELECTRONIC COMPUTER. THE ADVANTAGE OF SUCH A METHOD IS ILLUSTRATED BY SEVERAL EXAMPLES OF SYSTEMS DESIGNED BY DRIVE MECHANISM CONTROLLED BY A SINGLE MAGNETIC TWO POSITION SLIDE VALVE, A DIAGRAM OF WHICH IS GIVEN. THREE VARIANTS OF THE SYSTEM CONTROLLING THE MECHANISM, TWO OF WHICH ARE DESIGNED BY ORDINARY METHODS WHILE THE THIRD IS DESIGNED BY A SYNTHESIS ALGORITHM DEVELOPED BY THE BELORUSSIAN ACADEMY OF SCIENCES ARE GIVEN. DIAGRAMS OF THE ELECTRICAL CIRCUIT OF THE SYSTEM AND THE CYCLOGRAM OF ITS OPERATION IN THE FIRST VARIANT OF THE CONTROL SYSTEM ARE GIVEN. DIAGRAMS OF THE OTHER TWO VARIANTS ARE ALSO PRESENTED. COMPARISON OF THE FIRST TWO VARIANTS, DESIGNED BY ORDINARY METHODS, SHOWS THAT IN THE SYNTHESIS OF THE SYSTEM BY THIS USUAL METHOD THE SOLUTION DEPENDS ON THE PAST EXPERIENCE OF THE DESIGNER. THE SECOND VARIANT IS DEFINITELY SUPERIOR AS A RESULT OF THE CLARITY AND REGULARITY OF ITS STRUCTURE AS WELL AS BY VIRTUE OF ITS USE OF ABOUT HALF THE EQUIPMENT. THE THIRD IS BETTER THAN THE FIRST TWO, HOWEVER, IN THAT IT DOES NOT REQUIRE HIGH QUALIFICATIONS AND LONG EXPERIENCE ON THE PART OF THE DESIGNER. AN ACCOMPANYING TABLE PRESENTS THE FUNCTIONAL CYCLOGRAM OF THIS THIRD SYSTEM AS OBTAINED BY THE "MINSK-22" COMPUTER.

UNCLASSIFIED

USSR

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UDC 62-5.002.5(084.2)

DOBROLYUBOV, A. I., Candidate of Technical Sciences, AKUNOVICH, S. I.,
~~POPLAVSKIY~~, V. S., Engineers

"Automatic Planning and Designing of Machine Tool Control Systems"
Moscow, Mekhanizatsiya i Avtomatizatsiya Proizvodstva, No 1, 1970,
pp 36-39

Abstract: This article contains an analysis and evaluation of ordinary and automatic methods of planning and designing machine tool control systems. Flow charts of sample systems are presented and the various components and operating process are explained.

Comparison of the systems shows that for the ordinary procedure of compiling the system the solution depends on the experience of the designer. An automatically designed system is presented which has the advantage that high qualifications and great design and planning experience are not required to realize the construction method. Increasing the number of inputs of the mechanism does not lead to an increase in the number of relays, as occurs in other systems. For example, for

USSR

DOBROLYUBOV, A. I., et al., Moscow, Mekhanizatskiya i Avtomatizatsiya
Proizvodstva, No 1, 1970, pp 36-39

control of a mechanism requiring eight inputs when synthesis by the engineering method is used, four intermediate relays are required, whereas 17 and 9 intermediate relays respectively were required for two ordinary systems. The new method of synthesizing systems permits utilization of computers, which is of great significance in achieving high rates of technical progress. A functional diagram of a system obtained on the Minsk-22 computer is presented in tabular form. The purpose of the system for automatic planning and designing of control systems developed at the Technical Cybernetics Institute of the Belorussian SSR Academy of Sciences is automatic planning and designing not only of the schematic but also of all the technical documentation entering into the plans for the schematic: the installation diagrams, the summary technical documents, and special operating documentation. The problem of automatic drawing of the schematics has been solved by using the graphical-drawing automaton ITYeKAN developed at the institute. ALGOL-60 is used for the planning and designing system software.
2/2

USSR

UDC: 531.767:629.13.014.34.69

DOBROLYUBOV, N. V., BARSUKOV, I. I., KLIMOV, I. T., URMANCHEYEV, S. A.

"A Device for Converting Small Air Speeds to an Electric Signal"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obratzysy, Tovarnyye Znaki, No 26, 1970, Soviet Patent No 279213, Class 42, filed 2 Apr 69, p 143

Abstract: This Author's Certificate introduces a device for converting small air speeds to an electric signal, designed chiefly for helicopters. The installation contains a pressure pickup mounted on a blade of the helicopter rotor, and a pressure differential pickup. As a distinguishing feature of the patent, the construction is simplified and the reliability of the device is improved by installing an air collector in the hollow shaft of the rotor. This air collector connects the pressure pickup mounted on the rotor blade to the pressure differential pickup.

1/1

1/2 019 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--SYNTHESIS OF RUBIDIUM OZONIDE IN A FLUIDIZED BED -U-

AUTHOR--(02)--TSENTSIPER, A.B., DOBROLYUBOVA, M.S.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (3), 690-2

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--OZONIDE, RUBIDIUM, CHEMICAL SYNTHESIS, FLUIDIZED BED

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1998/1161

STEP NO--UR/0062/70/000/003/0690/0692

CIRC ACCESSION NO--AP0121720

UNCLASSIFIED

2/2 019


UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0121720

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TECHNIQUES USED FOR OZONIZATION OF RBO SUB2 TO FORM RBO SUB3 WERE DESCRIBED EARLIER (VOL'NOV, ET AL.). PASSING AN O SUB2-O SUB3 MIXT. THROUGH RBO SUB2 IN A FLUIDIZED BED, THE LIMITING CONC. OF RBO SUB3 FORMED DEPENDED ON TEMP. AND PASSES THROUGH A MAX. AT SIMILAR TO ODEGREES. THE LIMITING CONC. ATTAINED IS PROPORTIONAL TO GAS FEED RATE AND INVERSELY TO THE AMT. OF RBO SUB2 USED. POSSIBLE THE REACTION INVOLVES CHAIN EVENTS WHICH ACTIVATE RBO SUB2. SPECIMENS CONTG. UP TO 85PERCENT RBO SUB3 WERE PREPD. BY THIS METHOD. FACILITY: INST. OSHCH. NEORG. KHIM. IM. KURNAKOVA, MOSCOW, USSR.

UNCLASSIFIED

1/2 021 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--REACTIONS OF ATOMIC OXYGEN WITH RUBIDIUM SUPERPEROXIDE AND RUBIDIUM
OZONIDE -U-
AUTHOR--(02)-TSENTSIPER, A.B., DOBROLYUBOVA, M.S. 
COUNTRY OF INFO--USSR
SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (3), 692-4
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--PEROXIDE, RUBIDIUM COMPOUND, OZONIDE, METAL OXIDE, GLOW
DISCHARGE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1998/1332 STEP NO--UR/0062/70/000/003/0692/0694
CIRC ACCESSION NO--AP0121825
UNCLASSIFIED

2/2 021

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0121825

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AT. O GENERATED IN GLOW DISCHARGE IS INCAPABLE OF REACTION WITH EITHER RBO SUB2 OR RBO SUB3 IN THE TEMP. INTERVAL FROM 2 G EES TO MINUS 78DEGREES. WHEN RBO SUB2 SAMPLE COOLED BY LIQ. N WAS TREATED WITH A GAS STREAM CONTG. O SUB3 A BLUE COLOR OF LIQ. O SUB3 APPEARED ON THE SUPPORTING STEM FOR THE SAMPLE BUT THE COLOR OF RBO SUB2 WAS UNCHANGED. IF AFTER SUCH AN EXPOSURE TO O SUB3 THE DISCHARGE TUBE IS CUT OFF AND COOLING IS REMOVED THE COLOR OF THE RBO SUB2 SAMPLE BECAME MOMENTARILY ORANGE, THE COLOR OF RBO SUB3. EVIDENTLY FORMATION OF RBO SUB3 IS CONNECTED WITH DIRECTION REACTION OF RBO SUB2 WITH O SUB3 AS SUCH, IN A REACTION THAT OCCURS AT ABOVE MINUS 115DEGREES, I. E. SOMEWHAT ABOVE B. P. OF O SUB3. FACILITY: INST. OBSHCH. NEORG. KHIM. IM. KURNAKOVA, MOSCOW, USSR.

UNCLASSIFIED

Luminescence

USSR

UDC 543.70

ANTKINA, L. I., BAGREYEV, V. V., DOBROLYUBSKAYA, T. S., ZOLOTOV, Yu. A.,
KARYAKIN, A. V., MIKLISHANSKIY, A. Z., NIKITINA, N. G., PALEY, P. N., YAKOVLEV,
Yu. V.

"Luminescent Determination of Gadolinium, Europium and Samarium as Impurities
in Metallic Uranium"

Moscow, Zhurnal Analiticheskoy Khimii, Vol XX, No 7, pp 1014-1018

Abstract: A quantitative luminescent method of analyzing gadolinium, europium and samarium impurities in metallic uranium is described. A large part of the uranium was separated by a chromatographic method, passing uranyl sulfate in 1 N H_2SO_4 through a column with KaU-2 cation-exchanger. The rare-earth element impurities remaining in the column were washed out by 4-5 N HCl. It was established photometrically with the application of arsenazo III that an unacceptable high amount of uranium (~ 0.04 percent from a weighed sample of 10 grams of uranyl sulfate) was washed into the eluate, making necessary the development of additional methods for separation and determination of the rare-earth elements. Luminescent methods were then used. Gadolinium, europium and samarium in metallic uranium were analyzed by the radiation spectra of luminophors based on Y_2O_3 for gadolinium and YVO_4 for europium and samarium. The rare-earth elements were concentrated chromatographically, and the luminescence was spark-excited. A phosphoroscope was used to measure the spectra. The sensitivity of analyzing
1/2

ANIKINA, I. I., et al., Zhurnal Analiticheskoy Khimii, Vol XX, No 7, pp 1014-1018

gadolinium, europium and samarium was $2 \cdot 10^{-6}$ percent, and the variation factor was 30 percent. The method permits quantitative determination of the indicated rare-earth elements from a weighed sample of up to 1 gram of uranium. As a control, the additive method was used. Gadolinium, europium and samarium were introduced in the amounts of $2 \cdot 10^{-5}$ and $5 \cdot 10^{-5}$ percent after decomposition of the metal uranium by nitric acid. An analysis flow chart and sample luminescence spectra are given in the article.

1/2 021 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--PROGNOSTIC IMPORTANCE OF TENSION IN RETINAL CAPILLARIES IN GLAUCOMA
SIMPLEX -U-
AUTHOR--(02)-DOBROMYSLOV, A.N., KVASOVA, M.D. **D**
COUNTRY OF INFO--USSR
SOURCE--VESTNIK OFTAL'MOLOGII, 1970, NR 3, PP 19-22
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--RETINA, CAPILLARY, HYPERTENSION, EYE DISEASE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3003/0114 STEP NC--UR/0357/70/000/003/0019/0022
CIRC ACCESSION NO--AP0129370
UNCLASSIFIED

2/2 021

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0129370

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. FOR PROGNOSTICATION IN GLAUCOMA SIMPLEX THE AUTHORS PROPOSE A PROGNOSTIC INDEX WHICH IS DETERMINED BY THE DIFFERENCE BETWEEN CAPILLARY TENSION IN THE RETINA (APPRAISED ENTOPICALLY) AND INTRADICULAR PRESSURE. THE RESULTS ENSUING FROM INVESTIGATIONS CARRIED OUT IN 50 PATIENTS WITH GLAUCOMA SIMPLEX SUPPORT THE USEFULNESS OF THIS INDEX IN FORMING JUDGEMENT ON PROGNOSIS AND CURATIVE MEASURES TO BE UNDERTAKEN. FACILITY: KAFEDRA GLAZNYKH BOLEZNEY LENINGRADSKOGO SANITARNO-GIGIYENICHESKOGO MEDITSINSKOGO INSTITUTA.

UNCLASSIFIED

Acc. Nr: AP0049046 D

Ref. Code: UR0357

PRIMARY SOURCE: Vestnik Oftal'mologii, 1970, Nr / ,
pp 64-67

EXPERIENCE GAINED IN THE USE OF ADENOSINE TRIPHOSPHORIC ACID
FOR THE TREATMENT OF DYSTROPHIC RETINAL AFFECTIONS

A. N. Dobromyslov, I. P. Fursova

Summary

Biochemical research proved the worth of ATP in ensuring normal functions of the eye. In retinal dystrophy the ATP level goes down. Experiments conducted by the authors back in 1966 elicited amassment of ATP in the internal coats of the eye following its topical application. The present report communicates the results subsequent to subconjunctival injections of ATP to patients with senile sclerotic maculodystrophy (30 patients, 60 eyes), pigmental dystrophy of the retina (14 patients, 28 eyes), complicated myopia (10 patients, 20 eyes), far advanced glaucoma (10 patients, 16 eyes). In more than 2/3 of the patients the course of treatment (15 subconjunctival injections of a 0.25% solution in an amount of 0.2 ml) brought about a noticeable improvement of the visual function which remains stable for 8-12 months.

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REEL/FRAME
19800832

hsh 2

Aluminum and Its Alloys

USSR

UDC 669.71

~~DOBROMYSLOV, A. V.~~, BUYNOV, N. N., GERSHKOVICH, R. M., and GLEBOV, V. V.,
Institute of Physics of Metals of the Academy of Sciences USSR

"Investigation of the Structure of Guinier-Preston Zones in the Alloy
Aluminum-Silver"

Sverdlovsk, Fizika Metallov i Metallovedeniye, Vol 31, No 5, May 71, pp
1058-1062

Abstract: A comparative roentgenographic and electron-microscopic investigation of sizes of Guinier-Preston (G-P) zones was carried out with a view to examine the correctness of the three-phase model of the decay in aluminum-silver alloy. The investigation included the determination of the silver distribution in the G-P zone with full account for the diffusion dispersion. With that end in view, coefficients of order in the alloy aluminum-silver, water quenched from 535°C with subsequent aging at 165°C over a period of 15 min, were determined. A method is discussed by which the silver concentration in the G-P zone, which was found to be equal to the amount of silver previously present in a specific volume of the alloy, can be determined. Five illustr., five formulas, nine biblio. refs.

1/1

1/2 034 UNCLASSIFIED PROCESSING DATE--2/NOV70
TITLE--ORIGIN OF THE CENTRAL DIFFUSE SPOT ON THE X RAY DIFFRACTION
PICTURES OF AN AGEING ALUMINIUM SILVER ALLOY -U-
AUTHOR-(03)-DOBROMYSLOV, A.V., BUINOV, N.N., GLEBOV, V.V.
COUNTRY OF INFO--USSR **D**
SOURCE--FIZIKA METALLV I METALLOVEDENIE, APR. 1970, 29, (4), 807-812
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS, MATERIALS
TOPIC TAGS--X RAY DIFFRACTION PATTERN, SILVER ALLOY, ALUMINUM ALLOY,
ELECTRON DENSITY, LOW TEMPERATURE EFFECT
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3003/0448 STEP NO--UR/0126/70/029/004/0807/0812
CIRC ACCESSION NO--AP0129673
UNCLASSIFIED

2/2 034

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0129673

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ORIGIN OF THE CENTRAL DIFFUSE SPOT REPEATEDLY APPEARING ON THE X RAY DIFFRACTION PATTERNS OF AGEING AG-AL ALLOYS AT LOW TEMP. IS DISCUSSED. THE DIFFUSE SPOT CANNOT BE ADEQUATELY EXPLAINED ON THE BASIS OF THE THERMAL VIBRATIONS OF INDIVIDUAL ATOMS. HOWEVER, ON THE BASIS OF THE GENERAL LAW OF

DIFFRACTION AS APPLIED TO SAMPLES CONTG. SPHERICAL QUANTER-PRESTON ZONES (THE X RAY ANALOGY OF THE DIFFRACTION OF LIGHT WAVES BY A CIRCULAR DISC), A FEASIBLE EXPLANATION FOR THIS EFFECT MAY BE SECURED, IF THE ZONES ARE CONSIDERED AS HAVING A RELATIVELY HIGH ELECTRON DENSITY.

UNCLASSIFIED

Measuring, Testing, Calibrating

USSR

UDC 620.179.16

GITIS, M. B., DOBROMYSLOV, V. M., KOPANSKIY, A. G., and SAZHIN, V. V., All-Union Scientific Research Institute for the Development of Nondestructive Materials Quality Control Methods and Facilities

"Separate-Combined Finder for Ultrasonic Flaw Detector"

USSR Authors' Certificate No 363031, Cl. G Oln 29/04, filed 10 Mar 70, published 20 Dec 72 (from Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 3, 1973, p 87)

Abstract: The device contains an emitting and a receiving transducer mounted on acoustic lines separated by an acoustic screen. The unique feature is that, to increase measurement accuracy, one of the transducers takes the

form of a capacitor consisting of two metal plates separated by a dielectric layer and connected to the polarizing voltage. An illustration is given.

APPROVED FOR RELEASE: 08/09/2001

CIA-RDP86-00513R002200630010-7"

USSR

UDC 621.317.755.029.4

DOBROBRAYOV, O. E., PAVLOVA, G. YA., and POCHTAREV, V. L.

"Wide-Band Strobe Unit for Low-Frequency Oscillographs"

V sb. Tunnel'n. diody v vychisl. i izmerit. tekhn. (Tunnel Diodes in Computer and Measurement Technology -- collection of works), Riga, "Zinatne", 1972, pp 281-285 (from RZh-Radiotekhnika, No 11, Nov 72, Abstract No 11 A259)

Translation: The authors study a strobe unit which has a transient process stabilization time of 0.35 nanoseconds and with external synchronization. The strobe circuit uses semiconductor triodes in an avalanche regime and semiconductor diodes with charge accumulation. A particularity of the given strobe unit is the fact that its wide-band capacity is achieved by using a mixing chamber. The conducted study and experimental evaluation of the amplitude-frequency characteristic of the strobe unit with a mixing chamber show that it has a uniform frequency-amplitude characteristic up to 900 Mc. Original article: four illustrations and one bibliographic entry. Resume.

1/1

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USSR

UDC 621.317.7:531.761

DOBRONRAVOV, O. E., PAVLOVA, G. YA., and POCHTAREV, V. L.

"High-Speed Thyatron of a Nanosecond Measuring Device of Time Intervals"

V sb. Tunnel'n. diody v vychisl. i izmerit. tekhn. (Tunnel Diodes in Computer and Measurement Technology — collection of works), Riga, "Zinatne", 1972, pp 287-294 (from RZh-Radiotekhnika, No 11, Nov 72, Abstract No 11 A231)

Translation: The authors study a high-speed thyatron operating at 300 Mc. The given thyatron is used in a nanosecond measuring device of time intervals equal to or less than 3 nanoseconds. Methodology is described along with the results of threshold testing the thyatron which was assembled from diodes with charge accumulation and tunnel diodes. Results are given from the analysis of the thyatron circuit using the method of experiment planning. Original article: four illustrations, two tables, and three bibliographic entries. Resume.

1/1

1/2 024 UNCLASSIFIED PROCESSING DATE--02OCT70
TITLE--PRODUCTION OF LARGE SIZED SECTIONS OF A TUBULAR FURNACE FROM GLASS
FIBER REINFORCED PLASTIC -U-
AUTHOR--(02)--KLOCHKOVA, M.R., DOBKUNRAVOV, V.A. D
COUNTRY OF INFO--USSR
SOURCE--KHIM. NEFT. MASHINSTR. 1970 (2) 28-30
DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR
TOPIC TAGS--GLASS FIBER, REINFORCED PLASTIC, PHENOL FORMALDEHYDE RESIN,
POLYMER BINDER, FURNACE, PLASTIC FABRICATING MACHINERY/(U)AG4S GLASS
REINFORCED PLASTIC

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY RELL/FRAME--1992/1503 STEP NO--UR/0314/70/000/002/0028/0030
CIRC ACCESSION NO--AP0112502
UNCLASSIFIED

2/2 024

UNCLASSIFIED

PROCESSING DATE--02JCT70

CIRC ACCESSION NO--AP0112502

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PRODUCTION TECHNOL. OF LARGE GLASS FIBER REINFORCED PLASTIC AG-4S (II DRUMS (BASE) ON A PHOH-CH SUB2 U BINDER) IS DISCUSSED AT LENGTH. A CROSS SECTIONAL DIAGRAM OF THE PRODUCTION APP. AND ITS MODE OF OPERATION ARE PRESENTED. THE SPECIFICATIONS OF THE I DRUMS ARE GIVEN.

UNCLASSIFIED

USSR

UDC: 629.19:533.6

DOBONRAVOV, V. V.

"Equations for Controlled Rotatory Motion of Space Flight Equipment"

Tr. 4-kh chteniy, posvyashch. razrabotke nauchn. naslediya i razvitiyu idey K. E. Tsiolkovskogo (Transactions of the Four Lectures Devoted to the Scientific Consequences and the Development of the Ideas of K. E. Tsiolkovskiy) 1969, "Mechanics of Space Flight" Section, Moscow, 1970, pp 124-131 (from RZh-Mekhanika, No. 2, Feb 71, Abstract No. 2B387)

Translation: The equations for controlled rotary motion of space flight equipment considered as a rigid body are developed by the methods of analytical dynamics. The Euler angles are used as the generalized coordinates. It is assumed that holonomic and non-holonomic connections, linear with respect to the generalized velocities, are imposed on the system (generally, there are no more than three connections). The controlling actions, considered as the reactions of the connections, are assumed ideal.

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USSR

DOBONRAVOV, V.V., Tr. 4-kh chteniy, posvyashch. razrabotke nauchn. naslediya i razvitiyu idey K.E. Tsiolkovskogo 1969, "Mechanics of Space Flight" Section, Moscow, 1970, pp 124-131 (from RZh-Mekhanika, No 2, Feb 71, Abstract No 2B387)

The equations of controlled motion around the center of mass are developed under the assumption that each of the generalized coordinates is a specified function of time, and that there are no external disturbing moments. Expressions for the controlling moments as functions of time as well as functions of the Euler angles are then obtained directly from the connection equations written in the variations. Some particular cases are considered: controlled regular precession around an axis stationary in space, conical motion of the equipment, natural permanent rotation. G. S. Aronin

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1/2 011

UNCLASSIFIED

PROCESSING DATE--30OCT70

TITLE--EFFECT OF SULFURIC ACID ON THE DISTILLATION OF AQUEOUS FORMALDEHYDE SOLUTIONS -U-

AUTHOR--(02)--DGBROSERDOV, L.L., ILINA, V.P.

COUNTRY OF INFO--USSR

0

SOURCE--MASSGOBMENNYE PROTSSESSY KHIM. TEKHNOL. 1969, NO. 4, 91-2

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--SULFURIC ACID, DISTILLATION, FORMALDEHYDE, PHASE EQUILIBRIUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--2000/0812

STEP NO--UR/0000/69/000/004/0091/0092

CIRC ACCESSION NO--AP0124479

UNCLASSIFIED

2/2 011

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--A0124479

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. LIQ. VAPOR EQUIL. OF AQ H SUB2 CO
SOLNS. CONTG. 9PERCENT H SUB2 SO SUB4 WAS DETD. ADDN. OF H SUB2 SO SUB4
INCREASED THE CONCN. OF H SUB2 CO IN THE VAPOR PHASE AND AFFORDED
DISTILLATES WITH INCREASED H SUB2 CO CONTENT. FACILITY:
LENINGRAD. INST. TEKST. LEGK. PROM. IM. KIROVA, LENINGRAD, USSR.

UNCLASSIFIED

USSR

UDC 612.85.014.45

ROSHCHIN, A. V., and DOBROSERDOV, V. K., Moscow, Institute of the Labor Hygiene and Occupational Diseases, Academy of Medical Sciences USSR; Hygiene Institute imeni F. F. Erisman

"Reaction of the Auditory Apparatus of Man to High Frequency Acoustic Vibrations"

Moscow, Gigiyena Truda i Professional'nyye Zabolevaniya, No 12, 1971, pp 3-7

Abstract: The effect of high-frequency sound of 4,000, 6,000, 10,000, and 15,000 Hz and 80 and 100 decibels on the auditory threshold of healthy 19-23 year old individuals was studied. Hearing loss was 25.7, 19.5, and 19.85 decibels one minute after stopping 6,000, 10,000, and 15,000 Hz sounds, respectively. These losses decreased with time after the experiments. Data are given for 3, 5, 10, 15, 20, 25, 30 minutes. Hearing was restored in 5, 15, and 25 minutes after 14,000, 6,000, and 10,000 Hz sound, respectively. Noise of 10,000 and 14,000 Hz and 100 decibels decreased the hearing by 3.28-3.43 decibels within the speech frequency range (4,000 Hz), with a restoration of hearing in 3 minutes. Sounds with the same frequency but of 80 decibels produced similar but less pronounced effects, and they were less fatiguing as compared with 100 decibel sounds. Sounds of 10,000 and 14,000 Hz are less harmful to hearing than sounds of 6,000 Hz.

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USSR

DOBROSERDOV, Yu. N., KULAKOV, A. F.

"A Priori Estimate of Information Connections of Sections and Algorithmic Control System"

Avtomatiz. Upr. Prom. Predpriyatiyami [Automation of Control of Industrial Enterprises -- Collection of Works], Kiev, Tekhnika Press, 1972, pp 22-28 (Translated from Referativnyy Zhurnal Kibernetika, No 4, 1973, Abstract No 4V670, by the authors).

Translation: Two methods of a priori estimation of information connections and weight factors of the sections of an algorithmic control system are studied. The first method is based on analysis of the information connections of the control system, represented as an aggregate system. The other method is based on the method of rank correlation.

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UDC 535.379:576.851.5

USSR

DOSKOCH, Ya. Ye., PARKHOMENKO, I. M., BOGDANOVA, N. V., MAZOKHINA, N. N.,
and TARUSOV, B. N., Moscow State University and All-Union Institute of the
Canning and Vegetable-Drying Industries

"Spontaneous and Induced Chemoluminescence of Spores From Thermophilic
Microorganisms in Relation to Their Thermostability"

Moscow, Mikrobiologiya, No 5, 1971, pp 849-857

Abstract: Study of spores from the thermophilic strain *Bacillus aerothermo-*
philus showed that they do not luminesce spontaneously whether heated or not.
However, passage of an electrical current through unheated spore suspensions
induced luminescence at a constant level. The intensity was much lower than
the luminescence emitted by suspensions heated to 120 to 130°C and the shape
of the kinetic curve was much different. The intensity of luminescence was
a function of the duration of heating, the maximum occurring after all the
spores were killed due to destruction of the spore coat. High temperatures
also affected the electrical conductance of the suspensions. In suspensions
heated to 120°C the maximum current intensity occurred after 90 minutes,
whereas in suspensions heated to 130°C it occurred after 3 minutes, the time
when all the spores were killed, i.e., the current intensity varied with
the number of dead microorganisms.

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1/3 017 UNCLASSIFIED PROCESSING DATE--30UCT70
TITLE--INTERNATIONAL CONFERENCE ON COSMIC RAYS -U-
AUTHOR--DOBROTIN, N.A.
COUNTRY OF INFO--HUNGARY, USSR, WORLD WIDE
SOURCE--MOSCOW, VESTNIK AKADEMII NAUK SSSR, RUSSIAN, VOL 40, NO 1, JANUARY
1970, PP 65-68
DATE PUBLISHED--JAN70

SUBJECT AREAS--ATMOSPHERIC SCIENCES, BEHAVIORAL AND SOCIAL SCIENCES
TOPIC TAGS--COSMIC RAY CONFERENCE, COSMIC RAY INTENSITY, MU MESON,
NEUTRINO

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3003/0235 STEP NO--UR/0030/70/040/001/0065/0068
CIRC ACCESSION NO--AP0129484
UNCLASSIFIED

2/3 017

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0129484

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EVERY OTHER YEAR THE INTERNATIONAL UNION OF THEORETICAL AND APPLIED PHYSICS ORGANIZES AN INTERNATIONAL CONFERENCE ON COSMIC RAYS. THE LEADING SPECIALISTS IN THAT AREA OF SCIENCE ASSEMBLE AT THEM AND THE PRESENTED REPORTS GIVE A BROAD PICTURE OF THE WORK ON COSMIC RAYS IN ALL COUNTRIES OF THE WORLD. THE REGULAR 11TH CONFERENCE WAS HELD FROM 25 AUGUST TO 4 SEPTEMBER 1969 IN BUDAPEST. AS COMPARED WITH THE PRECEDING CONFERENCES A RECORD NUMBER OF REPORTS WAS READ AT IT, 460. THE NUMBER OF PARTICIPANTS ALSO INCREASED CORRESPONDINGLY. HALF THE REPORTS WERE DEVOTED TO THE STUDY OF VARIATIONS OF THE INTENSITY OF COSMIC RAYS AND INVESTIGATION OF PRIMARY COSMIC RADIATION. THIS IS COMPLETELY UNDERSTANDABLE. WE ARE LIVING IN AN AGE WHEN THE PROCESSES TAKING PLACE IN THE COSMOS, ON THE SUN AND IN INTERPLANETARY SPACE ARE ATTRACTING SPECIAL ATTENTION. A CONSIDERABLE NUMBER OF REPORTS DEALT WITH INTERACTIONS AT HIGH ENERGIES. AS OPPOSED TO WORK ON VARIATIONS THE SCOPE OF INVESTIGATIONS IN THAT AREA HAS BEEN MORE OR LESS CONSTANT IN RECENT YEARS, AS MANY PHYSICISTS WHO HAVE INVESTIGATED PROCESSES AT HIGH ENERGIES IN COSMIC RAYS HAVE GONE OVER TO WORK WITH ACCELERATORS. HOWEVER, IT IS BECOMING MORE AND MORE CLEAR NOW THAT THE ENERGIES OF THE PARTICLES OBTAINED BY MEANS OF ACCELERATORS (EVEN SUCH A POWERFUL ONE AS THAT AT SERPUKHOVO) STILL ARE INADEQUATE TO MAKE KNOWN AND STUDY THE DISTINCTIVE FEATURES OF INTERACTIONS AT HIGH ENERGIES. THIS HAS AGAIN INTENSIFIED INTEREST IN THE NUCLEAR PHYSICAL ASPECT OF COSMIC RAYS AND HAS LED TO A GROWTH OF INVESTIGATIONS IN THAT AREA.

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UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--A0129484

ABSTRACT/EXTRACT--FINALLY, ONE SHOULD NOTE AN INCREASE IN THE NUMBER OF REPORTS DEVOTED TO MU MESONS AND NEUTRINOS. UP TO NOW MU MESONS HAVE REMAINED, PERHAPS, THE MOST PUZZLING PARTICLES, AND THERE IS HOPE THAT INVESTIGATIONS AT VERY HIGH ENERGIES CAN CLARIFY A GREAT DEAL. AS FOR THE NEUTRINOS, THE STUDY OF THOSE UNUSUALLY PENETRATING PARTICLES IS IN GENERAL ONLY BEING STARTED. THE SOVIET DELEGATION TO THE BUDAPEST CONFERENCE WAS RATHER REPRESENTATIVE. OUR SCIENTISTS PRESENTED OVER A FOURTH OF THE 460 REPORTS PRESENTED, WHICH REFLECTED THE LARGE SCOPE OF INVESTIGATIONS OF COSMIC RAYS IN THE USSR.

UNCLASSIFIED

USSR

UDC 541.183:546.246 - 31: 546.221

ASTAKHOV, V. A., DOEROTIN, R. B., MEYERSON, L. A., LUKIN, V. D., and STEPANOV, G. V., Belorussian Technological Institute imeni S. M. Korov

"Adsorption of Carbon Dioxide and Carbon Disulfide by a Suspension of CaA Zeolite in Toluene"

Leningrad, Zhurnal Prikladnoy Khimii, Vol 43, No 12, Dec 70, pp 2655-2658

Abstract: The adsorption of CO_2 and CS_2 by the CaA zeolite, used as a 20% suspension in toluene, was studied. Toluene was selected as the dispersing medium because its molecules are too big to penetrate the micropores of the zeolite used. Binder-free zeolite was used. In addition to the suspension mentioned, also dry powdered zeolite was used in experiments. It was determined that with identical partial CO_2 pressure at equilibrium, the adsorption by a suspension is considerably lower from the adsorption by dry zeolite. At identical molal concentration in toluene solution, adsorption of CS_2 is considerably lower than the adsorption of CO_2 .

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- 1 -

DOBROV, G.M.

THE SYSTEMS APPROACH TO SCIENCE MANAGEMENT

FRS 66509
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(Article by G. M. Dobrov, deputy director of the Institute of Cybernetics of the Ukrainian SSR Academy of Sciences and doctor of economic sciences, Kiev, USSR. Экономика и Организация Промышленного Производства, Russian, No 3, 1973, pp. 14-25)

Science management is the process of the formation and implementation of a specific science policy. In the USSR the desire to realize an effective-ly as possible, in the national interest and in accordance with current possi-bilities, a regular principle of the development of modern sciences -- its trans-formation into a direct productive and social force in society to an ever greater extent and on an ever broader front of scientific disciplines -- is the con-stitutive doctrine of state policy with respect to science in the USSR. For this purpose it is necessary to solve three mutually supplementary central problems of science management (see Figure 1):

- 1) the formation of a statewide system of goals of scientific research and planning and design activity and of the strategic orientation of state policy with respect to science ("The Strategy of Science" -- 1.0);
- 2) effecting an increase in the country's scientific potential, the extent, structure, and quality of which would correspond to the social needs reflected in the system of immediate and long-range goals of science ("The Potential of Science" -- 2.0);

3) the defining and implementation in practice of a body of measures for increasing the effectiveness of science with respect to the social needs available forces and in particular in the direction of accelerating, expanding activity ("The Effectiveness of Science" -- 3.0).

Precisely these problems are the key to the fulfillment of the tasks set by the 24th CPSU Congress for increasing the effectiveness of all of the country's scientific institutions, implementing the transition from the sys-tem to the intensive methods of solving the most important problems of

USSR

UDC 577.1:615.7/9

DOBROV, N. N., KOZLOV, V. A., PARSHIN, V. S., and SAKSONOV, P. P.

"Effect of Cystamine in a Mixture With Sympathomimetic Amines on Repair Processes After Exposure to Radiation and Overloads"

V sb. Probl. kosmich. biol. (Problems in Space Biology -- Collection of Works), Vol 14, Moscow, "Nauka" (Science), 1971, pp 285-288 (Russian) (from RZh-Biologicheskaya Khimiya, No 20, 25 Oct 71, Abstract No 20F1718 from summary)

Translation: Mice were subjected to gamma-irradiation (250 roentgens) and the effect of acceleration on a centrifuge (15 and 30 units, 5 min) 50 min before and 30 min after irradiation. The radioprotector cystamine (100 mg/kg) in a mixture with amphetamine (1.5 mg/kg) and adrenaline (0.15 mg/kg) was injected intraperitoneally 55 min before irradiation, and in the event of combined exposure 5 min before overload. The rate of repair of the reversible portion of radiation damage, as determined from the half-recovery period of the animals' radioresistance, was used as the criterion of protective action. The authors established that the protective action of cystamine is approximately equal for combined exposure and for irradiation alone.

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USSR

UDC 621.373.531(088.8)

DOBROV, N. YA.

"Relaxation Oscillator"

USSR Author's Certificate No 273268, Filed 6 Dec 66, Published 24 Aug 70 (from RZh-Radiotekhnika, No 4, Apr 71, Abstract No 4G213P)


Translation: An oscillator is proposed in which in order to decrease the recovery time, increase the steepness of the pulse fronts and obtain bipolar pulses at the output, a dynamic displacement current shaper is included between the storage capacitor and the tunnel diode. The current shaper is made of a tunnel diode and semiconductor triode the emitter-base junction of which is connected in parallel to the tunnel diode. The cathode of the tunnel diode is connected to the output of the storage capacitor, and the anode is connected to the anode of the tunnel diode of the oscillator.

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USSR

UDC 621.373.43

DOBROV, N. YA. 

"A Relaxation Oscillator"

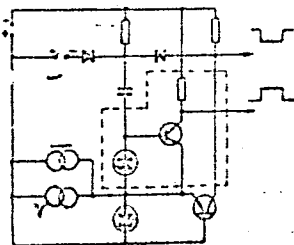
Moscow, Otkrytiya, Izobreneniya, Promyshlennyye Obrazttsy, Tovarnyye Znaki,
No 20, 1970, Author's Certificate No 273268, Filed 6 Dec 66, p 50

Abstract: This author's certificate introduces a relaxation oscillator based on author's certificate No 225902. As a distinguishing feature of the patent, recovery time is reduced, the steepness of the fronts of the generated pulses is increased, and bipolar pulses are produced at the output by connecting a dynamic displacement current shaper between the storage capacitor and the tunnel diode. This shaper consists of a tunnel diode and a transistor whose emitter-base junction is connected in parallel with this tunnel diode. The cathode of this tunnel diode is connected to a lead of the storage capacitor, while the anode is connected to the anode of the tunnel diode in the relaxation oscillator.

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USSR

DOBROV, N. YA., Otkrytiya, Izobreneniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 20, 1970, Author's Certificate No 273268, Filed 6 Dec 66, p 50



2/2

DOBROV V.M.

AA0046994

UR 0482

Soviet Inventions Illustrated, Section III Mechanical and General,
Derwent, 241460

PISTON-TYPE VALVELESS COMPRESSED GAS
MOTOR for obtaining low temperatures,

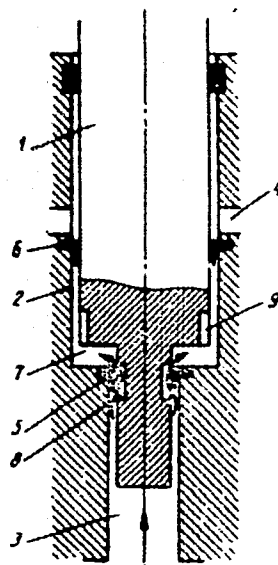
has a differential piston, a corresponding cylinder with sealing elements and gas input and output channels. The sealing elements are in the form of sleeves as described below, so as to give greater economy. The device consists of differential piston 1 in cylinder 2 with channels 3 and 4 for gas input and output. In slots in the cylinder are sealing elements in the form of sleeves 5 and 6 passing round the cylindrical surfaces of the piston and dividing the working cavity 7 and separating channels 3 and 4. On the surfaces of the piston steps are recesses 8 and 9 of greater height than sleeves 5 and 6. The piston is actuated by a drive mechanism to make a reciprocating motion relative to the fixed cylinder. At the bottom position cavity 7 is unsealed to allow input of compressed gas, which goes into the working chamber via recess 8. The expanded gas is released at the top position of the piston, when the cavity is unsealed to permit the exit of the expanded gas via recess 9 to the consumer.

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2.1.68 as 1207321/24-6 DOBROV, V.M. (29.9.69)
Bul. 14/18.4.69. Class 17a, Int. Cl. F 23b.

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19790409

Acc. Nr: AP0044854

Ref. Code: UR0531

PRIMARY SOURCE: Khirurgiya, 1970, Nr 1, pp 79-85

D
**DISTINCTIVE FEATURES OF HEMODYNAMICS
IN CYCLOPROPANE-INDUCED ANESTHESIA**
Gostishcheva, S. S.; Dobrova, A. M.

Results of investigations into cardiac activity and peripheral circulation in 224 patients operated upon in connection with various surgical diseases under cyclopropane anesthesia are reported. The authors evince the ability of cyclopropane to raise arterial pressure when its initial level is low and to continually maintain it throughout the whole of the operation. The increased arterial pressure figures (in hypertensive disease) either tended to go down, or remained stable. Disturbed cardiac rhythm noted in 1.3% of cases was due to either insufficient degree or excessively deep anesthesia.

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02 DI

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19771709

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UDC 547.51 +541.15 + 661.718.1

BABKINA, E. I., VINOGRADSKAYA, L. S., DOBROVA, Ye. I., and GUR'YEVA, N. A.,
Branch of the Physical Chemical Scientific Research Institute imeni L. Ya.
Karpov

"Radiochemical Synthesis of Organophosphorus Compounds Based on Indene and
Phosphorus Trichloride"

Leningrad, Zhurnal Obshchey Khimii, Vol 43 (105), No 9, Sep 73, pp 2084-2085

Abstract: Gamma irradiation of the mixtures of indene and PCl_3 under con-
ditions favoring either addition of PCl_3 to the double bond or polymerization
as well as under conditions practically excluding the possibility of polymeri-
zation yields, fails to induce the addition of PCl_3 to the indene along the
double bond. This may be due to an extremely unsaturated state of the indene
double bond leading principally to the polymerization products.

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USSR

DOBROVIDOV, A. V.

"Self-Teaching Algorithm for Asymptotically Optimal Filtration of Random Signals with Unknown A Priori Distribution"

Probl. Upr. i Teorii Inform. [Problems of Control and Information Theory], 1972, Vol 1, No 2, pp 163-176 (Translated from Referativnyy Zhurnal Kibernetika, No 6, 1973, Abstract No 6V227, by the author).

Translation: An algorithm is suggested for nonparametric estimation of polynomial functions of random signals under conditions when the a priori distribution of the random signals is unknown and the conditional (with fixed values of random signals) density of the observed random quantities belongs to an exponential set of densities. Convergence of nonparametric estimates on the optimal estimate and convergence of the corresponding mean risks on the optimal Bayes risk are proven.

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USSR

UDC: 519.24

DOBROVIDOV, A. V.

"On the Problem of Parametric Evaluation of a Multidimensional Parameter"

V sb. Obnaruzh. i raspoznavaniye. Planir. eksperimentov (Detection and Recognition. Planning of Experiments--collection of works), Moscow, "Nauka", 1970, pp 55-61 (from RZh-Kibernetika, No 1, Jan 71, Abstract No 1V179)

Translation: Let θ be a parameter with *a priori* distribution $G(\theta, C)$ in which the true value C_0 of parameter C is unknown. Let δ_0 be the optimum mean square estimate (*a posteriori* average) of parameter θ , and let δ_n be the same estimate where the unknown parameter C_0 is replaced by its estimate C_n computed from the observed realizations x_1, x_2, \dots, x_n of some random quantity with density function $l(X; C) = \int l(X | \theta) dG(\theta; C)$. Let R_0 and R_n be the average risks of estimates δ_0 and δ_n respectively (assuming a quadratic loss function). The following assertions are made in this paper: if $\delta_0 \rightarrow \delta_n$ with respect to probability as $n \rightarrow \infty$ for almost all X , then $\lim_{n \rightarrow \infty} R_n = R_0$, and secondly, if $C_n \rightarrow C_0$ with probability one as $n \rightarrow \infty$, then it is almost certain that $\delta_n \rightarrow \delta_0$. The author describes a recurrent method of constructing estimates C_n which converge to C_0 with probability one. Yu. Shinakov.

USSR

UDC: 621.372.85

DUBROVIN, V. F., MIROVITSKIY, D. I., OSIPVO, L. S.

"Directional Dividers Based on Metal-Dielectric Waveguides"

V sb. Antenny (Antennas--collection of works), Vyp. 9, Moscow, "Svyaz", 1970, pp 72-80 (from RZh-Radiotekhnika, No 12, Dec 70, Abstract No 126221)

Translation: The authors give the results of development of directed SHF power dividers based on metal-dielectric waveguides in which new principles are used for ensuring high directivity. This made it possible to create structurally simple dividers providing high electrical characteristics over a wide frequency band. Making the dividers under laboratory conditions does not require the use of any special technology, and they can be made by printed-circuit techniques in mass production. Basic electrical and structural characteristics are given for a two-channel directional power divider in the centimeter wavelength range. Methods are indicated for further improving the characteristics of dividers of this type. Six illustrations, one table, bibliography of nine titles. Resumé.

1/1

Single Crystals

USSR

UDC: 539.376:548.55

AKSEL'ROD, Ye. I., VISHNEVSKIY, I. I., DOBROVINSKAYA, Ye. R., TAL'YANSKAYA, N. D., Ukrainian Scientific Research Institute of Refractories, Khar'kov

"High-Temperature Creep of Corundum Single Crystals Subjected to Pure Bending"

Moscow, Doklady Akademii Nauk SSSR, Vol 213, No 2, 11 Nov 73, pp 331-334

Abstract: The authors study the mechanical behavior of corundum single crystals subjected to steady-state creep under conditions of stress of the pure bending type and forbidden basis slip in an effort to obtain information on the principles which govern plastic flow in non-basis systems on the temperature interval of 1650-1970°C (83-97% of the melting point). It was found that the nature of steady-state creep in corundum single crystals of zero orientation is the same as with deformation in the basis plane. The energies of creep activation in corresponding temperature intervals are in close agreement. This confirms the similarity of creep mechanisms for these orientations. At the same time, there is a pronounced difference in

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USSR

AKSEL'ROD, Ye. I. et al., Doklady Akademii Nauk SSSR, Vol 213, No 2, 11
Nov 73, pp 331-334

strain rates: at 1900°C a tensile stress of 0.327 kg/mm² along an axis making an angle of about 45° to the basis plane gives a creep rate of 1.4·10⁻⁵ s⁻¹; in the zero-orientation experiments at the same temperature, ten times this tensile stress produced a creep rate of only 10⁻⁵ s⁻¹. Since the dependence on stress is the same ($v \sim \sigma^{3/2}$), the creep rates under equal tensions differ by a factor of at least 10⁷. The authors thank A. N. Galagurya for taking part in the experiments.

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USSR

UDC 548.5

BAGDASAROV, KH. S., DOBROVINSKAYA, YE. R., PISHCHIK, V. V., CHERNIK, M. M., KOVALEV, YU. YU., GERSHUN, A. S., ZVYAGINTSEVA, I. F., All-Union Scientific Research Institute of Single Crystals

"Low-Dislocation Single Crystals of Corundum"

Moscow, Kristallografiya, Vol 18, No 2, Mar-Apr 73, pp 390-395.

Abstract: The relationship of growth conditions and quality of structure of corundum single crystals is studied. The influence of spatial orientation, temperature gradient and stability of thermal conditions on formation of dislocations in crystals of corundum grown by directed crystallization is studied. Proper selection of orientations minimized the influence of structural defects in an etched crystal and practically eliminated heredity of dislocations arising in the growth process. Investigation and consideration of three-dimensional orientation and crystallization conditions on structural quality allowed the production of low-dislocation single crystals of lucosapphire.

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DOBROVINSKAYA, Ye. R.

3-2-85 69068
6-7-85

VII-2. MECHANISM OF THE OCCURRENCE OF PORES IN CRYSTALS GROWN FROM A GAS-SATURATED MELT

Article by Ye. R. Dobrovinskaya, V. V. Piskunov, I. A. Spivakovskaya, L. V. Afonimchenko, All-Union Scientific Research Institute of Single Crystals, Kharkov, Novosibirsk, III Stepanov St., Novosibirsk, Russia and Ye. R. Dobrovinskaya, V. V. Piskunov, I. A. Spivakovskaya, L. V. Afonimchenko, All-Union Scientific Research Institute of Single Crystals, Kharkov, Novosibirsk, III Stepanov St., Novosibirsk, Russia (Submitted June 12, 1977; in final form July 12, 1977)

A study was made of the physical processes defining the pore formation and saturation of the melt with a gas-saturated melt. The dissociation of the pores on the phase interface and the processes of removal of these components from the melt as a result of diffusion and convection are investigated. A study was made of the problem of the occurrence of nucleating centers of the gas phase at the crystallization front and their effect on the pore formation in the liquid phase.

The morphology of pores in single crystals of calcium sulfide, zinc sulfide and lanthanophane was investigated. In the crystals pores of spherical, columnar and drop shape were observed. Studies were made of the problems of the formation of pores during the process of high-temperature annealing. Certain problems of the growth kinetics of bubbles in the melt and the columnar pores in the crystal are discussed.

The general laws of the occurrence of pores in single crystals of semi-conducting ionic compounds grown from a dissociating melt were found.

Acc. Nr. **ATO107991** - Abstracting Service

CHEMICAL ABST.

Ref. Code

4R 0020

128273v Nature of crystal chemical transformations during the reduction of complex oxides studied on the basis of the theory of cluster components. Dobrovinskii, R. Yu.; Men, A. N.; Chufarov, G. I. (Inst. Met., Sverdlovsk, USSR). *Dokl. Akad. Nauk SSSR* 1970, 190(2), 339-40 [Chem] (Russ). The relation, arising from the theory of cluster components, between the compn. and properties of cluster components (CC), and the mechanism of the redn. and of the crystallochem. transformations taking place in the spinel solid solns. was investigated. The isomorphous mixt. $FeCr_{2c}Fe_{2(1-c)}O_4$ was chosen as an example possessing a nonmonotonic dependence of the conversion degree $\lambda = \lambda(c)$. In the interval $0 \leq c \leq 0.2$, $\lambda \leq 0$, at $0.2 \leq c \leq 0.62$, is $0 \leq \lambda \leq 1$, at $0.62 \leq c \leq 1$, $\lambda = 1$. Then the theoretical anal. showed that until $c = 0.2$ there must coexist two solid phases of variable compn. in equil.: the spinel and the oxide one. At $c = 0.2$, $FeCr_{0.4}Fe_{1.6}O_4 = 0.61FeFe_2O_4 + 0.4FeCrFeO_4$. At $0.2 < c < 0.5$, three (CC) can be sepd. however, at $c = 0.5$, $\lambda = 0.5$ there remain only two (CC), namely: $FeCr_{1-c}Fe_{1+c}O_4 = 0.5FeFe_2O_4 + 0.5FeCr_2O_4$. At $0.5 < c \leq 0.62$ in the spinel phase there can be sepd. three (CC), while at $c = 0.62$ ($\lambda = 1$) two (CC) are separable, here the converted magnetite constituting the (CC) of the spinel soln. disappeared and further; until $c = 1$, the process proceeded on account of the redn. of the hypothetical normal magnetite that, in contrast to the converted magnetite, was obviously reduced above 572° with formation of metallic iron.

L. Berak

ELB 18

REEL/FRAME
19891571

UDC: 621.317.738

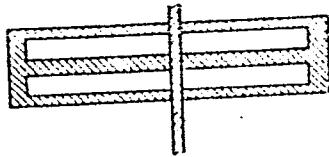
USSR

YARIN, N. V., MINOV, O. N., LANDYK, V. A., DOBROVINSKIY, V. R.

"A Resonator for Measuring the Permittivity of Sheet Specimens of Dielectrics on Superhigh Frequencies"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obrabotki, Tovarnyye Znaki, No 31, Nov 71, Author's Certificate No 317994, Division G, filed 3 Jun 69, published 19 Oct 71, pp 171-172

Translation: This Author's Certificate introduces a resonator for measuring the permittivity of sheet specimens of dielectrics on superhigh frequencies. The device contains a coaxial section shorted at both ends. As a distinguishing feature of the patent, measurement accuracy is improved by making the length of the resonator close to an odd number of $\lambda/4$ -waves of the working frequencies, and making a transverse slot through the middle of the resonator to accommodate the dielectric specimen to be studied.



1/1

1/2 014 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--COMPARISON OF THE RESULTS OF BACTERIOLOGICAL ANALYSIS OF THE URINE
AND URINARY CONCREMENTS IN PATIENTS WITH STONES OF THE URINARY BLADDER
AUTHOR--(03)-SUKHODOLSKAYA, A.YE., LEYBEL, S.A., DOBROVOKSKAYA, L.I.

COUNTRY OF INFO--USSR

SOURCE--UROLOGIYA I NEFROLOGIYA, 1970, NR 3, PP 19-21

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--KIDNEY DISEASE, STONE, MICROBIOLOGY, DRUG TREATMENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1997/1998

STEP NO--UR/0606/70/000/003/0019/0021

CIRC ACCESSION NO--AP0120641

UNCLASSIFIED

2/2 014
CIRC ACCESSION NO--AP0120641

UNCLASSIFIED

PROCESSING DATE--23OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHORS COMPARED THE RESULTS OF BACTERIOLOGICAL ANALYSIS OF THE URINE AND URINARY CONCREMENTS IN 70 PATIENTS IN WHOM ELECTROHYDRAULIC CYSTOLITHOTRIPTY WAS CARRIED OUT. THE MICROBES FOUND IN THE URINE AND IN THE URINARY CONCREMENTS FAILED TO COINCIDE IN 57PERCENT OF THE PATIENTS. THE AUTHORS ATTRIBUTE THIS TO THE FACT THAT DURING CRUSHING OF THE STONES PATHOGENIC MICROBES FROM THE STONES OR THE WALLS OF THE URINARY BLADDER GET INTO THE URINE AND BEGIN TO MULTIPLY RAPIDLY. THE RESULTS OF BACTERIOLOGICAL EXAMINATION OF THE URINE AND STONES IN THE PATIENTS WITH INFECTED STONES OF THE URINARY BLADDER CAN DIFFER DUE TO PECULIARITIES OF THE PROTECTIVE PROPERTIES OF THE MACROORGANISM, ANTIBACTERIAL TREATMENT APPLIED, SELECTION OF MORE RESISTANT BACTERIAL SPECIES, AND ALSO MAY BE ASSOCIATED WITH BACTERIOGENIA. FACILITY: KIEV. N-I INSTITUT UROLOGII.

UNCLASSIFIED

1/2 009 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--5175C FRUCTOSE DECOMPOSITION IN AN ALKALINE SOLUTION AT HIGH
TEMPERATURES -U-
AUTHOR-(03)-KOLESNIKOV, V.A., MAKSVUTOV, V.A., DOBROVOLSKAYA, L.N.
COUNTRY OF INFO--USSR
SOURCE--IZV. VYSSH. UCHEB. ZAVED. PISHCH. TEKHNOL. 1970, (1), 42-4
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--FRUCTOSE, THERMAL DECOMPOSITION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1997/1089 STEP NO--UR/0322/70/000/001/0042/0044
CIRC ACCESSION NO--AT0119948
UNCLASSIFIED

2/2 009

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AT0119948

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE DECOMP. OF DIL. ALK. FRUCTOSE SOLNS. WAS INVESTIGATED. THE DECOMP. RATE INCREASES WITH INCREASING PH AND TEMP., AND ON ADDN. OF NH SUB4 CL. SMALL AMTS. OF SO SUB2 STABILIZE THE SOLNS. FACILITY: KRASNODAR. NAUCH. ISSLED. INST. PISHCH. PROM., KRASNODAR, USSR.

UNCLASSIFIED

Acc. Nr:
AP0050807

Abstracting Service:
CHEMICAL ABST. 5-7c

Ref. Code:
UR0339

D

102070b Effect of purification processes on the thermal stability of carbonated juices. Kolesnikov, V. A.; Maksyutov, V. A.; Dobrovol'skaya, L. N. (USSR). *Sukh. Prom.* 1970, 44 (1), 18-22 (Russ). The content of reducing sugars, pH, color, salts, N, colloids, the filtration rate, and vol. of the ppt. were examd. for a crude juice after the 1st and 2nd carbonation and as thick juice after 5 different purification processes: cold carbonation, hot carbonation, hot defecation, cold-hot slow defecation, and the normal procedure used in the Korenovsk factory. The feasibility of finding the best treatment is demonstrated, in this case cold-hot slow defecation. Olaf Thomsen

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REEL/FRA
19810809

2

1/2 022 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--INTENSIFICATION OF CALCINING -U-
AUTHOR-(02)-GONCHAROV, V.P., DOBROVOLSKAYA, N.K.
COUNTRY OF INFO--USSR
SOURCE--TSEMENT 1970, (2), 10-11
DATE PUBLISHED-----70
SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY, MATERIALS
TOPIC TAGS--CALCINATION, CLAY, ALUMINATE, WEAR RESISTANCE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1996/1984 STEP NO--UR/0101/70/000/002/0010/0011
CIRC ACCESSION NO--AP0118943
UNCLASSIFIED

2/2 022 UNCLASSIFIED PROCESSING DATE--30OCT70
CIRC ACCESSION NO--AP0118943
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECT OF HIGH ALUMINATE CLAY
ADDNS. ON THE GRANULATION OF RAW MATERIALS WAS STUDIED. THE GRANULES
PREPD. FROM RAW MATERIAL HIGH IN AL OXIDES HAVE BETTER POROSITY, MECH.
STRENGTH, FRACTIONAL COMPN., AND HEAT RESISTANCE. THE RESISTANCE OF DRY
GRANULES AGAINST WEAR IN BOTH MIXTS. IS APPROX. EQUAL, BUT THE GRANULES
PREPD. WITH HIGH ALUMINATE CLAYS AND CALCINED AT 600 AND 1000DEGREES
HAVE HIGHER WEAR RESISTANCE. DRYING OF MOIST GRANULES IS IMPROVED IF
THE GRANULES ARE PREPD. WITH 5PERCENT HIGH ALUMINATE CLAYS. CALCINATION
OF SUCH GRANULES AT 1000DEGREES CAUSED CRACK FORMATION IN THE SURFACE
LAYER ONLY, GRANULES WITHOUT ADDN. WERE COMPLETELY DESTROYED. THE
GRANULES WITH 5PERCENT HIGH ALUMINATE CLAYS MADE IT POSSIBLE TO
INTENSIFY THE CALCINATION PROCESS, IMPROVE THE AERODYNAMIC AND
THERMOTECH. OPERATION CONDITIONS OF THE FURNACES AS WELL AS THE
MINERALOGICAL COMPN. OF THE CLINKER. THEIR CONTENT OF 3CAO.AL SUB2 O
SUB3 WAS RAISED. THE OUTPUT OF THE FURNACES ATTAINED 35 TONS-HR AND THE
FUEL CONSUMPTION WAS DECREASED. FACILITY: LIPETSK. TSEMENT.
ZAVOD, LIPETSK, USSR.

UNCLASSIFIED

1/2 019

UNCLASSIFIED

PROCESSING DATE--300CT70

TITLE--PREPARATION OF SOME POLY,KETO ESTERS -U-

AUTHOR--(04)-DAVYDOVA, S., BARABANOV, V.A., DOBROVOLSKAYA, N.V., PLATE,
N.A.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (2), 475-6

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--KETONE, ESTER, COMPLEX COMPOUND, POLYMER, PHENOL, ACETIC
ACID, TAUTOMERISM, SODIUM COMPOUND, POTASSIUM COMPOUND, LIGAND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1997/1184

STEP NO--UR/0062/70/000/002/0475/0476

CIRC ACCESSION NO--AP0120031

UNCLASSIFIED

2/2 019

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0120031

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. OXALOACETIC (I), TEREPHTHALOYLDIACETIC, AND TEREPHTHALOYLBIS(ACETOACETIC) ACIDS WERE CONDENSED WITH DIOLS SUCH AS HEXANEDIOL, BISPHENOL A, ETC. EITHER IN A MELT OR IN MEPH OR C SUB6, H SUB6 TO GIVE POLYMERS POLYESTERS WHICH WERE SOL. IN POLAR SOLVENTS, CAPABLE OF KETO ENOL TAUTOMERISM, AND ABLE TO FORM TRANSITION METAL COMPLEXES. THE COMPLEX FORMATION OCCURRED ONLY VIA THE NA OR K DERIVS. OF THE I POLYMERIC LIGANDS, WHILE THOSE FROM II FORMED COMPLEXES READILY BY A PREVIOUSLY REPORTED ROUTE (DAVYDOV, ET AL., 1968). FACILITY: INST. NEFTEKHIM. SIN. IM. TOPCHIEVA, MOSCOW, USSR.

UNCLASSIFIED