

Welding of Titanium and Its Alloys SOV/2857

Ch. II. Weldability of Commercial Titanium	28
Welding characteristics of titanium	28
Effect of harmful impurities on the weldability of titanium	29
Thermal processes in the welding of titanium	36
Control of structure and mechanical properties of welded titanium joints during welding	47
Ch. III. Weldability of Titanium Alloys	62
Effect of alloying elements on the weldability of titanium	62
Alpha alloys of titanium	64
Alpha + beta alloys of titanium	67
Beta alloys of titanium	84
Ch. IV. Inert-gas Shielded Arc Welding	86
Methods and effectiveness of shielding	86
Methods and regimes of welding	93
Selection of accessories and equipment	99
Ch. V. Automatic Submerged-arc Welding	106

Welding of Titanium and Its Alloys	SOV/2857
Special features of welding titanium and requirements imposed on fluxes	106
Regimes and methods of arc welding	108
Electroslag welding of titanium of large thickness	112
Ch. VI. Resistance Welding	116
Spot and seam welding	116
Butt welding	121
Ch. VII. Soldering Titanium	123
Ch. VIII. Welded Structures	127
Bibliography	133
AVAILABLE: Library of Congress	
Card 4/4	G0/ec 11-25-59

NAZAROV, G. V.

Академия наук СССР. Институт научного-технического информатизации
 Metallurgy i metallovedeniye khimiyu, metallovedeniye i obrabotka
 titana (Metallurgy and Metallurgy: Chemistry, Metallurgy,
 and Treatment of Titanium) Moscow, Izd-vo AN SSSR, 1959. 385 p.
 (Series: Itogi nauki i tekhnicheskoy nauki, 2) Krata aliip ib-
 seriya. 2,700 copies printed.

Ma. I. V. Agvra, Corresponding Member, Academy of Sciences, USSR
 Ed. of Publishing House: V. J. Shishikovi Tech. Ed.: Yu. V. Rykina.

PURPOSE: This collection of articles is intended for metallurgists
 working with titanium and titanium alloys.

COVERED: The articles in this collection deal with the chemistry,
 metallurgy, and machining of titanium and titanium alloys. The
 articles are based on abstracts appearing in the Referativnyi
 zhurnal for chemistry and metallurgy, from 1953 to 1955. For the
 most part the articles are based on non-Soviet material. No paren-
 alities are mentioned. References follow each article.

Seritskiy, Ye. B., and B. A. Tykina. Properties of Titanium and
 Titanium Alloys 103

This is a survey of the physical and mechanical properties of
 titanium and titanium alloys. Data are given on the effect of
 oxygen, nitrogen, hydrogen, and carbon on the mechanical prop-
 erties of titanium.

Ostapov, E. V., and L. D. Krasakova. Heat Treatment of Titanium
 and Titanium Alloys 163

The authors discuss work hardening, annealing, grain refining,
 and other heat-treating methods for titanium and titanium alloys.
 Also discussed are the effect of alloying elements on heat-
 treating characteristics, mechanical properties after heat
 treating, and structural changes at heat treating.

Arshavyy, P. P. Thermochemical Treatment Diffusion Coating of
 Titanium 187

This article deals with the nitriding, boronizing, and sili-
 conizing of titanium.

Selest, A. Ye., A. B. Demal'chukko, and I. N. Pariz. Forming
 of Titanium and Titanium Alloys 193

The authors discuss the special features of plastic deforma-
 tion. General characteristics of cold and hot working, im-
 provements in forming operations, preparatory and finishing oper-
 ations, organization of production, and storage and utilization
 of waste.

Kavilskiy, Ye. B., and B. A. Tykina. Recrystallization of
 Titanium Alloys 226

Recrystallization of magnesium-reduced and iodide titanium is
 discussed in reference to its occurrence after cold working,
 hot forging, annealing, tempering, and hardening. Data are also
 given on the effect of the annealing temperature on the properties
 of titanium and the effect of alloying additions on the recrystall-
 ization temperature.

Baburov, A. A. Deformation and Recrystallization Features of Titanium
 and Titanium Alloys 247

The article deals with features assumed by titanium and titanium
 alloys after different forming operations.

Zhelezov, N. Kh., and G. V. Nazarov. Welding and Soldering of
 Titanium and Titanium Alloys 252

Welding characteristics of titanium are discussed. Data are
 given on welding and soldering methods.

Kalenskaya, E. B., and A. I. Emenev. Methods for Spectroscopic
 Analysis of Titanium and Titanium Products 263

Data are furnished on qualitative, volumetric, polarographic,
 and colorimetric methods of analysis. Phase analysis is also discussed.

Babanov, K. P. Theory and Practice of Machining Titanium Alloys 311

The following topics are discussed: determination of machin-
 ability; causes of poor machinability; effect of tooling, cutting
 conditions, and other factors on machinability; methods of improv-

SHORSHOROV, M.Kh.; NAZAROV, G.V.

Welding and soldering of titanium and its alloys. Itogi nauki
no.2:252-284 '59. (MIRA 12:9)
(Titanium--Welding)

25(1)

SOV/135-59-5-35/21

AUTHOR: Nazarov, G. V., Engineer

TITLE: Experience in the Prevention of Cracks in Angular Seams Made on Low-Alloy Steel

PERIODICAL: Svarochnoye proizvodstvo, 1959, Nr 5, pp 36-37 (USSR)

ABSTRACT: Tests carried out at the "Krasnoye Sormovo" plant to find out why longitudinal cracks appeared in the first layer in an automatically welded annular angular seam showed that these cracks were crystallization ("hot") cracks. This presumption was based on: 1) the presence of solidified flux in the crack; 2) accumulations of sulfur near the zone of the crack revealed by Bauman impressions; 3) the disposition of the main axes of the dendrites almost perpendicularly to the plane of the crack (Figure 2), especially near the surface of the metal of the first layer of the seam. Therefore, to alter the coefficient of the shape of the seam to improve the crystallization conditions, 2 mm welding wire was used, and the welding carried out with 380-400 amps, an arc voltage of 32-36 volts and a speed of 21 meters per hour.

Card 1/2

SOV/135-59.5-15/21

Experience in the Prevention of Cracks in Angular Seams Made on Low-Alloy Steel

This stopped the cracks. The following conclusions were drawn from these results: 1) Cracks do not occur in T-shaped seams in low-alloy steel when the carbon content is reduced to 0.8 - 0.10%; 2) Cracks do not occur when 2 mm welding wire is used to weld the first layer; 3) the new method of welding requires two first layers to be made with 2 mm wire, the usual 5 mm wire being used for the remaining layers. There are 2 photos and 1 diagram.

ASSOCIATION: Zavod "Krasnoye Sormovo" ("Krasnoye Sormovo" Plant)

Card 2/2

25(1,5)

AUTHORS:

SOV/125-12-4-7/28
Makara, A.M., Candidate of Technical Sciences, Novikov, I.V., Nazarov, G.V., Ryabinkin, V.I., and
Malozemov, V.I., Podolskiy, V.I.

TITLE:

Working out the Technology of "Electric Slag Welding" of Shells, Made of Medium Alloyed Steel Type AK

PERIODICAL:

Avtomaticheskaya svarka, 1959, Vol 12, Nr 4, pp 55-65 (USSR)

ABSTRACT:

The article presents the results of investigations, made in the Institute for Electric Welding and the "Krasnoye Sormovo" Plant. To weld the steel AK complex alloyed wires type EI 581 and EI 616 are used. The content of dangerous elements as carbon, sulphur, phosphorus in the weld is small, because there are very small amounts of them in the basic metal and in the metal of the electrode-wire. To weld AK-steel with a thickness of 50 mm following conditions were chosen: electrode feed rate: 180-200 m/h; arc-voltage: 54-55 V; welding-current: 400-440 A; depth of the slag-tub: 45-50 mm; dry-boom: 60-60 mm; diameter of

Card 1/2

SOV/125-12-4-7/18

Working out the Technology of "Electric Slag Welding" of Shells,
Made of Medium Alloyed Steel Type AK

electrode-wire: 3mm; welding-clearance 25-28 mm;
speed of welding: 0.7-0.8 m/h. Alternation current.
The chemical consistence of the electrode wire is
shown in schedule 1. Investigation of the macro-
and micro-structure of the weld showed a coarse cry-
stalline structure, which disappeared after heat-
treatment. For electric-slag-welding the apparatus
type A-372-B (Figure 10) is used. There are 7 photo-
graphs, 2 graphs, 4 diagrams and 6 Soviet references.

ASSOCIATION: Ordena trudovogo krasnogo znamenii institut elektro-
svarki im. N.O. Patona AN USSR (Institute of the
Order of the Red Banner of Labor for Electric Welding
imeni N.O. Patona AN UkrSSR) Gor'kovskiy zavod "Kras-
noye Sormovo" (Gorkiy Plant "Krasnoye Sormovo")

SUBMITTED: February 13, 1958

Card 2/2

NAZAROV, G. V., Cand Tech Sci — (diss) "Investigation of the weldability of titanium and some of its alloys," Moscow, 1960, 28 pp, 160 cop. Institute of Metallurgy im A. A. B^{yy}kov, AS USSR) (KL, 45-60, 126)

SHORSHOROV, M.Kh., NAZAROV, G.V.

Weldability of VT1 titanium and the V2 titanium alloy. Titan i
ego splavy no.3:135-140 '60. (MIRA 13:7)
(Titanium--Welding) (Titanium alloys--Welding)

82653

S/135/60/000/COB/007/010

A006/A002

18.7200

AUTHOR:

Hazarov, O.V., Engineer

TITLE:

Electroslag Welding of 100 mm Thick Medium-Alloy Steel Forgings

PERIODICAL:

Svarochnoye proizvodstvo, 1960, No. 8, pp. 24-26

TEXT:

Medium-alloy 100 mm thick steel forgings were welded with a seam length of 500 mm. When assembling, a 30 mm gap between the parts was fixed by 4-5 strips of 30 x 30 x 5 mm. The strips prevented a contact of the edges during the welding process and ensured the rigid fastening of the parts to be welded. The arc was excited by the first strip. Welding was carried out on a "A-372p" (A-372r) machine fed from a "TШ(-1000/3)" (TShS-1000/3) transformer. The seam was cooled from the reverse side by a copper backing plate and from the machine side by a copper slider. The welding conditions used (given in Table 1) ensured a high amount of the base metal in the weld, permitting the use of low-alloy welding materials ("1581" low-alloy wire and "AH-8" (AN-8) flux). The mechanical properties of the weld joints after appropriate heat treatment (quench hardening and high tempering) ensured a strength of the weld equal to that of the base metal. Fracture tests were made to determine the resistivity of the weld joints to brittle failure, characterized by the content of the fibrous component in the fracture.

Card 1/2

S/135/60/000/008/007/010
A006/A002

Electroslag Welding of 100 mm Thick Medium-Alloy Steel Forgings

The amount of this component (V) was found by the following correlation:

$$V = \frac{F_{\text{fibr.}}}{F_{\text{tot.}}} 100\%$$

where $F_{\text{fibr.}}$ is the area with a fibrous fracture in mm^2 ; and $F_{\text{tot.}}$ is the total surface of the fracture in mm^2 . [Abstracter's note: Subscripts fibr. (fibrous) and tot (total) are translations of the original волоknisty (voloknistyy) and обшчaya (obshchaya). Figure 3 shows the graphic characteristics of a series of weld joint fractures plotted by the aforementioned method. Data obtained show the high stability of the fibrous component, permitting a satisfactory evaluation of the weld metal with respect to its resistivity to brittle failure. The described technology is recommended for electroslag welding of high strength medium-alloy steel forgings in the manufacture of important structures. There are 2 tables and 4 figures.

ASSOCIATION: Zavod "Krasnoye Sormovo" imeni A.A. Zhdanova ("Krasnoye Sormovo"
Plant imeni A.A. Zhdanov)

Card 2/2

S/032/50/026/028/00110
 BG:1/BC61

AUTHOR:

Nazarov, G. V.

TITLE:

Influence of the Dimensions and Shape of Specimens Upon the
 Results of Determining the Tendency of the Welding Seam of
 a Metal to Brittle Fracture According to the Structural Frac-
 ture 26

PERIODICAL:

Zavodskaya laboratoriya. 1960, Vol. 26, No. 8, pp. 981-984

TEXT: The influence exerted by the shape and dimensions of the specimens upon the test results of welding seams of metals with respect to brittle fracture was investigated, and a method of determining the degree of ductility was worked out. The fracture was caused by static bending of welding seams of AK (AK) steel; for this purpose a universal testing apparatus of the "Amster" type was used with a rate of load application of 20 mm/min at 20°C. The tests were carried out in the welding laboratory of the plant mentioned under Association. Engineer I. Ye. Kurov took part in the research work, and Engineer I. A. Nersisyan in the metallographic investigations. The capability of the metal of plastic deformation (preceding

Card 1/2

Influence of the Dimensions and Shape of Specimens on the Results of Determining the Tendency of the Welding Seam of a Metal to Brittle Fracture According to the Structural Fracture

S/01/199/0.00000000
B015/B001

Fracture) depends on shape and dimensions of the specimen, which are also affected upon the results of the breaking tests. This effect is characterized by an increase in the fibrous component in the structural fracture with a reduction of the fracture cross section (bh), as well as with an increase of the ratio (h/b) between height and width of the fracture cross section (Tables 1, 2). The fibrous fracture component is defined as the percentage of the difference between total fracture surface and crystal-shaped fracture surface. A 30% fibrous structural component in breaking tests with $a/b = 0.7$ and $b = 55-60$ mm may be regarded as a satisfactory determination of the brittleness of a metal welding seam in electric slag welding of A3 steel with EN 581 (E1501) wire. This dimension and shape of specimens may be regarded as the most rigorous testing conditions for a given thickness of welding seams. There are 4 figures, 2 tables, and 6 Soviet references.

ASSOCIATION: Zavod "Krasnoye Sernovo" im. A. A. Zhdanov
(Plant "Krasnoye Sernovo" imeni A. A. Zhdanov)

01 d 1/2

NAZAROV, G.V., inzh.

Industrial and technical conference on welding in Gorkiy.
Svar. proizvod. no. 6:44-45 Je '61. (MIRA 14:6)
(Welding—Congresses)

1.2300 1573

22699
G/014/61/000/008/002/002
D029/D109

AUTHORS: Shorshorov, M. KH., and Nazarov, G. V. (Moscow)

TITLE: The kinetics of phase transitions and the formation of cold cracks in welding of titanium and its alloys

PERIODICAL: Schweisstechnik, no 8, 1961, 356

TEXT: The article is an extract of a thesis put to discussion on the 2nd International Colloquy "Schweißmetallkunde und Metallurgie der Nichteisenmetalle" (welding and metallurgy of non-ferrous metals), of the ZIS, Weimar 1961. The original and a translation in German are available at the ZIS. Tests were carried out with tubes of 6 mm length and 6 mm diameter with a wall thickness of 1 mm. Test bodies were heated to 1200°C or 1300°C with high-frequency current. The heating velocity in the $\alpha \rightarrow \beta$ transition range amounted to 300°C/s. The cooling velocity was varied between 4 and 450°C/s. The following results were obtained: 1) During welding of titanium and its alloys the temperature range of the $\beta \rightarrow \alpha$ transition shifts to the temperature region from 800 to 500°C with an increase of the cooling velocity up to 400-450°C/s. 2) The cooling velocity has a complicated

X

Card 1/2

22699

G/014/61/000/008/002/002
D029/D109

The kinetics of phase transitions

influence on the initial temperature of the hydride conversion and on the character of the hydride formation. 3) On cooling and subsequent storage at 20°C the hydride conversion takes place with an increase of volume which is the larger, the higher the hydrogen contents of the working material is. 4) The hydrogen content of the material has the highest influence on the formation of cold cracks. 5) A maximum limit of 0.14 - 0.17% of oxygen and nitrogen can be maintained under modern production conditions. In order to avoid cold cracks in welding constructions subjected to internal tensions, it is necessary to limit the hydrogen content of the basic and filler metal to 0.008% by using a suitable welding method.

Card 2/2

3870,
S/598/62/000/007/031/040
D217/D307

18.12.85
AUTHORS: Shorshorov, M. Kh. and Nazarov, G. V.

TITLE: Kinetics of phase transformations and formation of cold cracks on welding titanium and its alloys

SOURCE: Akademiya nauk SSSR. Institut metallurgii. Titan i yego splavy. no. 7, Moscow, 1962. Metallokhimiya i novyye splavy, 226-233

TEXT: The following materials were used for the study of the kinetics of transformation: Commercially pure titanium $\beta T1$ (VT1) (0.0075% H₂) and OT4 (OT4) alloys of two melts with different hydrogen contents (3% Al, 1.8% Mn, 0.0055 and 0.018% H₂), AT3 (3% Al, 1.1% Cr + Fe + Si and 0.01% H₂), AT4 (4% Al, 1.4% Cr + Fe + Si and 0.0055% H₂) and AT8 (7.1% Al, 0.8% Cr + Fe + Si and 0.006% H₂). The oxygen and nitrogen content of all alloys did not exceed 0.1 - 0.12% and 0.04 - 0.05% respectively. For the investigation
Card 1/ 3

Kinetics of phase ...

S/598/62/000/007/031/040
D217/D307

of cold crack formation one of the severest welding tests was carried out, namely, the cross test. Alloys OT4 (0.0055% H₂), AT3 (0.01% H₂) and AT8 (0.05% H₂) were tested. The oxygen and nitrogen contents were within the technically permissible limits (N₂ ≤ 0.04 - 0.05; O₂ ≤ 0.1 - 0.12%). It was found that on welding commercially pure Ti and its alloys with subsequent increase in cooling rate to 400 - 450°/sec, a considerable displacement of the temperature interval of the β → α transformation occurs in the temperature range 800 - 500°C. The cooling rate exerts a complex influence on the temperature at which hydride transformation is initiated and on the nature of hydride precipitation. The hydride transformation takes place during cooling and subsequent resting at room temperature, with an increase in volume which is the greater, the higher the hydrogen content of the alloy. The hydrogen content exerts the most important influence on the tendency of Ti and its alloys to form cold cracks. At a total oxygen + nitrogen content of 0.14 - 0.17% which can usually be attained under conditions of

Card 2/3

S/598/62/000/007/031/040
D217/D307

Kinetics of phase ...

contemporary Ti production, the total hydrogen content of the basis metal and alloy metals should be limited to 0.008% in order to ensure good quality welds free from cold cracks in rigid welded joints. There are 7 figures.

X

Card 3/3

38705

S/598/62/000/007/032/040
D217/D307

1.2300
18.12.85

AUTHORS: Nazarov, G. V. and Shorshorov, M. Kh.

TITLE: Welding characteristics of the titanium alloys AT3
(AT3), AT4, AT6 and AT8

SOURCE: Akademiya nauk SSSR. Institut metallurgii. Titan i yego
splavy. no. 7, Moscow, 1962. Metallokhimiya i novyye
splavy, 234-239

TEXT: The weldability of Ti alloys was studied in order to deter-
mine accurately the limits of alloying within which satisfactory
welds can be obtained, The study was carried out at the Theory of
Welding Process Laboratory of the Institut metallurgii imeni A. A.
Baykova AN SSSR (Institute of Metallurgy imeni A. A. Baykov, AS
USSR) in 1958-1959. The investigations included mechanical testing
and metallographic analysis of the welded joints as well as of the
basis metal in the heat-affected zone. A detailed study of the re-
action of the basis metal to the thermal cycle during welding was
carried out. The alloys were produced by twofold vacuum remelting.

Card 1/2

Welding characteristics of ...

S/598/62/000/007/032/040
D217/D307

The total oxygen and nitrogen content of the alloys did not exceed 0.16 - 0.18%. Sheets of 3 mm thickness were used immediately after rolling and etching. It was found that with contents of β -stabilizing elements between 0.6 and 0.8%, the properties of Ti alloys of the system Ti-Al-Cr-Fe-Si-B in the heat-affected zone are changed to an insignificantly small extent, for a very wide range of parameters of the thermal cycle of welding (the cooling rates and soaking times of the metal being above the $\alpha \rightarrow \beta$ transformation temperature). The properties of the welded joints in these alloys decrease somewhat as compared with the basis metal if the aluminum content of the alloy does not exceed 4.5%. In the presence of 1.3 - 1.6% of β -stabilizing elements, the alloys tend to harden and overheat under welding conditions. At a β -stabilizing content of 2.3 - 2.8%, the alloys become very prone to hardening in the zone adjacent to the joint. The properties of alloys containing 3.5 - 4.5% Al and 0.6 - 1.3% β -stabilizing elements decreases to only a very slight extent after welding. Alloys of this system exhibit a satisfactory weldability if the U.T.S. of the basis metal after rolling does not exceed 95 - 105 kg/mm². There are 4 figures.

Card 2/2

ACCESSION NR: AT4007051

S/2598/63/000/010/0278/0283

AUTHOR: Shorshorov, M. Kh.; Nazarov, G. V.

TITLE: Phase transformations in the weld-adjacent zone of alpha and alpha plus beta titanium alloys and criteria for selecting welding conditions

SOURCE: AN SSSR. Institut metallurgii. Titan i yego splavy*, no. 10, 1963. Issledovaniya titanovykh splavov, 278-283

ABSTRACT: In continuation of earlier work on other Ti alloys ("Titan i yego splavy", vyyp. VII, izd-vo AN SSSR, 1962, p. 226), the authors studied the kinetics of the phase transformations in the weld-adjacent zone of Ti alloys VT-5-1, VT-14, VT-14-1 and 48-OT3 by a dilatometric method. Analysis of the anisothermic transformations during continuous cooling under the conditions of the welding cycle showed that the temperature of onset of the $\beta \rightarrow \alpha'$ transformation decreases along an S-shaped curve with increasing cooling rate (4.5-260 degrees/sec.), and that the transformation is practically complete in a relatively narrow interval (50-100C below the temperature of onset for alloys VT-5-1 and 48-OT3, and 30-80C below for VT-14-1). The temperature of onset of this phase transformation also decreased with an increase in the content of nitrogen and oxygen in the alloy. In alloy VT-5-1, the temperature of onset of the hydride transformation (which did not appear in alloy VT-14-1) passed through a maximum with increasing cooling rate.

Card 1/4

ACCESSION NR: AT4007051

The effect of alloy composition (presence of Mo, V, etc.) and the parameters of the welding cycle on the structure and mechanical properties of the weld-adjacent zone were also investigated; an example of these results is shown in Fig. 1 of the Enclosure. On the basis of these results, the authors conclude that the α -alloys and $\alpha + \beta$ alloys of the martensitic class with a low content of alloying elements show high plasticity in the weld-adjacent zone over a wide range of optimal cooling rates (10-150 degrees/sec.) and duration of temperatures above the transformation point (8-40 seconds). As the content of gases and β -stabilizing elements in these alloys increases, the optimal range of the parameters contracts and the plasticity in the weld-adjacent zone decreases markedly both at high cooling rates (due to hardening) and at low cooling rates (due to superheating and sensitivity to grain growth). Thus, in alloy VT-14, the plasticity of the weld-adjacent zone increases with decreasing cooling rate, but always remains below that of the original metal, while in VT-14-1 (7.5% Mo) the plasticity is higher than that of the original metal at an optimal cooling rate. In the aging $\alpha + \beta$ alloys with an intermediate content of alloying elements, maximal plasticity is obtained at various cooling rates, depending on the type and content of β -stabilizing elements. Orig. art. has: 5 figures.

ASSOCIATION: Institut metallurgii AN SSSR (Metallurgical Institute, AN SSSR)

Card 2/4

ACCESSION NR: AT4007051

SUBMITTED: 00

ENCL: 01

SUB CODE: MM

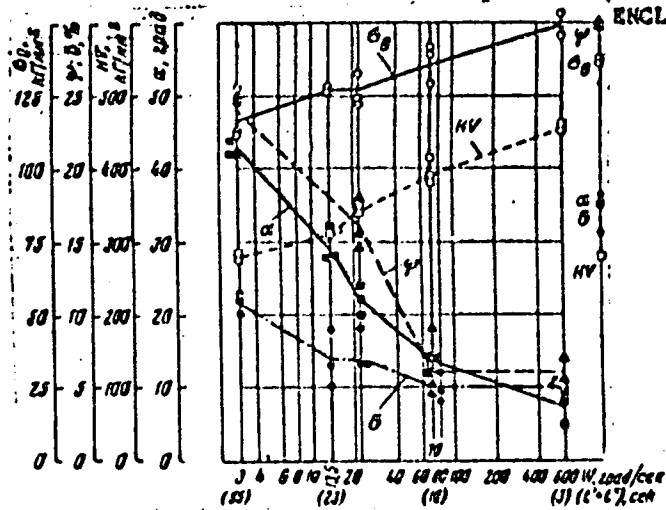
NO REF SOV: 003

OTHER: 000

Card 3/4

ACCESSION-NR: AT4007051

ENCLOSURE: 01



Effect of cooling rate (W) at the onset of the $\beta \rightarrow \alpha'$ transformation and of duration of temperatures above this point ($t' - t''$) on the mechanical properties of the weld-adjacent zone in alloy VT-14 with 3.6% Mo and V. Units of the ordinates are: kg/mm², % elongation, kg/mm² and degrees, respectively; right-hand ordinate = original state; abscissa = W in degrees/sec. and $t' - t''$ in seconds.

Card 4/4

NAZAROV, G.V., inzh.

Electric slag welding of ship elements. Svar. proizv. no.8:
22-25 Ag '63. (MIRA 17:1)

NAZAROV, G.V., inzh.

Kinetics of the growth of an austenite grain during the thermal
cycle in electrosag welding. Svar. proizvod. 12:10-12 D '63.
(MIRA 18:9)

1. Zavod "Krasnoye Sermovo".

L 07433-67 EIP(k)/EIP(n)/EIP(y)/EIP(t)/EIP ID/IM
ACC NR: AP6030267 (N) SOURCE CODE: UR/0125/66/000/008/0010/0013

AUTHOR: Nazarov, G. V.

ORG: Gorky Polytechnical Institute Im. A. A. Zhdanov (Gor'kovskiy politekhnicheskii institut)

TITLE: Factors involved in calculating the thermal cycle for electroslag welding

SOURCE: Avtomaticheskaya svarka, no. 8, 1966, 10-13

TOPIC TAGS: electroslag welding, heat source, heat sink, mathematic model

ABSTRACT: The author considers the characteristics of the heating and cooling of metal during electroslag welding with barrel-shaped penetration. A method is proposed for calculating the temperature field of the limiting state under conditions of non-equilibrium penetration and theoretical data are given on thermal cycles for specific welding conditions. In spite of the complexity of the processes which take place in the slag bath and the consequent volumetric nonhomogeneity, an equivalent model may be substituted for the actual slag bath with a few concentrated heat sources and heat sinks (number and distribution dependent on the technology used for electroslag welding of a specific part). This model may be used for plotting the thermal cycles of electroslag welding under specific conditions with a deviation from theoretical temperatures of no more than 5%. Orig. art. has: 2 figures, 13 formulas.

SUB CODE: 13/ SUBM DATE: 28Jun65/ ORIG REF: 003

ms
Card 1/1

UDC: 621.791.756;536.12.001.24

NAZAROV, G. V.

Tree Tapping

Basic principles in organizing tapping and collection of oleoresin according to a work chart. Der. i lesokhim. prom. 2, No. 4, 1953.

Monthly List of Russian Accessions, Library of Congress
June 1953. UNCL.

NAZAROV, G.V.
НАЗАРОВ, Г.В.

Analysis of river runoff factors in relation to the influence of
economic activity in the southern trans-Volga region. Izv. AN
SSSR. Ser. geog. no.6:74-82 N-D '57. (MIRA 11:1)

1. Institut geografii AN SSSR.
(Volga Valley--Runoff)

NAZAROV, G. V.: Master Geogr Sci (diss) -- "Conditions in the formation of
runoff in the southern trans-Volga region". Leningrad, 1958. 21 pp (Inst of
Geogr of the Acad Sci USSR), 110 copies (KL, No 8, 1959, 135)

RAZUMIKHIN. N.V.; NAZAROV, G.V.

Erosion conditions in the southern trans-Volga region. Trudy Lab.
overoved. 7:82-86 '58. (MIRA 11:10)

1. Leningradskiy gosudarstvennyy universitet i Institut geografii
AN SSSR.

(Volga Valley--Erosion)

HAZAROV, G.V.

Tapping of larch. Sbor.trud. TSNILKHI no.13:172-178 '59.
(MIRA 13:10)

(Tree tapping)

HAZAROV, G. V.

Technology of the tapping of Siberian cedar. Sbor.trud. TSNILKHI
no.13:183-190 '59. (MIRA 13:10)

(Tree tapping)

HAZAROV, G.V.

Change-over of wood-chemical establishments to the 7-hour
workday. Gidroliz.i lesokhim.prom. 13 no.4:24-25 '60.
(MIRA 13:7)

1. Tsentral'nyy nauchno-issledovatel'skiy lesokhimicheskiy
institut.
(Tree tapping) (Hours of labor)

HAZAROV, G.V.

Cultivation practices and their effect upon the water supply of
ponds in trans-Volga Saratov Province. Izv.Vses.geog.ob-va
92 no.4:357-360 J1-Ag '60. (MIRA 13:8)
(Saratov Province--Ponds)

NAZAROV, G. V., Cand Agr Sci -- "Tapping the Siberian larch
by means of exterior cuttings." Mos, 1961. (Min of Higher
and Sec Spec Ed RSFSR. Mos Forest, Eng Inst) (KL, 8-61, 254)

- 378 -

HAZAROV, G.V.

Inclusion of larch in turpentine. Gidroliz. i lesokhim.prom. 14
no.4:11-13 '61. (MIRA 14:5)

1. Tsentral'nyy nauchno-issledovatel'skiy lesokhimicheskoy
institut. (Larch) (Turpentine)

NAZAROV, G.V.

Method for evaluating changes in river runoff under the influence
of agriculture. Izv. AN SSSR. Ser.geog. no.1:96-105 Ja-F '63.
(MIRA 16:2)

1. Laboratoriya ozerovedeniya AN SSSR.
(Runoff)

NAZAROV, G.V.

Turbidity of water from the slopes and soil washout in the
trans-Volga portion of Saratov Province. Izv. AN SSSR.
Ser. geog. no.2:73-78 Mr-Ap '62. (MIRA 15:3)

1. Institut geografii AN SSSR.
(Saratov Province--Runoff)

NAZAROV, G.V.

Speed up the industrial utilization of larch turpentine. Gidroliz,
i lesokhim. prom. 16 no.3:14 '63. (MIRA 16:5)

1. Tsentral'nyy nauchno-issledovatel'skiy i proyektnyy institut
lesokhimicheskoy promyshlennosti.
(Turpentine) (Larch)

GRIN, A.M.; NAZAROV, G.V.

Characteristics of soil permeability to water in the forest steppe zone
of the European U.S.S.R. Izv. Vses. geog. ob-va 97 no.2:124-139 Mr-Ap
'65. (MIRA 18:5)

GRIN, A.M.; NAZAROV, G.V.

Comparative characteristics of the percolative capacity of soils
in the forest-steppe zone of the European part of the U.S.S.R.
Pochvovedenie no.3:47-52 Mr '65. (MIRA 18:6)

1. Institut geografii AN SSSR i laboratoriya ozerovedeniya Lenin-
gradskogo gosudarstvennogo universiteta.

NAZAROV, G.V.; CHERNYSHEV, Ye.P.

Spring runoff from natural lands and agricultural fields. Izv. Vses.
geog. ob-va 97 no.3:240-248 1975 '65.

(MIRA 18:8)

BASS, S.V., kand. geograf.nauk; GRIN, A.M., kand. geograf. nauk; NAZAROV, G.V.,
kand. geograf. nauk

Once more on the calculations of changes in streamflow under the in-
fluence of agriculture. Meteor. i gidrol. no.8:47-50 Ag '65.
(MIRA 18:7)

1. Institut geografii AN SSSR i Laboratoriya ozerovedeniya Leningradskogo
gosudarstvennogo universiteta.

NAZAROV, G.V.

Streamflow changes in the Ukraine under the effect of agriculture. Izv. AN SSSR. Ser. geog. no. 1:82-88 Ja-F '66
(MIA 19:2)

1. Laboratoriya ozerovedeniya AN SSSR.

HAZAROV, G.V.

Rehabilitation of worn-out tools. Sakh.prom. 28 no.2:35-36 '54.
(MLRA 7:4)

1. Karabaltinskiy sakharney savod. (Sugar machinery)

NAZAROV, I.; BONDAR', F.

Water-pumping stations. Inform.biul. VDNKH no.4:20 Ap '65. (MIRA 18:5)

1. Glavnyy inzh. instituta Soyuzvodokanalproyekt (for Nazarov).
2. Nachal'nik gidrotekhnicheskogo otdela No.7 Soyuzvodokanalproyekta (for Bondar').

NAZAROV, I.

One hundred years of steam navigation on the Yenisey River. Rech.
transp. 22 no.11:5-7 N '63. (MIRA 16:12)

1. Nachal'nik Yeniseyskogo parokhodstva.

NAZAROV, I.A., inzh.

Standard designs of structures used in outdoor water supply.
Vod. i san. tekhn. no.5:1-5 '64. (MIRA 17:9)

NAZAROV, I.A.

Role of faulting in the formation of oil and gas pools in the southwestern part of the Apsheron Peninsula. Geol.neft: 1 gaza 9 no.2:54-56 F '65. (MIRA 18:4)

1. Neftepromyslovoye upravleniye Karadagneft'.

HAZAROV, I.A.

Importance of fluid used in well perforation. Azerb.neft.khor.
35 no.5:29-30 My '56. (KIRA 9:10)

(Oil well drilling fluid) (Petroleum engineering)

NAZAROV, I. A.

93-5-16/19

AUTHOR: Nazarov, I. A.

TITLE: Determination of Bottom Hole Pressure in Deflected Wells (Opredeleniye davleniya na zaboyakh naklonnykh skvazhin)

PERIODICAL: Neftyanoye Khozyaystvo, 1957, Nr 5, p. 62 (USSR)

ABSTRACT: Bottom hole pressure in deflected wells can be accurately measured by a downhole manometer. Sometimes this pressure is determined according to the length of the column of fluid in the well. This method is an approximate method, but due to its simplicity it is used in solving a number of practical problems. The level of the liquid in a well can be easily determined with the aid of a special sludge pump or an echometer. But in the case of a deflected well the difference in depth between the location of the filter and the level of the liquid is only the length of the inclined column. According to Pascal's law the pressure difference between two points in the fluid depends only on the liquid density and difference (vertical) of level. This law was

Card 1/2

93-5-16/19

Determination of Bottom Hole Pressure in Deflected Wells (Cont.)

disregarded in computing the bottom hole pressure and consequently considerable errors have been made in the past. In figuring out the actual bottom hole pressures for deflected wells appropriate correction must be made in cases where the column of liquid is not vertical. At the Atashkya oil field (Molotovneft's administration) most of the wells have been drilled at an angle, some of the bottom holes being as much as 250 meters away from the perpendicular passing through the opening of the well. The table shows the results of measuring the formation pressures with a manometer in deflected and vertical wells. Column 8 shows the approximate pressure obtained by multiplying the length of the liquid column by its density. The resulting pressures are much higher than those indicated by the manometer. In vertical wells there is practically no difference between the manometer readings and calculated readings. It is concluded that the elongation of the liquid column due to the inclination gives rise to false bottom hole pressure. The greater the inclination angle the more pronounced the error.

AVAILABLE: Library of Congress
Card 2/2

HAZAROV, I.A.

~~APPROVED FOR RELEASE: Monday, July 31, 2000~~

CIA-RDP86-00513R00113

Means for increasing the productivity of sand producers, Azerb.
neft.khoz. 39 no.8:31-32 Ag '60. (MIRA 13:11)
(Sand)

HAZAROV, I.A.

Prospects for finding gas and oil in the Kirmaki series of
the southwestern part of the Apsheron Peninsula. Neftgas.
geol. i geofiz. no.7:11-14 '6). (MIRA 17:10)

1. Neftpromyslovoye upravleniye "Karadagneft'."

66201

SOV/146-58-6-1/16

~~8(3)~~ 16.9500
AUTHORS:

Smolov, V.B., Candidate of Technical Sciences, Smirnov, N.A., Assistant, and Nazarov, I.A.. Candidate of Technical Sciences

TITLE:

Application of Rotating Transformers (VT) as Functional Transformers of Approximate Action

PERIODICAL:

Izvestiya vysshikh uchebnykh zavedeniy. Priborostroyeniye, 1958, Nr 6, pp 3-13 (USSR)

ABSTRACT:

The rotating transformers (VT) are typical induction components of electromechanical modulating plants, and serve for the realization of equations of the type:

$$U_{21} = K_{T1} U_{11} \cos \dots - K_{T2} U_{12} \sin \dots$$

$$U_{22} = K_{T2} U_{11} \sin \dots + K_{T4} U_{12} \cos \dots, \text{ where } K_{T1}, K_{T2}, K_{T3},$$

K_{T4} are transformation coefficients. In accordance

with the above formulae, the VT can be used for the following operations: a) Turning of axes of a rect- ✓

Card 1/3

66201

SOV/146-58-6-1/16

Application of Rotating Transformers (VT) as Functional Transformers of Approximate Action

angular coordinates system at an angle α ; b) computing the tension values U_{11} and U_{12} at $\alpha = 45^\circ = \text{const.}$; c) scanning of vector U_{11} into its components U_{21} and U_{22} in a rectangular coordinates system; d) building of vector $R(U_{22}, \dots)$ in a rectangular coordinates system; e) multiplying the value U_{11} by a constant multiplier. The number of operations which can be performed with the aid of VT will be considerably increased if special connection layouts will be used. The layout FP (Figure 2) realizes the trigonometric polynom

$$z(x) = \sum_{k=0}^n A_k x^k (0 \leq x \leq x_{\max})$$

In using electronic numerical computation devices with different control layouts, it is often an advantage to have functional transformers which transform the incoming continuous values into discrete ones. These transformers, unlike linear transformers, realize the

Card 2/3

66201

SOV/146-58-6-1/16

Application of Rotating Transformers (VT) as Functional Transformers of Approximate Action

transformation as $N = f(f)$

$N = f(U_{Bx})$

The analyzed layout of VT in a capacity of FP of approximate action permits enlarging of the field in which the standard induction elements of computation designs of continuous or discrete action are used. There are 1 table, 4 graphs, 8 schematic diagrams and 2 Soviet references.

ASSOCIATION: Leningradskiy elektrotekhnicheskiy institut imeni V.I. Ul'yanova (Lenina) (Leningrad Electrotechnical Institute imeni V.I. Ul'yanov (Lenin))

SUBMITTED: September 6, 1958

Card 3/3

16.6800

26637
S/044/60/000/003/009/012
C111/C222

AUTHOR: Nazarov, I.A.

TITLE: On the approximate representation of some functions in high-speed digital computers

PERIODICAL: Referativnyy zhurnal. Matematika, no.3, 1960, 161, abstract 3495. (Izv. Leningr. elektrotekhn. in-ta, 1959, vyp.37, 283-289)

TEXT: The author gives the first 5-10 coefficients of the development in Chebyshev series for the following functions:

$$\sin \frac{\pi x}{2} (|x| \leq 1); \quad \arcsin x (|x| \leq \frac{1}{\sqrt{2}});$$

$$\arcsin x (|x| \leq 1); \quad \operatorname{tg} \frac{\pi x}{4} (|x| < 1);$$

$$\frac{2}{\sqrt{x}} \int_0^x e^{-t^2} dt (|x| < 1), \quad \sqrt{\frac{2}{\pi}} \int_0^x \sin t^2 dt$$

$$(|x| < 1); \quad \sqrt{\frac{2}{\pi}} \int_0^x \cos t^2 dt (|x| < 1);$$

Card 1/2

On the approximate representation...

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$$\int_0^x \frac{\sin t}{t} dt \quad (|x| \leq 1).$$

[Abstracter's note: Complete translation.]

Card 2/2

26180
S/044/61/000/006/019/019
C111/C222

16.6800

AUTHORS: Nazarov, I.A., and Smirnov, N.A.

TITLE: On the calculation of trigonometric functions with electronic digital devices

PERIODICAL: Referativnyy zhurnal. Matematika, no.6, 1961, 43, abstract 6V 268. (Izv. Leningr. elektrotekh. in-ta, 1959, 39, 148-152)

TEXT: The author describes an input device with the aid of which in a special-purpose computer an arbitrary argument can be reduced to a value being smaller than $\pi/2$ or $\pi/4$. Then the argument is led to an arithmetic mechanism for calculating the Sine according to the well-known program.

[Abstracter's note: Complete translation.]

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Card 1/1

32441

16.7000 16.8000 6.9500

S/044/61/000/010/004/051
C111/C222AUTHOR: Nazarov, I.A.TITLE: The mathematical equipment for the analysis and synthesis
of linear multi-tact coding networksPERIODICAL: Referativnyy zhurnal. Matematika, no. 10, 1961, 43-44,
abstract 10 A 301. ("Izv. Leningr. elektrotekhn. in-ta", 1959,
39, 153-162)

TEXT: The author develops a mathematical theory which can be useful for the synthesis of linear multi-tact coding networks. He considers a set A of sequences $\{x_n\}$, where x_i is either 0 or 1. Two sequences $\{x_n\}$ and $\{y_n\}$ are equal if $x_i = y_i$ for every i . The author defines the sum of the sequences $\{x_n\} \circ \{y_n\} = \{x_n \circ y_n\}$, where the symbol \circ denotes the addition mod 2; furthermore the product

$$\{x_n\} \cdot \{y_n\} = \left\{ \sum_{k=0}^n x_{n-k} y_k \right\},$$

Card 1/5

32441

S/044/61/000/010/004/05:
C111/C222

The mathematical equipment for the ...

where \sum denotes the sum mod 2. The sequence 1,0,0,... is denoted with $I = D^0 = \{d_n^{(0)}\}$. The sequence arising from I by writing k zeros before the 1 is denoted with I^k and is called the retardation operator ($k = 1, 2, \dots$). It is proved that A is a commutative ring with a unity with respect to the introduced operations of addition and multiplication. It is proved that A contains no zero divisors. The operation of the division of sequences is introduced. If $\{y_n\} \neq 0$ and if in A there exists a $\{z_n\}$ so that

$$\{z_n\} \{y_n\} = \{x_n\},$$

then $\{z_n\}$ is called a quotient. It is shown that the division in A cannot always be carried out. It is proved that the inequality $x_0 \leq y_0$ is necessary for the existence of the quotients $\{z_n\}$ and that the equation $y_0 = 1$ is sufficient. If

X

Card 2/5

32442

S/044/61/000/010/004/051
C111/C222

The mathematical equipment for the ...

$$\frac{\{x_n\}}{\{y_n\}} \quad (1)$$

does not belong to A then (1) is called an operator. The ring A is extended to an operator field B. The equality of the operators and the operations with operators are defined by the formulas

$$\frac{\{x_n\}}{\{y_n\}} = \frac{\{z_n\}}{\{u_n\}} \quad \text{if}$$

$$\{x_n\} \{u_n\} = \{y_n\} \{z_n\} ;$$

$$\frac{\{x_n\}}{\{y_n\}} \circ \frac{\{z_n\}}{\{u_n\}} = \frac{\{x_n\} \{u_n\} \circ \{y_n\} \{z_n\}}{\{y_n\} \{u_n\}} \in B ;$$

$$\frac{\{x_n\}}{\{y_n\}} \cdot \frac{\{z_n\}}{\{u_n\}} = \frac{\{x_n\} \{z_n\}}{\{y_n\} \{u_n\}} \in B .$$

Card 3/5

32441

S/044/61/000/010/004/051

C111/C222

The mathematical equipment for the ...

The norm of the sequence A is defined by the relation

$$\|X\| = \begin{cases} 0, & \text{if } X = 0 \\ \left(\frac{1}{2}\right)^m, & \text{if } X \neq 0 \end{cases}$$

X

where m is the number of the first term of the sequence X which is different from zero. The distance $\rho(x,y)$ between two elements x and y of A is defined by the relation

$$\rho(x,y) = \|X \circ Y\|.$$

The symbol

$$\sum_{k=0}^{\infty} X_k \quad (X_k \in A) \tag{1}$$

is called a series of sequences. It is said that the series (1) converges if there exists the limit value

$$\lim_{n \rightarrow \infty} \sum_{k=0}^n X_k = X \in A$$

Card 4/5

32441

The mathematical equipment for the ... S/044/61/000/010/004/051
C111/C222

The following assertions are proved. Every sequence of A is representable by a series of non-negative powers of the retardation operator and every such series converges to the sequence of A. In order that the operator

$$\frac{X}{Y} = \frac{D^m X^*}{D^n Y^*}$$

is a sequence of A it is necessary and sufficient that $m \geq n$. The obtained results are applicable for proving the assertions of Khaffmen (Haffman) (R Zh. Mat, 1958, 6699). ✓

[Abstracter's note : Complete translation.]

Card 5/5

NAZAROV, I.A.; PEREL'MAN, A.L.; SMOLOV, V.B.; STEPASHKIN, G.I.; STERNIN, V.I.

Electronic calculator of the propagation velocity interval
of elastic vibrations for an acoustical logging device.

Geofiz. prib. no.9:46-64 '61. (MIRA 15:11)

(Logging (Geology)--Equipment and supplies)

(Electronic calculating machines)

NAZAROV, I. A. and SELIVANOV, K. P.

"Hydrotechnical Antimalaria Measures in Connection With the Plan for Transforming Nature," Vrachebnoye Delo, Vol 6, 1952, pp 527-530.

NAZAROV, I.A. (Eiyev)

Formation of "bloom" on ponds and its control. Vrach.delo

supplement '57:108-109
(PONDS) (ALGAE)

(MIRA 11:3)

MAZAROV, I.A. (Kiyev)

Sanitary and malaria preventive measures applied during the irrigation
of steppe regions in Crimean Province. Vrach.delo no.4:397-399 Ap '57.
(CRIMEA--IRRIGATION) (MLRA 10:7)
(MALARIA--PREVENTION)

NAZAROV, Ivan Andreyevich; GNATUSH, A.M. [Hnatush, A.M.], otv. red.; FAL'KO, Yu.G. [Fal'ko, I.U.H.], red.; ZELENKOVA, E.F. [Zelenkova, I.E.F.], tekhn. red.

[Organization of fish ponds in collective farms] Organizatsiia stavkovoho hospodarstva v kolhospakh. Kyiv, 1961. 46 p. (To-varystvo dlia poshyrennia politychrykh i naukovykh znan' Ukrain's'koi RSR. Ser.5, no.18) (MIRA 14:12)

(Fish ponds)

GASYEV, I. I.; MALAKHOV, G. G.; NAZAROV, I. E.; SILANT'YEV, A. N.

"The size distribution of radioactive particles from nuclear weapon tests and their transport in the atmosphere."

paper to be presented at Symp on Atmospheric Chemistry, Circulation & Aerosols, Visby, Sweden, 18-25 Aug 1965.

Hydrometeorological Service USSR.

OLESHKO, G.I., kand. tekhn. nauk; YEFIMOV, P.I., kand. tekhn. nauk;
FRENKEL', E.M., inzh.; KONAREV, N.S., inzh.; HAZAROV, I.F., inzh.
(Khar'kov)

Increase the daily average mileage of diesel locomotives up to
900-1000 km. Zhel. dor. transp. 41 no.10:59-62 0 '59.
(MIRA 13:2)

(Diesel locomotives--Performance)

NAZAROV, I. I.

USSR/Organic Chemistry. Synthetic Organic Chemistry.

E-2

Abs Jour: Ref Zhur-Khimiya, No 6, 1957, 19191

Author : Nazarov I. I., Cherkasova Ye. M.

Inst : ~~Moscow State U.~~

Title : Synthetic Anaesthetics. II. Complex Ethers 1-alkyl-1-phenyl-3-(N-piperidyl)-propane-1-oles. III. Complex ethers 1-phenyl-1-alkyl-2-methyl-3-dialkylaminopropane-1-oles.

Orig Pub: Zh. Obshch. Khimiyi, 1955, 25, No 11, 1935-1942; 2120-2127.

Abstract: II. For the investigation of new anaesthetics from N-piperidylpropiophenone (I) by the action of Mg-organic compounds were synthesized compounds of the type $C_5H_{10}N-CH_2CH_2C(C_6H_5)(R)OH$ (II). At the application of I in the form of the hydrochloride the yield reaches 78-96%. By hydration of I is obtained 1-phenyl-3-(N-piperidyl)-propanole-1 (III). By the action of chloranhydrides or

Card : 1/11

Card : 2/11

USSR/Organic Chemistry. Synthetic Organic Chemistry.

E-2

Abs Jour: Ref Zhur-khimiya, No 6, 1957, 19191

and 105 cc ether) at 10-12° is gradually added 15.9 g. hydrochloride I, stirred at 20° for 2 hours; on the second day it is heated 2 hours on a water bath, hydrolyzed with HCl (1:1) at 0°, the water layer is treated with NH₄OH, and 78% II is obtained (R=CH₃), b.p. 135-139°/2.5 mm. Analogically are obtained the following II (given R, yield in %, m.p. in °C): C₂H₅, 96, 79-81 (from benzene); C₃H₇, 87, 89-90.5 (from acetone); hydrochloride, m.p. 195-196°; C₄H₉, 88, 51-52; iso-C₅H₁₁, 80, 56-57. To 3.42 g. III in 4 cc dry C₆H₆ at 0° is added 5.88 g. C₆H₅OCH₂COCl, heated 3 hours at 90-100°, added 30 cc water and 2-3 cc HCl (1:1) and obtained are 78.9% IV (R=H, R' = -CH₂CC₆H₅), b.p. 186.5-188.5°/1.5 mm; hydrochloride m.p. 168.5-170° (from acetone-chloroform). To 2.33 g. II (R=CH₃) in acetone at 0° is added 1.82 g. C₆H₅COCl; on the second day is isolated the hydrochloride IV (R=CH₃.-

Card : 3/11

USSR/Organic Chemistry. Synthetic Organic Chemistry.

E-2

Abs Jour: Ref Zhur-Khimiya, No 6, 1957, 19191

R' = C₆H₅) yield 50%, m.p. 180-182° (from acetone). To a mixture 2.33 g. II (R=CH₃) in 5 cc C₆H₆ and 0.24 g. Mg at 0° is added 2 g. C₆H₅CH CHCOCl in 5 cc C₆H₆; yield of hydrochloride IV (R=CH₃, R' = CH=CHC₆H₅) is 36%, m.p. 188-189.5° (from acetone-a.l.c.) To 1.85 g. II (R=CH) in 6 cc ether is added slowly 2.04 g. C₆H₅OCH₂COCl in 4 cc ether; several days later the precipitated sediment is ground with abs. ether, and with a yield of 43.8% is obtained hydrochloride IV (R=CH₃, R'=CH₂OC₆H₅), m.p. 139.5-141° (from acetone). 3 g. II (R=C₂H₅), 3.72 g. IV (R=C₂H₅, R'=CH₃), b.p. 138.5-139.5°/1.5 mm; hydrochloride, m.p. 136-138° (from acetone). Analogically is obtained 41% IV (R=R' C₂H₅), b.p. 141-142°/1 mm; hydrochloride, m.p. 158.5-159° (from acetone). To 5.07 g. II (R=C₂H₅) in 6 cc C₆H₆ is gradually added 8.74 g. C₃H₇COCl, heated 1.5 hours at 120°, and obtained are 30% IV (R=

Card : 4/11

0.17 g. II (R=C₂H₅) 3.72 g. IV (R=C₂H₅, R'=CH₃)

Card : 5/11

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USSR/Organic Chemistry. Synthetic Organic Chemistry.

E-2

Abs Jour: Ref Zhur-Khimiya, No 6, 1957, 19191

C_5H_7N are heated 5 hours at $140-155^\circ$ and 18.4% IV ($R = C_2H_5$, $R' = C_6H_5$) is obtained, m.p. $109-111^\circ$ (from acetone). In passing HCl in a solution IVa, IVb and IVc in absol. ether are obtained the corresponding hydrochlorides II ($R = C_5H_7$), II ($R = C_4H_9$), m.p. $214-216^\circ$, and II ($R = iso-C_5H_{11}$), m.p. $238-240^\circ$ (from acetone). To 5 g. II ($R = C_5H_7$) in 6 cc dry C_6H_6 is gradually added 12.1 g., $SOCl_2$, is boiled 5 hours and 72.5% Va or b is obtained, b.p. $117-119^\circ/1$ mm; hydrochloride, m.p. $198-200^\circ$ (from acetone).

III. In the development of the previous investigations (see report I, RZhKhim, 1956, 71582) with the object of pharmacological tests were synthesized a series of aminoalcohols $C_6H_5CR(OH)CH(CH_3)CH_2N(CH_3)_2$ (I) and their complex ethers $C_6H_5CR(OCOR')CH(OH)CH_2N(CH_3)_2$ (II). I is obtained with a good yield from the hydrochloride (HC)

Card : 6/11

Card : 7/11

USSR/Organic Chemistry. Synthetic Organic Chemistry.

E-2

Abs Jour: Ref Zhur-Khimiya, No 6, 1957, 19191

170-171° (from acetone). To CH_2MgI (from 4.1 Mg and 24.5 g. CH_2I in 60 cc ether) is gradually added under cooling 12 g. HO III , left standing 12 hours, boiled 4 hours, decomposed with 18% HOI ; the water layer is saturated with alkali, and with ether is isolated I (R-CH_2), yield 80%, b.p. 90-91°/1.5 mm m.p. 42-43°; HC , m.p. 179-180° (from acetone + chloroform). Analogically are obtained (utilized are RMgBr) ether I (are given R, yield in %, b.p. in °C/mm, m.p. in °C HC , (solvent)): C_2H_5 , 86, 126-128/5, 52-53, 177.5-178.6 (acetone-alc.); $n\text{-C}_7\text{H}_{17}$, 60, 109-111/1, -, 174-175 (acetone-ether); $n\text{-C}_4\text{H}_9$, 59, 117-120/1, -, 158-159 (acetone); $\text{iso-C}_5\text{H}_{11}$, 70, 120-122/1.5-2, 147-148. To 1.95 g. I (R=H) in 8 cc anhyd. C_6H_6 is added 2.75 cc $\text{C}_6\text{H}_5\text{COCl}$ in 3 cc C_6H_6 , heated (1 hour, 80-90°), after 12 hours is added 10cc ether and heated for several minutes. The residue is heated with acetone and recrystallized from

Card : 8/11

USSR/Organic Chemistry. Synthetic Organic Chemistry.

E-2

Abs Jour: Ref Zhur-Khimiya, No 6, 1957, 19191

HC, 169-171° (from acetone-ether); analogically is obtained (5 hours heating) II (R=R'=C₂H₅), yield 64%, b.p. 113-115°/1.5 mm; HC m.p. 200-202° (from acetone-chloroform). A mixture of 2.06 g. I (R=CH₃), 2.8 cc C₆H₅COCl, 0.5 Mg in 15 cc C₆H₆ is left standing 12 hours, heated on a water bath 6 hours and then 2 hours on adding a portion of ether, in the precipitate is HC-II (R=CH₃, R'=C₆H₅), yield 73%, m.p. 181-183° (from acetone-alc.). Analogically from 2.2 g. I (R=C₂H₅) is obtained a base II (R=C₂H₅, R'=C₆H₅), yield 1.1 g., b.p. 160-170°/1 mm, m.p. HC 176-178° (from acetone); from 2.2 g. I (R=C₂H₅), 2.2 g. C₆H₅OCH₂COCl, 0.1 g. Mg, and 16 cc abs. ether after the separation of the precipitate, dissolving it in a mixture of abs. alcohol and acetone and partial evaporation of the filtrate, are obtained 1 g. HC II (R=C₂H₅, R'=CH₂OC₆H₅), m.p. 147-148° (from acetone-ethylacetate); from 2.35 g. I (R=n-

Card : 10/11

KARELIN, Ya.A.; NAZAROV, I.I.; SHEVTSOV, D.A.; ZHUKOV, D.A.; MEDEM, V.H.

Experimental investigation of the two-stage biochemical purification of the waste waters of electric desalters of the Orsk Petroleum Refinery. Khim. i tekhn. topl. i masel 6 no.11:23-27 M '61.
(MIRA 14:12)

1. Moskovskiy inzhenerno-stroitel'nyy institut im. V.V.Kuybysheva i Orskiy neftepererabatyvayushchiy zavod.
(Orsk--Petroleum waste--Purification)

ZHUKOV, D.D.; KARELIN, Ya.A.; MEDEM, V.M.; NAZAROV, I.I.; SHEVTSOV, D.A.

Additional experimental investigations of a two-stage biochemical purification of waste waters from the Electrical Desalting Unit of the Orsk Petroleum Refinery. *Khim.i tekhnol.i masel* 7 no.9:19-23 S '62. (MIRA 15:8)

1. Moskovskiy inzhenerno-stroitel'nyy institut im. V.V.Kuybysheva i Orskiy neftepererabatyvayushchiy zavod.
(Orsk--Petroleum--Refining) (Sewage--Purification)

Author: V. M.; Barmenkov, V. P.; Nazarov, I. I.; Shevtsov, D. A.;

TOPIC TAGS: biochemistry, oxidation, petroleum refinery product

Abstract: The biochemical oxidation of petroleum hydrocarbons with the dual result of separating and producing valuable products has been studied in a joint effort by the Institute of Chemical and Organic Chemistry of the USSR Academy of Sciences and the Institute of Microbiology of the USSR Academy of Sciences. Optimum process conditions were determined.

Card 1/3

... I N NR: AP5007690

chem. ...

of ...
NH₄Cl; 9 and 10 - nutrient solution
recycle; 11 - oxidized petroleum;
12 - solvent; 13 - dry bacterial pro-
tein.

Card 2/3

L 43003-65

ACCESSION NR: AP5009898

... .. and the nature of the hydro-

CLASSIFICATION: Orskiy MPZ

OPERATED: 00

NO REF SOV: 005 C AKU 93

INT: 00

OTHER: 001

SUB CODE: FP, L3

ATD PRESS: 5235-F

ACC NR: AP7004795 (A) SOURCE CODE: UR/0413/67/000/001/0131/0131

INVENTOR: Irikhimovich, M. I.; Nazarov, I. I.; Semenov, M. N.

ORG: None

TITLE: A method for making food loaves. Class 53, No. 190196

SOURCE: Izobreteniya, promyshlennyye obraztsey, tovarnyye znaki, no. 1, 1967, 131

TOPIC TAGS: food technology, food ration

ABSTRACT: This Author's Certificate introduces: 1. A method for making loaves from food substances such as jelly by filling hollow tubes with a paste to make the loaf, cooling the tubes, and subsequent reheating with simultaneous melting of the upper layer of the resultant loaf and emergence under its own weight. In order to produce loaves with a gelatinous crust and various types of paste fillers, an agar-sugar-molasses syrup is poured into the hollow tubes before filling them with the paste and the tubes are then cooled with continuous rotation. 2. A modification of this method in which the agar-sugar-molasses syrup is introduced in a quantity sufficient to form a crust with a thickness of 3-5 mm.

SUB CODE: 06/ SUBM DATE: 05Oct65

Card 1/1

UDC: 664.143

NAZAROV, I. L.

Study of normal subjects by means of ultralow frequency ballistocardiography. Terap. arkh. 34 no.4:36-46 '62.

(MIRA 15:6)

1. Iz kafedry gosputal'noy terapii (zav. - prof. P. K. Bulatov)
I Leningradskogo meditsinskogo instituta imeni I. P. Pavlova.

(BALLISTOCARDIOGRAPHY)

HAZAROV, I.L.

Dynamocardiographic examination of healthy subjects. *Kardiologiya*
3 no.5:70-79 S-0 '63.

1. Iz kafedry gosital'noy terapii (zav. - prof. A.K. Bulatov)
I Leningradskogo med. instituta imeni akademika I.I. Pavlova.

NAZAROV, I.L.

Analysis of the systolic phases of the left ventricle in chronic lung diseases. Kardiologiya 4 no.4:61-66 J1-Ag ' 64
(MIRA 19:1)

1. Kafedra gospi'al'noy terapii (zav. - prof. P.K. Bulatov)
I. Leningradskogo meditsinskogo instituta imeni I.P. Pavlova.
Submitted October 13, 1962.

NAZAROV, I. M., Cand of Tech Sci -- (diss) "The means of increasing the accuracy of a divided calculation of radioactive elements in their combined state in a laboratory radiometric measurement." Moscow, 1957, 8 pp, (Moscow Geological Prospecting Institute im S. Ordshonikidze), 100 copies (KL, 30-57, 110)

N. A. NAZAROV, I. M.

AUTHOR: NAZAROV, I. M. 89-8-6/26
TITLE: Determination of the Naturally Radioactive Elements using a Laboratory Radiometer. (Razdeliye opredeleniye yestestvennykh radioaktivnykh elementov, Russian)
PERIODICAL: Atomnaya Energiya, 1957, Vol 3, Nr 8, pp 121-129 (U.S.S.R.)
ABSTRACT: On the basis of 24 citations from published works the author shows what systems of equations must be solved for the various known methods in order to determine the natural content of U, Th, Ra and K. The known methods which can be carried out with a normal radiometer are based upon: a) Measuring of different kinds of radiation, b) Discrimination of a type of radiation, c) Use of additional emanation measurements, d) Combination of the measurements mentioned under a) and b). (With 5 Slavic References).
ASSOCIATION: Not given
PRESENTED BY:
SUBMITTED: 22.1.1957
AVAILABLE: Library of Congress
Card 1/1

HAZAROV, I.M.

Using statistical methods for controlling the operation of radio-
metric apparatus. Izv. vys. ucheb. zav.; geol. i razv. 1 no.4:133-135
Ap '58. (MIRA 11:12)

1. Moskovskiy geologorazvedochnyy institut imeni M.S. Ordzhonikidze.
Kafedra spetsial'nykh metodov razvedki.
(Radiometer) (Mathematical statistics)

HAZAROV, I.M.

Statistical evaluation of radiometric measurement and control
of equipment performance. Trudy MGRI 32:128-138 '56.

(Radioactivity--Measurement)

(MIRA 12:10)

BOLTNEVA, L. I.; VASILENKO, V. N.; DMITRIYEV, A. V.; IONOV, V. A.; KOGAN, R. M.; KUZNETSOVA, Z. V.; NAZAROV, I. N.; YAGOLOVSKIY, I. V.

Use of the method of air-borne gamma-spectrometry in studying the radioactivity of granitoid intrusives. Izv. AN SSSR. Ser. geofiz. no.6:858-871 Je '64. (MIRA 17:7)

3.9000

66576
SOV/49-59-9-6/25

AUTHORS: Koc̄an, R. M., and Nazarov, I. M

TITLE: On the Accuracy of Measurements of Non-stationary
Radioactive Radiation Fields

PERIODICAL: Izvestiya Akademii nauk SSSR, Seriya geofizicheskaya,
1959, Nr 9, pp 1353-1358 (USSR)

ABSTRACT: In geophysical studies one often has to deal with cases in which the radioactive radiation field recorded by the detector is a function of time. This may be due to changes in the emission or absorption properties of the medium, changes in the distance between the detector and the radiating source, or a combination of these factors. The radioactive radiation field is defined as non-stationary when the above general situation occurs. The mean counting rate recorded by the detector is denoted by $F(t)$, where the maximum value of $F(t)$ is n_0 . It follows that $F(t) = n_0 f(t)$, where $f(t) \leq 1$. The main limitation which is imposed on $F(t)$ in this discussion is that the dispersion of $F(t)$ during the time interval $t \rightarrow t + dt$ is $F(t)dt$ and the dispersion of the interval t_1, t_2 is

$$\int_{t_1}^t F(t) dt,$$

4

Card 1/4

30V/49-59-2-1/25

On the Accuracy of Measurements of Non-stationary Radioactive Radiation Fields

(Refs 1 and 2). It may be shown that the above limitation is justified in geophysical observations in many important practical cases. The limitation is not, however, justified when the time of observation is comparable with the half-life of the radioactive substance and this was not taken into account in the work of Shiff and Evans (Ref 3). Under the above condition it is interesting to determine the dispersion in the counting rate for devices having an inertia. The most widely employed inertial system uses an RC integrating element (Ref 4). The determination of the dispersion of the recorded counting rate for such a system is investigated in the present paper. The results obtained are summarised in Table 1. The first column of this table gives the type of the field investigated, the second column gives the parameters employed and the third the recorded counting rate and its dispersion for $t_0 \rightarrow -\infty$, where t_0 is the time at which the measurements on the radiation field begin. The following cases are considered: 1) constant field, $f(t) = 1$; 2) rectangular pulse $f(t) = 0, 1$ for $T < t < 0$ and $T \gg t \gg 0$.

Card 2/4

4

66586

SOV/49-59-9-6/25

On the Accuracy of Measurements of Non-stationary Radioactive
Radiation Fields

respectively; 3) series of periodically repeating rectangular pulses; 4) gaussian curve $f(t) = \exp(-\beta^2 t^2)$; 5) an exponential pulse $f(t) = \exp(-\lambda t)$ for $t \geq 0$ and $f(t) = 0$ for $t < 0$; 6) a pulse of the form $f(t) = 1 - \exp(-\lambda t)$. In each of these cases the dispersion D given by Eq (4) is calculated and is given explicitly in column 3 of Table 1. In practice, the fields under investigation are always recorded in the presence of a constant background field. If the background is high and the anomalous field low, then it is important to choose a time constant so that one obtains the best discrimination against the background. The appropriate calculations have been carried out by the authors and these are summarised in Figs 1 and 2, which give nomograms for the optimum values of the time constant under different conditions. There are 2 figures, 1 table and 3 references, 4 of which are Soviet (1 translation from English) and 4 English.

Card 3/4

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66576

SOV/49-59-9-6/25

On the Accuracy of Measurements of Non-stationary Radioactive
Radiation Fields

ASSOCIATION: Akademiya nauk SSSR. Institut prikladnoy geofiziki
(AS USSR, Institute of Applied Geophysics)

SUBMITTED: January 5, 1959

4

Card 4/4

NAZAROV, I.M.

Alpha-pulse chamber with stepped-up sensitivity. *Biul.nauch.-tekh.*
inform.VIMS no.1:39-41 '60. (MIRA 15:5)

1. Institut prikladnoy geofiziki AN SSSR.
(Geophysical instruments) (Alpha rays--Industrial applications)

BALYASNYI, N.D.; NAZAROV, I.M.

Statistics of the performance of differential computers. Frib.1
tekh.eksp. 6 no.5:74-77 S-0 '61. (MIRA 14:10)

1. Institut prikladnoy geofiziki AN SSSR.
(Electronic analog computers)