

ACC NR: AT6036932

temperature range from 200 to 1400C. The experimental results are shown graphically (see Fig. 1). It was found that the measured values of electrical resistivity were

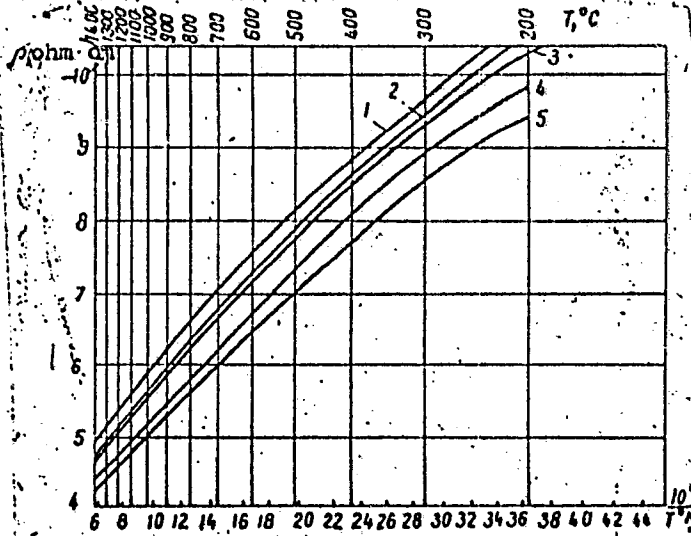


Fig. 1. Dependence of specific resistance of corundum on its composition.

1 - Al<sub>2</sub>O<sub>3</sub> - 97%; Cr<sub>2</sub>O<sub>3</sub> - 3%; 2 - Al<sub>2</sub>O<sub>3</sub> - 90%; Cr<sub>2</sub>O<sub>3</sub> - 10%;  
 3 - Al<sub>2</sub>O<sub>3</sub> - 87%; Cr<sub>2</sub>O<sub>3</sub> - 13%; 4 - Al<sub>2</sub>O<sub>3</sub> - 100%; 5 - Al<sub>2</sub>O<sub>3</sub> - 85%;  
 Cr<sub>2</sub>O<sub>3</sub> - 15%

Card 2/3

ACC NR: AT6036932

practically identical with the values obtained by other workers for the same materials measured in air. Orig. art. has: 4 graphs.

SUB CODE: 11/      SUBM DATE: 02Nov65/

Card 3/3

ACC NR: AT6036939

SOURCE CODE: UR/0000/66/000/000/0178/0202

AUTHORS: Polyak, B. I.; Poluboyarinov, D. N.; Balkevich, V. L.

ORG: none

TITLE: Conditions for direct thermoelectric firing of silicon carbide heating elements

SOURCE: Nauchno-tekhnicheskoye obshchestvo chernoy metallurgii. Moskovskoye pravleniye. Vysokoogneupornyye materialy (Highly refractory materials). Moscow, Izd-vo Metallurgiya, 1966; 178-202

TOPIC TAGS: silicon carbide, electric device, electric equipment

ABSTRACT: The conditions for direct thermoelectric firing of moist and plastic silicon carbide heating elements were studied. The study supplements the results of A. D. Sventchanskiy (Elektricheskiye promyshlennyye pechi. Ch. I, Gosenergoizdat, 1958). Properties of specimens made from five different initial mixtures were investigated. Four of the mixtures were prepared by a plastic compression technique, and the remaining one by a vibration technique. The optimum composition of specimens and the voltage and current during thermoelectric firing were determined. The results are tabulated. An x-ray and microstructural analysis of the specimens was carried out. The experimental results are shown graphically, and a schematic of the

Card 1/3

ACC NR: AT6036939

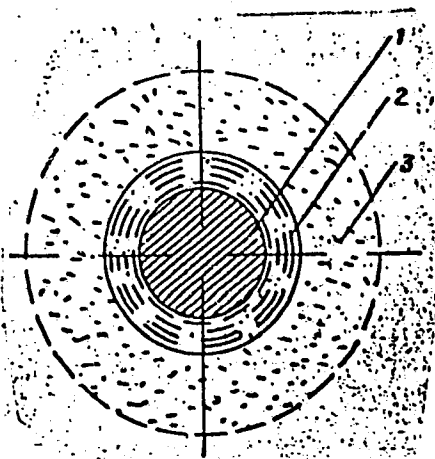


Fig. 1.  
Schematic of cross section of firing zone. 1 - silicon carbide element; 2 - firing surplus; 3 - filler

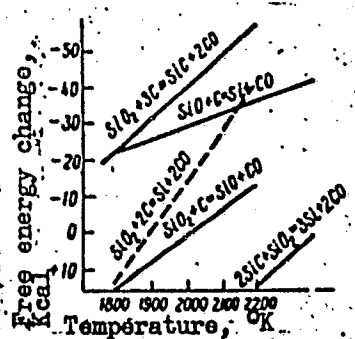


Fig. 2.  
Free energy change for the system Si-O-C; dashed line: overall reaction

Card 2/3

ACC NR: AT6036939

specimen firing cross section is presented (see Fig. 1). The behavior of different fillers during firing was studied. The study was carried out after the method of V. P. Yelyutin, Yu. A. Pavlov, and B. Ye. Levin (Ferrosplavy, Metallurgizdat, 1951). The results are shown graphically (see Fig. 2). It was found that thermoelectric firing of silicon carbide elements yields a strong monolithic material. The composition of the completely fired material consists mainly of hexagonal silicon carbide, some cubic silicon carbide, and unreacted components. It is concluded that, to insure a high quality of product, the firing of each element must be individually controlled. Orig. art. has: 9 tables, 10 graphs, and 4 equations.

SUB CODE: 11,09 SUBM DATE: 02Nov65/ ORIG REF: 016/ OTH REF: 001

Card 3/3

ACC NR: AT6036941

SOURCE CODE: UR/0000/66/000/000/0213/0220

AUTHORS: Balkovich, V. L.; Polyak, B. I.

ORG: none

TITLE: High-density carborundum electrical heaters

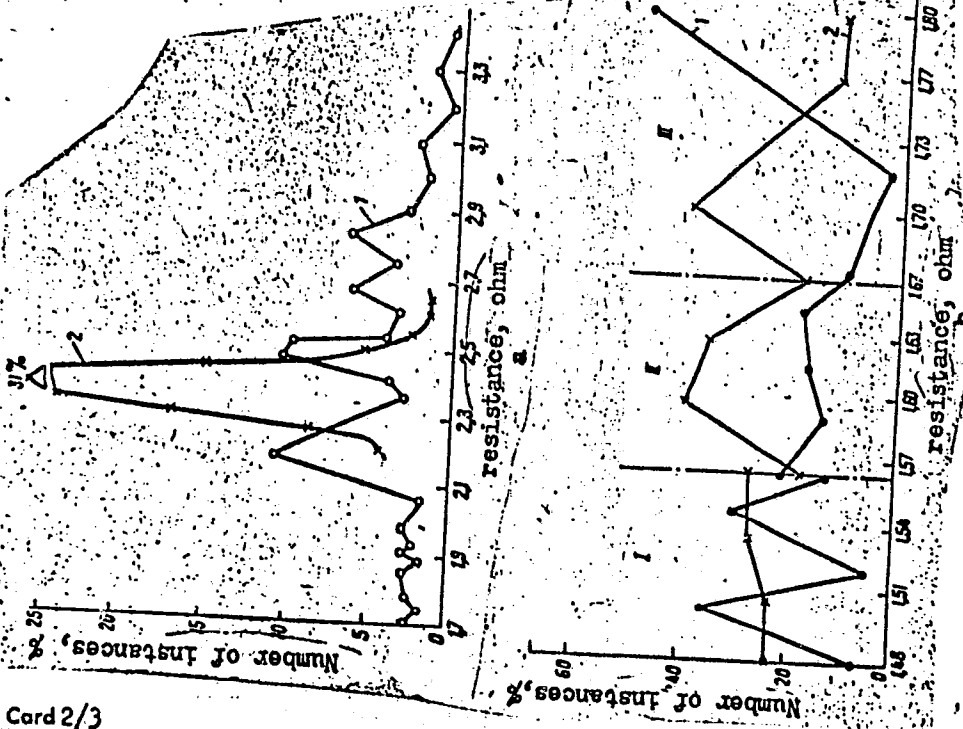
SOURCE: Nauchno-tekhnicheskoye obshchestvo chernoy metallurgii. Moskovskoye pravleniye. Vysokoogneupornyye materialy (Highly refractory materials). Moscow, Izd-vo Metallurgiya, 1966, 213-220

TOPIC TAGS: carborundum, electric device, electric energy, electric equipment

ABSTRACT: The electrical and mechanical properties of carborundum electrical heaters were studied as a function of the grain size composition of the initial materials. Mixtures consisting of three sizes were investigated. The chemical composition, density, porosity, moisture content, and electrical resistance of the carborundum heaters were determined. The experimental results are summarized in graphs and tables (see Fig. 1). It was found that carborundum heaters made of tri-fractional mixtures exhibit higher densities, greater mechanical strength, and more stable electrical characteristics than those of two-fractional mixtures.

Card 1/3

ACC NR: AT6036941



Card 2/3

Fig. 1. Electrical resistance of heaters after thermoelectric firing (a) and after metallization (b), (length - 540 mm, diameter 25 mm). I - control voltage 80 v; II - 85 v; III - 90 v; 1 - mass-produced specimens; 2 - laboratory specimens (250 pieces)

ACC NR: AT6036941

Orig. art. has: 5 tables and 1 graph.

SUB CODE: 13, 09, 11 / SUBM DATE: 02Nov65/ ORIG REF: 002

Card 3/3



L 31149-66 EXT(1) SCTB DD

ACC NR: AP5018346

SOURCE CODE: UR/0245/65/000/004/0130/0132

AUTHOR: Balkhashov, I. (Kazandzhik)

ORG: none

TITLE: Concerning hypnopedia and the rapid learning of a foreign language

SOURCE: Voprosy psikhologii, no. 4, 1965, 130-132

TOPIC TAGS: hypnopedia, psychology, learning mechanism

ABSTRACT: The object of the experiment was to teach a 27 yr old physician to read and translate Italian medical literature. Thirty lessons were taped and played on an MG-56 "Melodiya" tape recorder (with the volume control set on 8) while the subject slept. The experiment was conducted over a six month period. The lessons were played between 6 and 7 am to the sleeping subject and each lesson was repeated 6-7 times. Negative reactions in the subject were noted: nightmares, erotic dreams, violent headaches, hallucinations, decrease in appetite, etc.; as the experiments progressed, these negative reactions vanished. In the final stages of the experiment, the subject complained of prickly sensations in his fingertips. Occasional alcohol intake produced an extremely unpleasant effect on the subject. After 40 hrs of 'sleep learning', the subject could read and understand medical literature with some facility. Memorization

Cord 1/2

L 31149-66

ACC NR: AP5018346

of the material was greatly enhanced when the subject read the printed lesson and listened to the taped lesson simultaneously. Despite its negative aspects, the author concludes that hypnopedia is a practical learning method.

SUB CODE: 05,06

Card 2/2 LC

BAL'KIN, M.K., gornyy inzh.; GRISHINA, K.M., gornyy inzh.

Dependence of boring rapidity on bore head cross section when  
boring in shale. Ugol' 33 no.2:25-27 P '58. (MIRA 11:2)

1. Chelyabinskiy filial Vsesoyuznogo nauchno-issledovatel'skogo  
ugol'nogo instituta.

(Boring machinery) (Shale)

BAL'KIN, M.K., gornyy inzh.

Experience in using short-delay blasting in Mine No.30 of the  
Chelyabinskugol' Combine. Ugol' 36 no.9:21-22 S '61.

(MIRA 14:9)

1. Chelyabinskiy nauchno-issledovatel'skiy institut gornogo dela.  
(Chelyabinsk Basin--Blasting)

BAL'KIN, M.K.; KOVALEV, D.T.

Use of the short-delay blasting method for driving inclines.  
Ugol' 37 no.11:18-20 N '62. (MIRA 15:10)

1. Chelyabinskiy nauchno-issledovatel'skiy institut gornogo dela.  
(Chelyabinsk Basin--Coal mines and mining) (Blasting)

BALKIN, N.A., otv. za vypusk; AZIZYAN, A.K., otv. za vypusk;  
DUBROVIN, B.A., otv. za vypus; REUT, V.F., otv. za vypusk;  
CHERUNENKO, M.B., otv. za vypusk; NOVIKOVA, L.D., tekhn.  
red.; MASLENNIKOV, V.V., tekhn. red.; SHUMAN, L.I., tekhn.  
red.

[Earth-space-earth] Zemlia - kosmos - Zemlia; sbornik mate-  
rialov, opublikovannykh v gazete "Pravda." Moskva, 1962.  
95 p. (MIRA 15:7)

(Nikolaev, Andriian Grigor'evich, 1929- )  
(Popovich, Pavel Romanovich, 1930- )

BALKIN, R. I. PROF.

"In Memory of V. L. Komarov, Member of the Academy" (p. I-VI)  
by Balkin, R. I. Prof. (assistant editor)

SO: Advances in Modern Biology (Uspekhi Sovremennoi Biologii) Vol. XX, No.3, 1945.

PHASE I BOOK EXPLOITATION

SOV/3862

*10-111, 1*  
*p 3*

Raschety na prochnost': teoreticheskiye i eksperimental'nyye issledovaniya prochnosti mashinostroitel'nykh konstruktsiy; sbornik statey, vyp. 5 (Strength Analysis; Theoretical and Experimental Investigations of the Strength of Machine Elements; Collection of Articles, No. 5) Moscow, Mashgiz, 1960. 298 p. Errata slip inserted. 5,000 copies printed.

Ed.: V.N. Arbuzov, Candidate of Technical Sciences; Ed. of Publishing House: L.N. Danilov; Tech. Ed.: B.I. Medel'; Managing Ed. for Literature on General Technical and Transport Machinery Building (Mashgiz): A.P. Kozlov, Engineer; Editorial Board: G.S. Glushkov, Doctor of Technical Sciences, Professor; V.M. Makushin, Candidate of Technical Sciences, Docent (Secretary); S.D. Ponomarev, Honored Scientist and Technologist of the RSFSR, Doctor of Technical Sciences, Professor; S.V. Serensen, Member of the Academy of Sciences UkrSSR, Doctor of Technical Sciences, Professor; S.N. Sokolov, Doctor of Technical Sciences, Professor; N.D. Tarabasov, Doctor of Technical Sciences, Professor; and Ye.N. Tikhomirov, Honored Scientist and Technologist of the RSFSR, Professor (Chairman).

Card 1/8



Strength Analysis (Cont.)

SOV/3862

**PURPOSE:** The book is intended for engineers and scientists specializing in stress analysis.

**COVERAGE:** This collection of 15 articles deals with the design and calculation of machine elements for strength, rigidity, and stability. The collection is divided into <sup>three</sup> sections; 1) calculation for strength, 2) stress and strain analysis, and 3) calculation for stability. Methods and formulas for calculating strength parameters are presented. No personalities are mentioned. References follow several of the articles.

**TABLE OF CONTENTS:**

**SECTION I. DESIGN OF PARTS FOR STRENGTH AND RIGIDITY**

Ponomarev, S.D. Rigidity of Belleville Springs Under Elastic Deflection 3  
Load deflection characteristics of Belleville springs and height-to-thickness ratios are studied and the respective stress and fatigue-loading formulas deduced. A new formula is presented for computing the maximum compression stress. The formula is claimed to be superior, as far as accuracy is concerned, to the formula suggested by Almen and Laszlo.

Card 2/8

## Strength Analysis (Cont.)

SOV/3862

Determination of ultimate load responses in rigidly fixed thin trapezoidal plates and an analysis of tension-compression characteristics are presented. Improved formulas for flexure, experimentally proven, are deduced.

Yel'pat'yevskiy, A.N. [Candidate of Technical Sciences]. Determination of the Optimum Length of a Thin-Walled Reinforcing Bar [Plate] 146  
Formulas for stress and deflection per type of load are deduced to determine the optimum parameters of the reinforcement.

## SECTION II. STRESS ANALYSIS OF CONSTRUCTIONAL ELEMENTS

Berman, M.E. (Deceased) [Candidate of Technical Sciences]. Stresses in Circular Coils of Round Cross Section Loaded by an Arbitrary System of Forces 155  
Stress-strain relations in circular round-wire coils [coil springs] are studied. A new formula for computing the transverse stress distribution is deduced.

Balkin, V.I. [Engineer]. Determination of the Bending Center in Thick-Walled Shapes 171  
Bending-stress computations for an equilibrium condition are presented.

Card 4/8

## Strength Analysis (Cont.)

80V/3862

and equations for determining the "center of flexure" deduced.

Obodovskiy, B.A. [Candidate of Technical Sciences, Docent].  
Flexure of a Hollow Bar of Elliptical Cross Section 182

Yanpl'skiy, A.R. [Candidate of Technical Sciences, Docent].  
Solution of the Problem of Torsion of a Bar for One Particular  
Case of Anisotropy 191

Makhonina, T.M. [Engineer]. Elastoplastic State of Strain of an  
Annular Disk in the Case of Work-Hardening Characterized by  
Power Function 212

Loading of specimens until the stress enters the inelastic  
range and the phenomenon of strain-hardening [work-hardening]  
are analyzed for both solid disks and disks with a hole in  
the center. Theoretical stress-concentration coefficients  
are deduced.

Card 5/8

ACCESSION NR: AT4042450

S/0000/64/000/000/0168/0178

AUTHOR: Balkind, L. V.

TITLE: Dynamic properties of an electrohydraulic drive with feedback related to the drive mechanism rate

SOURCE: Vsesoyuznoye soveshchaniye po pnevmo-gidravlicheskoj avtomatike. 5th, Leningrad, 1962. Pnevmo- i gidroavtomatika (Pneumatic and hydraulic control); materialy\* soveshchaniya. Moscow, Izd-vo Nauka, 1964, 168-178

TOPIC TAGS: automatic control system, automation, hydraulic control system, electrohydraulic drive, feedback, hydraulic drive frequency characteristic.

ABSTRACT: The paper deals with an electrohydraulic drive with a dual amplifier having a controlling element of the "nozzle-damper" type and a feedback system, which depends on the drive mechanism rate. The purpose of the paper is to determine the frequency characteristics of the hydraulic drive and to study the influence of the individual system parameters on its properties. An analog computer of the EMU-8 type was used to solve the differential equations which were derived. After stating the problem, the author discusses: the equation of damper equilibrium in the hydraulic amplifier; the equation of motion of the distributive valve; the equation of motion of the rotary hydraulic motor; the equation of the rate feedback element;

Card 1/2

ACCESSION NR: AT4042450

the system equations and the block diagram of the hydraulic drive; the selection of the basic design values; and the frequency characteristics of the open-loop hydraulic drive. For the last purpose, an electronic model was constructed and numerical results are given. Orig. art. has: 4 figures, 37 formulas and 1 table.

ASSOCIATION: none

SUBMITTED: 29Jan64

ENCL: 00

SUB CODE: IE

NO REF SOV: 004

OTHER: 001

Card

2/2

BALKIND, Ya. V., Engr.

Cand. Tech. Sci.

Dissertation: "Application of the Quadratic Integral Characteristics of Disturbances to the Problem of Rational Selection of the Damping Coefficient and the Extent of Airplane Longitudinal Static Stability." Red Banner Order of Lenin Military Aeronautical Engineering Academy imeni N. Ye. Zhukovskiy, 9 Apr 47. *Acu*

SO: Vechernyaya Moskva, Apr, 1947 (Project #17836)

BALKIND, Ya V

PHASE I BOOK EXPLOITATION

SOV/5822

Alekseyev, Semen Mikhaylovich, Yakov Vladimirovich Balkind, Aleksandr Mironovich Gershkovich, Veniamin Semenovich Yerebin, Aleksandr Solomonovich Povitskiy, and Naum L'vovich Umanskiy

Sovremennyye sredstva avariynogo pokidaniya samoleta (Modern Facilities for the Emergency Abandonment of an Airplane) Moscow, Oborongiz, 1961. 450 p. Errata slip inserted. 4000 copies printed.

Reviewer: A. G. Brunov, Engineer; Ed.: A. I. Sokolov, Engineer; Ed. of Publishing House: A. G. Belevtseva; Tech. Ed.: P. V. Sheherbakov; Managing Ed.: S. D. Krasil'nikov.

**PURPOSE:** This book is intended for engineering and technical personnel in the aircraft industry, scientific workers, and flying and technical personnel of the Soviet Air Force.

**COVERAGE:** Based on non-Soviet sources, the book reviews briefly the development of flyers' escape equipment, describes the construction of ejection seats, and gives design and calculation

Card 1/12

**Modern Facilities (Cont.)**

SOV/5822

data for ejection seats and ejection-seat parachutes. Information is included on the calculation of the trajectory of the ejected seat, its stabilization, and the aerodynamic loads involved. Attention is given to methods of escaping from aircraft flying at high speeds and at high and low altitudes. Information on problems connected with oxygen equipment, protective clothing, and testing facilities is also included. No personalities are mentioned. The authors thank A. G. Brunov, P. D. Tkachev, and N. I. Aleksandrova, Engineers, for valuable suggestions; and N. A. Lobanov, Candidate of Technical Sciences, for writing Subheading 9 of Ch. III. There are 34 references: 31 Soviet (5 translations), and 3 English.

**TABLE OF CONTENTS:**

Foreword

3

Ch. I. General Information on Modern Escape Facilities for Aircraft Crews in Distress

5

Card 2/12



"APPROVED FOR RELEASE: 06/06/2000

CIA-RDP86-00513R000103310017-5

APPROVED FOR RELEASE: 06/06/2000

CIA-RDP86-00513R000103310017-5"

BALKLAV, A. [Balklavs, A.]

Application of V. A. Kotel'nikov's theorem to radio astronomy. Vestis  
Latv ak no.10:73-76 '61.

1. Akademiya nauk Latvyskoy SSR, Astrofizicheskaya laboratoriya.

(Radio astronomy)

BALKLAV, A. [Balklavs, A.]

Restoration of the true distribution of the brightness of radio  
emission sources by methods of approximation. Vestis Latv  
ak no.2:87-94 '62.

1. Astrofizicheskaya laboratoriya AN Latvyskoy SSR.

3,1700

S/141/62/005/004/001/009  
E140/E435

AUTHOR: Balklav, A.

TITLE: Approximate methods of data reduction in radioastronomy

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Radiofizika, v.5, no.4, 1962, 629-639

TEXT: The problem discussed is that of the error in radio-astronomical measurements caused by the non-uniform spectrum of the receiver. Approximate methods of introducing the necessary corrections are used in classical optics and can be applied in radioastronomy. The common theoretical basis for these methods is the Fourier transform. On the basis of the formulae discussed in the article, an automatic reduction system is proposed, based on perforated tape and a special purpose digital computer. The method used an expansion in the form of a trigonometric series due to Kotelnikov

$$T_a(\varphi) \approx \sum_{n=-m}^m T_a(n\tau) \left[ \frac{\pi}{\tau} (\varphi - n\tau) \right]^{-1} \sin \left[ \frac{\pi}{\tau} (\varphi - n\tau) \right] \quad (13)$$

Card 1/2

Approximate methods of data ...

S/141/62/005/004/001/009  
E140/E435

where  $T_a(\varphi)$  is the actual spectrum measured and  $\tau$  is the constant interval at which measurements are taken. Several reasons are given for considering this to be the most suitable of the various approximations discussed in the article. There are 9 figures.

ASSOCIATION: Astrofizicheskaya laboratoriya AN Latviyskoy SSR  
(Astrophysical Laboratory of AS Latvian SSR)

SUBMITTED: October 28, 1961

Card 2/2

BALKLAV, A. [Balklavs, A.]

Investigation of the spatial frequency spectrum of a regular interferometer having  $N$  antennas. Vestis Latv ak no.7:57-64 '62.

1. Astrofizicheskaya laboratoriya AN Latvviyskoy SSR.

41521

8/197/62/000/008/003/003  
B117/B186

AUTHOR: Balklav, A.

TITLE: Investigation of space frequency spectrum of multiple-  
antenna radio-interferometer with phase modulation

PERIODICAL: Akademiya nauk Latviyskoy SSR. Izvestiya, no. 8 (181), 1962,  
67-74

TEXT: The author investigated the problem of reducing the observation pattern of radioastronomical spatial frequency spectra of an N-antenna radio-interferometer with the aim of obtaining the true radiointensity of the sky. For this purpose, the author analyzed the set-up of N unequal antennas arranged in one line with different distances between the phase centers and different directional diagrams (radiation patterns). The true directional diagram of the radio-interferometer under consideration was derived on the basis of data calculated by M. Ryle (Nature, 1948, vol. 162) and N. F. Barber (Electr. and Radio Eng., vol. 36, 1959, No. 6). It is suggested that the signal of each antenna should pass the minimum through one triplet. In this case, allowance is made for the branching of

Card 1/2

Investigation of space frequency ...

S/197/62/000/008/003/003  
B117/B186

triplets. When the signal from the k-th antenna, in the general case, passes through n triplets before it reaches the feed line leading directly to the receiver,  $a_k(\varphi)$  being the directional diagram of individual antennas is to be multiplied by the coefficient  $(\sqrt{2})^{-n}$ . To eliminate distortions and to obtain correct values for observation data by using phase modulation, an optimum form of  $A(\varphi) = (1/\pi) \cdot \sin \omega_0 \varphi / \varphi$  is achieved, which offers possibilities of recording observations without distortions. Thus, it is shown that radio-interferometers with optimum directional diagrams may be designed by using comparatively simple circuit diagrams and considering the proper size of aperture and proper choice of distances between the adjacent antennas. Phase-modulated radio-interferometers have smoother spectra and are less sensitive than interferometers designed according to the equivalent antenna method or compensation method. There are 4 figures.

ASSOCIATION: Astrofizicheskaya laboratoriya AN Latv. SSR (Astrophysical Laboratory AS LatSSR)

SUBMITTED: February 8, 1962

Card 2/2



ESU

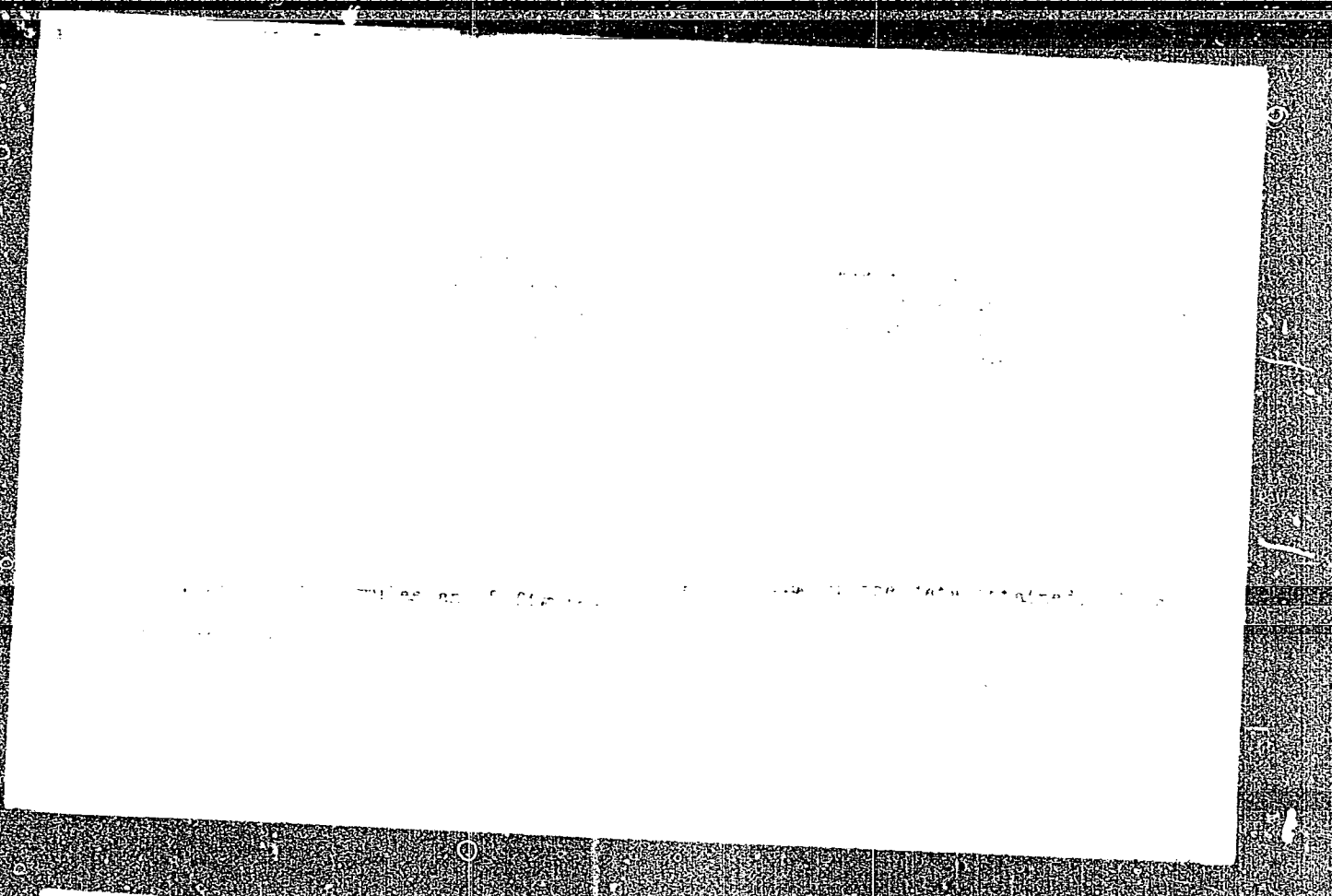
FCS(1)/ART(1)/RBD/TCO(W)/BDS/REC-2/PS(7)

APPROVED

AUTHOR: Balklay, A.

S/0141/63/006/003/0437/0448

TITLE: Study of space frequency spectra in high-resolution radar  
- 3-Dimensional nature of the



ACCESSION NR: AP3005547

S/0197/63/000/006/0059/0064

AUTHOR: Balklav, A.

TITLE: Reduction in the case of a uniformly illuminated aperture

SOURCE: AN LatSSR. Izvestiya, no. 6, 1963, 59-64

TOPIC TAGS: antenna smoothing, radio noise temperature distribution, radio brightness temperature distribution, aperture, uniformly illuminated aperture, antenna aperture

ABSTRACT: The actual radio noise temperature distribution  $T(\varphi)$  is reconstructed from the observed distribution  $T_a(\varphi)$  in the case of a uniformly illuminated aperture of a radio telescope antenna. The method involves finding a smooth solution  $T_0(\varphi)$  of the integral equation

$$T_a(\varphi) = \int_{-\infty}^{\infty} A(\varphi - \beta) T(\beta) d\beta,$$

where  $A(\varphi)$  is the radiation pattern of the antenna. The solution has the property

Card 1/32

ACCESSION NR: AP3005547

that  $\bar{T}_0(s) = \bar{T}(s)$  for  $|s| < s_0$  and  $\bar{T}_0(s) = 0$  for  $|s| > s_0$ , where  $\bar{T}_0(s)$  and  $\bar{T}(s)$  are the Fourier transforms of  $T_0(\varphi)$  and  $T(\varphi)$  and  $s_0$  is the critical spatial frequency. The method differs from the usual approximate methods in that it gives a solution accurate up to the critical spatial frequency. This is possible because the analytical form of the radiation pattern is assumed known and the aperture is assumed to be uniformly illuminated. In order to simplify the expression for  $T_0(\varphi)$  in the case of a bounded spectrum, it is observed that

$$T_0(\varphi) = \sum_{m=-\infty}^{\infty} T_0(m\tau) \frac{\sin \frac{\pi}{\tau}(\varphi - m\tau)}{\frac{\pi}{\tau}(\varphi - m\tau)}$$

Expressions for  $T_0(m\tau)$ , which can be machine-computed, are given. Mathematical supplements are added to justify the operations used in the derivation of the formulas. Orig. art. has: 17 formulas.

ASSOCIATION: Astrofizicheskaya laboratoriya AN Latv. SSR (Astrophysical Laboratory AN Latvian SSR)

Card 2/2

Subs: 22 Feb 63

BALKLAV, A.

Investigating the space frequency spectrum of radio interferometers  
of high resolving power. Izv. GAO 23 no.3:104-115 '64.

(MIRA 17:11)



L 3189-66

ACCESSION NR: AP5014501

ASSOCIATION: Astrofizicheskaya laboratoriya AN Latvyskoy SSR  
(Astrophysics laboratory, AN Latvian SSR)

SUBMITTED: 29Apr64

ENCL: 00

SUB CODE: EC AA

NO REF SOV: 000

OTHER: 001

ATD PRESS: 4024

Card 2/2

L 24415-66 FBL, ENI(1), ENA, h) CA, MS, 2  
ACC NR. AP6010266

SOURCE CODE: UR/0371/66/000/001/0060/0070

AUTHOR: Baiklav, A. E. (Baiklavs, A.)

ORG: Astrophysical Laboratory AN Latv. SSR (Astrofizicheskaya laboratoriya AN Latv. SSR)

TITLE: Using frequency multiplication to form the directional pattern of radio interferometers

SOURCE: AN LatSSR. Izvestiya. Seriya fizicheskikh i tekhnicheskikh nauk, no. 1, 1966, 60-70

TOPIC TAGS: interferometer, radio telescope, antenna radiation pattern, frequency multiplication

ABSTRACT: The author derives expressions for calculating the directional pattern of an  $N$ -antenna radio interferometer if the instrument operates in frequency multiplication conditions. Frequency multiplication before and after interference is considered. Several examples are examined on the basis of the resultant general expressions. It is shown that frequency multiplication may be used to constrict the directional pattern of radio telescopes and radio interferometers. However, this does not always increase the resolution. Constriction of the pattern takes place on the  $n$ -th harmonic of the signal. The sensitivity is reduced in these cases since the  $n$ -th harmonic is attenuated by a factor of  $2^{n-1}$  in comparison with the first harmonic. The signal-to-

(ord 1/2



L 24455-66

ACC NR: AP6010266

-noise ratio is reduced by the loss in sensitivity. From this standpoint, frequency multiplication after interference is more advantageous than before interference. Actually, interference takes place only after an increase in the signal strength from each antenna in the case of frequency multiplication before interference. However, there is noise in the nonlinear step which grows as the signal increases so that the noise from the  $N$  steps arrives at the receiver together with the useful signal. In the case of frequency multiplication after interference, only a single nonlinear step is necessary which means an increase in the signal-to-noise ratio. The difference between the two systems is reduced when low-noise nonlinear elements are used. It is shown that the interferometer factor in the case of frequency multiplication before interference remains the same as for an ordinary radio interferometer except that the effective distance between antennas is multiplied by a certain factor. The factor for a radio interferometer with frequency multiplication after interference is the same as for a conventional radio interferometer, but raised to the  $n$ -th power. The period of the lattice factor remains the same in this case as for an ordinary interferometer. Peaking of the lobes takes place in both cases. Orig. art. has: 17 formulas.

SUB CODE: 24,09/

SUBM DATE: 03Apr65/

OPIC REF: 007/

OTH REF: 000

Card 2/2

SIR CODE: EC AA

ENCL: W

BAL'KO, B. Ye. Cand Biol Sci -- (diss) "Study of the tempo of mot<sup>or</sup> reactions  
~~in~~ <sup>of</sup> athletes." Len, 1957. 20 pp 22 cm. (State Order of Lenin and Order of Red  
Banner Inst of Phys. Culture im P. F. Lesgaft). (KL, 13-57, 98)

BAL'KO, B.Ye., kand. biol.nauk, otv. red.

[Reports of the Second Scientific Conference Dedicated to the Problems "Climate, Training, Sports"] Doklady II Nauchnoi konferentsii, posvyashchenoi problemam "Klimat, uchenie, sport. Tashkent, Nauchno-issl. in-t pedagog. nuak, 1963. 237 p. (MIRA 17:8)

1. Nauchnaya konferentsiya, posvyashchennaya problemam "Klimat, ucheniye, sport," 2d, 1963.

BALKO, Mihaly (Budapest)

Forum of innovators. Ujit lap 17 no.9:62 18 My '65.

BALKOVA, N. F.

Balkova, N. F. - "On the accelerated coming into heat of sheep in the Buryat-Mongol ASSR", (In index: N. F. Balkova), Trudy Buryat-Mongol. opyt. stantsii po zhivotnovodstvu, Issue 1, 1949, p. 39-51.

SO: U-4631, 16 Sept. 53, (Letopis 'Zhurnal 'nykh Statey, No. 24, 1949).

BALKOV, I.Ya., starshiy nauchnyy sotrudnik

Effect of the methods of seed growing on the susceptibility of  
plants to smuts. Zashch.rast.ot vred.i bol. 5 no.3:21-22 M. '60.  
(MIRA 16:1)

1. Nauchno-issledovatel'skiy institut sel'skogo khozyaystva  
TSentral'noy chernozemnoy polosy imeni V.V.Dokuchayeva.  
(Smuts) (Seed production)

BALKOV, I.Ya., starshiy nauchnyy sotrudnik

Effect of harvesting dates on the infection of plants with  
loose smut. Zashch. rast. ot vred. i bol. 6 no.8:55 Ag '61.  
(MIRA 15:12)

1. Institut sel'skogo khozyaystva Tsentral'noy chernozemnoy  
polosy imeni V.V. Dokuchayeva.  
(Smute)



BALKOV, M., strakhovoy delegat, slesar'

Success depends on knowledge and experience. Okhr.truda i sots.  
strakh. 6 no.1:16:17 Ja '63. (MIRA 16:1)

1. Khar'kovskiy zavod imeni Malysheva.  
(Khar'kov—Industrial hygiene)

BALKOV, Mikhail Nikolayevich[deceased]; KURMAYEVA, V.M., red.;  
RADNAYEV, A.N., tekhn. red. V4

[Buryat cattle, its origin and ways for its improvement] Bu-  
riatskii krupnyi rogatyi skot, ego proiskhozhdenie i puti ulu-  
shchenia. Ulan-Ude, Buriatskoe knizhnoe izd-vo, 1962. 249 p.  
(MIRA 16:3)

(Buryat A.S.S.R.—Cattle)

*Nothing in  
file*

S/119/60/000/012/013/015  
B012/B063

AUTHORS: Balkov, P. P., Dashevskiy, T. B., Koval', V. A.,  
Likhnitskiy, G. V., and Podsvyadek, A. V.

TITLE: Electric Crane Weighing Machine With Tensometer

PERIODICAL: Priborostroyeniye, 1960, No. 12, pp. 27-28

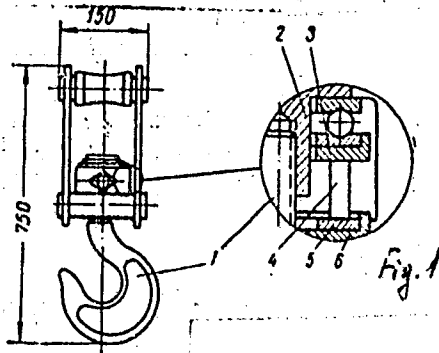
TEXT: Odesskiy SKBIM (Odessa SKBIM) and zavod tyazhelogo vesostroyeniya im. Starostina (Plant for the Construction of Heavy Scales imeni Starostin) have designed a series of electric crane weighing machines for 5, 10, 15, and 30 tons. Fig. 1 is a schematic representation of the tensometer. The elements 4 are elastic quadratic columns made of 40X (40Kh) steel with HCR = 42-45. Two active and two compensating strain gauges are attached to each element. The strain gauges are connected to a bridge shown in Fig. 2. The secondary indicating and recording device is based on an automatic electronic potentiometer of the type ЭПП-09 (EPP-09). Fig. 3 shows the basic circuit diagram of the crane weighing machine. The dial of the device is divided into two ranges in order to increase the accuracy of reading. The maximum permissible error in reading is  $\pm 0.5\%$  of the upper measuring limit. The minimum weighing time is 8 sec. There are 3 figures.  
Card 1/3

S/119/60/000/012/013/015  
B012/B063

Text to Fig. 1: Schematic Representation of the Tensometer of the Crane Weighing Machine; 1) Hook; 2) Nut; 3) Thrust ring; 4) Load-measuring cell; 5) Lower thrust ring; 6) Cross member.

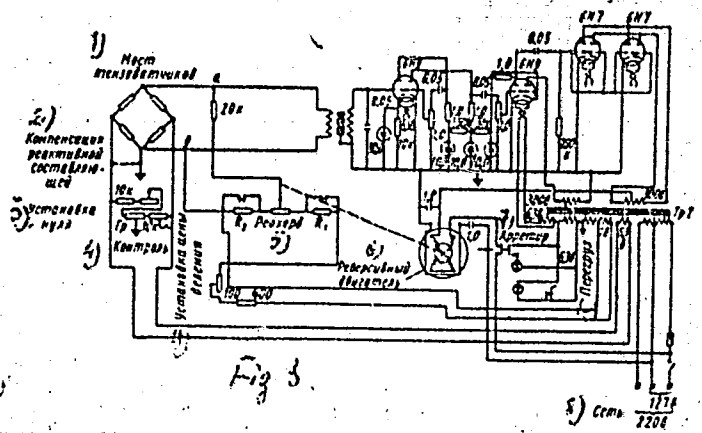
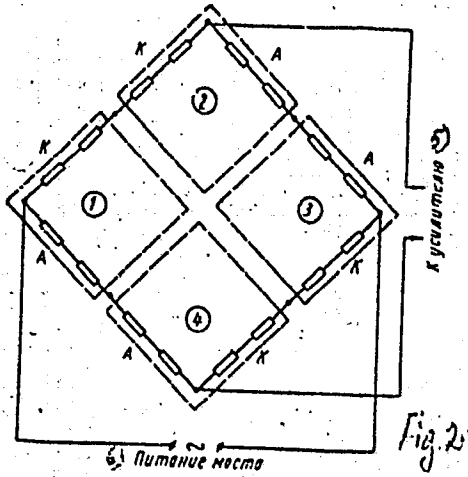
Text to Fig. 2: Circuit Diagram of the Strain Gauges; 1-4: Load-measuring cells; 5) to the amplifier; 6) Feed of the bridge.

Text to Fig. 3: Basic Circuit Diagram of the Crane Weighing Machine With Tensometer; 1) Strain-gauge bridge; 2) Compensation of the reactive component; 3) Zero adjustment; 4) Control; 5) Rheochord; 6) Reversible motor; 7) Device for stopping; 8) Mains; 9) Adjustment of graduation; 10) Overload.



Card 2/3

S/119/60/000/012/013/015  
B012/B063



Card 3/3

BALKOV, P.P.; DASHEVSKIY, T.B.; KOVAL', V.A.; LIKHNITSKIY, G.V.; REKHTER,  
I.N.

Standardizing dial-plate heads for weighing devices. Standarti-  
zatsia 24 no.5:30-32 My '60. (MIRA 14:3)  
(Weighing machines—Standards)

BALCOV, P.P.; SEMENENKO, D.P.; KOVAL', V.A.; ANGELI, A.I.

Automatic electric car scales for loading coke ovens. Koks i khim.  
no.2:25-27 '61. (MIRA 14:2)

1. Odesskiy sovmarkhoz (for Balkov). 2. Stalinskiy koksokhimicheskiy zavod (for Semenenko). 3. Spetsial'noye konstruktorskoye byuro ispytatel'nykh mashin (for Koval', Angeli).  
(Coke ovens)

BALKOV, P.P.; DASHEVSKIY, T.B.; KOVAL', V.A.; LIKHNITSKIY, G.V.; PODSVYADEK,  
A.V.

Electric tensometer-equipped scales. Izv.tekh. no.10:17-20 0  
'61. (MIRA 14:11)  
(Scales (Weighing instruments))



Translation from: Referativnyy zhurnal, Geografiya, 1957, Nr. 12,  
p 31 (USSR) SOV/14-57-12-25551

AUTHOR: Balkov, V. A.

TITLE: Formation of Contemporary Meanders in the Belaya River  
(K voprosu ob obrazovanii sovremennykh meandr r. Beloy)

PERIODICAL: Uch. zap. Molotovsk. un-t, 1956, Vol 10, Nr 2, pp 143-151

ABSTRACT: The author uses one meander in the lower course of the Belaya River as an example, and analyzes meander rectification and the changes which this process occasions in adjacent sections of the river. He comes to the conclusion that rectification of one meander creates a new meander farther downstream. After a meander is cut off, the spring river flow acts on the new course while the ox bow begins to diminish. These two

Card 1/2

Formation of Contemporary Meanders in the Belaya River (Cont.) SOV/14-57-12-25551

processes are interrelated and continue with an increasing intensity. Meander development studies have both theoretical and practical importance. When the process is understood, it is possible to ascertain the proper time at which river channel rectification can be accomplished with the least effort.

Card 2/2

A. P. G.

BALKOV, V.A.

Main geographical factors in the distribution of spring runoff  
of Ural rivers. Izv. Vses. geog. ob-va 94 no.4:321-325 J1-Ag  
'62. (MIRA 15:9)

(Ural Mountain region--Runoff)

BALKOV, V.A., Cand Geog Sci--(diss) "Study of <sup>(runoff of rivers)</sup> spring ~~drain~~ of the  
water-collecting Perm' reservoir for the purpose<sup>s</sup> of forecasting." Perm',  
1958. 18 pp incl cover (Min of Higher Education USSR. Perm' State U  
im A.M. Gor'ky), 160 copies (KL,30-58,123)

- 32 -

3(7)

AUTHOR:

Balkov, V. A.

SOV/50-59-2-9/25

TITLE:

Calculation and Forecast of a Hydrograph for the Spring Water Supply to the Reservoir Considering the Physico-geographical Characteristics of the Formation of Flow in the Catchment Area (Raschet i prognoz gidrografa pritoka vesenikh vod k vodokhranilishchu na osnove ucheta fiziko-geograficheskikh osobennostey formirovaniya stoka na vodoshore)

PERIODICAL:

Meteorologiya i gidrologiya, 1959, Nr 2, pp 39 - 42 (USSR)

ABSTRACT:

The possibility of calculating and forecasting the hydrograph of the spring water supply in consideration of the physico-geographical properties of the individual parts of the catchment area is explained. The calculation and forecast of the hydrograph concerning the spring water supply to the Kamskaya GES (Kama water-power plant) reservoir is given as an example. By comparing the hydrographs of spring floods of rivers in consideration of the physico-geographical properties and analyses of the rainfall in 27 catchment areas it was found that the catchment area can be divided into more or less similar sections according to the formation

Card 1/2

Calculation and Forecast of a Hydrograph for the SOV/50-59-2-9/25  
Spring Water Supply to the Reservoir Considering the Physico-geographical  
Characteristics of the Formation of Flow in the Catchment Area

of flow of spring floods. Based on these investigations a typical catchment area with typical conditions of formation of flow of spring floods and a typical form of the hydrograph could be found in each section. The formulas necessary for the calculation and forecast of the hydrograph are given. There are 2 tables.

Card 2/2

MAKSIMOVICH, G.A., prof., red.; BALKOV, V.A., dots., red.;  
VASIL'YEV, B.V., dots., red.; GORBUNOVA, K.A., dots.,  
red.; MATVEYEV, B.K., dots., red.; MIKHAYLOV, G.K.,  
inzh., red.; OBORIN, V.A., dots., red.; PECHERKIN, I.A.,  
dots., red.; STARTSEV, V.S., dots., red.; SHIMANOVSKIY,  
L.A., inzh., red.

[Methods for studying karst; transactions] Metodika izu-  
chenia karsta; trudy. Perm', Permskii gos. univ.  
Nos. 2, 4, 5, 10. 1963. (MIRA 17:12)

1. Vsesoyuznoye soveshchaniye po metodike izucheniya  
karsta.

BALKOV, V.A., kand.geograf.nauk

January frosts in Perm'. Priroda 50 no.1:125 Ja '61.

(MIRA 14:1)

1. Permskiy gosudarstvennyy universitet im.A.M.Gor'kogo.  
(Perm Province—Winter)



BALKOV, V.A.; VLASOV, Yu.A.

Landform features of the northern part of the Kungur ~~forested~~  
steppe. Uch. zap. Perm. gos. un. 15 no.2:85-91 '60. (MIRA 14:12)  
(Kungur District--Landforms)

BALKOV, V.A.; SHKLYAYEV, A.S.

Changes in the **breakup dates** of the Kama River near the city  
of Perm in connection with the warming of the climate. Uch.  
zap. Perm. gos. un. 15 no.2:103-107 '60. (MIRA 14:12)  
(Kama River—Ice on rivers, lakes, etc.)

SHKLYAYEV, Aleksandr Sergeevich; BALKOV, Vladimir Aleksandrovich;  
VERSHININ, T.I., red.; YEZOV, G.M., tekhn. red.

[Climate of Perm Province] Klimat Permskoi oblasti. Perm',  
Permskoe knizhnoe izd-vo, 1963. 189 p. (MIRA 17:2)

SEDLAK, J.; GALANDA, V.; Technicka spolupraca: BALKOVA, M.

Acquired cystinuria, *Čas. lek. cesk.* 102 no.39:1070-1072  
27 S '63.

1. Centralne laboratorium OUNZ v Martine, prednosta J. Sedlak,  
prom. lekar Detske oddelenie OUNZ v Martine, veduci MUDr.  
V. Galanda.

(CYSTINURIA) (GLOMERULONEPHRITIS)

USSR / Farm Animals| Cattle|

Q

Abs Jour : Ref Zhur - Biologiya, No 2, 1959, No. 7343

Author : Balkova, T. M.  
Inst : Moscow Veterinary Academy

Title : The Dynamics of Proteins and Proteinlipid  
Complex Compounds of the Blood in Highly Pro-  
ductive Cows During the Process of Lactation

Orig Pub : Tr. Misk. vet. akad., 1957, 19, No 1, 199-204

Abstract : In the blood serum of some Ostfriesland breed  
cows, alpha-, beta-, and gamma-globulins and  
albumins were determined every month, as well  
as phospholipids and cholesterol which are  
combined with the above mentioned protein  
fractions. The following data were obtained  
for 4 cows after their 3rd parturition (in  
%%): gamma-globulins amounted to 0.3 to 1

Card 1/3

USSR / Farm Animals. Cattle.

Q

Abs Jour : Ref Zhur - Biologiya, No 2, 1959, No. 7343

(according to the months of lactation) and to 0.6 to 0.8 (during the interlactation period); correspondingly, alpha-globulins amounted to 0.7 - 1.6 and 1.1 - 1.5 and the quantity of albumins to 4.2 - 5.7 and 3.8 - 4.2. Correspondingly, for 5 cows after 6 parturitions the following amounts were established: gamma-globulins amounted to 0.6 to 1.3 and 0.8 to 1.2; alpha-globulins to 0.8 - 1.6 and 1.1 - 1.2, albumins to 4.3 - 5.3 and 3.9 - 4. As the milk yields decrease, the amounts of gamma- and alpha-globulins decrease, but they increase during the interlactation period. The quantity of albumins decreases during the interlactation period. The maximum amount of cholesterol which

Card 2/3

USSR / Farm Animals. Cattle.

Q

Abs Jour : Ref Zhur - Biologiya, No 2, 1959, No. 7343

is combined with gamma-globulins, occurs on January-March; Cholesterol which is combined with alpha-globulins, increases during the first months of lactation but then decreases; Phospholipids which are combined with both gamma- and beta-globulins, increase in both groups during the first months (the maximum is in January) and decrease subsequently. -- P. V. Kugenev

Card 3/3

USSR / Farm Animals. Cattle.

Q-2

Abs Jour: Ref Zhur-Bioll, No 12, 1958, 54718.

Author : Balkova, T. M.  
Inst : Not given.  
Title : The Dynamics of Proteins and of Cholesterol-  
Protein and Phosphatide-Protein Complexes of  
the Blood of Cattle in Relation to Age.

Orig Pub: Tr. Mosk. vet. akad., 1957, 21, 74-83.

Abstract: No abstract.

Card 1/1



BALKOVA, T.M., Cand Bio Sci --(diss) "Proteins and proteo-lipoid complex compounds of the blood serum of cattle." Mos, 1958. 19 pp (Mos Vet Acad of Agr USSR), 150 copies (KI, 46-58, 139)

-25-

BALKOVAYA, Ye. N.

Balkovaya, Ye. N. "Photoperiodic reaction of the eugenolic basil," Nauch. zapiski (Dnepropetr. gos. un-t), Vol. XXXII, 1948, p. 149-52 - Bibliog: 6 items

SO: U-3850, 16 June 53, (Letopis 'Zhurnal 'nykh Statey, No. 5, 1949).

МАЛКОША, А. А.

Balkovaya, Ye. N. - "On the problem of determining the essential oils in small batches," Nauch. zapiski (Dnepropetr. gos. un-t), Vol. XXXII, 1948, p. 157-60.

Bibliog: 6 items.

SC: U-3850, 16 June 53, (Letopis 'Zhurnal 'nykh Statey, No. 5, 1949).

USSR/Cultivated Plants. Medicinal. Essential Oils. Poisons.

M-9

Abs Jour: Ref Zhur-Biologiya, No 5, 1958, 20576.

Author : Ye. N. Balkovaya, P.A. Pozlevich

Inst : Not given.

Title : The Dynamics of the Essential Oils during the Development  
of Individual Plant Phases.

(Dinamica efirnogo masla v techeniye individual'nogo razvitiya  
rasteniy).

Orig Pub: Nauchn. zap. Dnepropetr. un-t, 1955, 54, 35-42.

Abstract: The essential oil (I) content was determined by distil-  
lation of the fresh plants in steam on the day of pick-  
ing, in the phases before budding, at budding, flores-  
cence and the finish of blossoming in plant species  
collected in the vicinity of Dnepropetrovsk: the Artemi-  
sia absinthium L., A. procera Wild., A. maritima L.,

Card : 1/2

USSR/Cultivated Plants. Medicinal. Essential Oils. Poisons.

M-9

Abs Jour: Ref Zhur-Biologiya, No 5, 1958, 20576.

*A. austriaca* Jacq., *A. scoparia* W.K., *Teucrium polium* L.,  
*Erigeron canadensis* L., *Thymus pallasianus* Braun., *Th.*  
*Marschallianus* Wild. In nearly all cases an increase in  
the quantity of I was observed before budding. During  
the budding period the plants had less yield of I. During  
florescence the amount of I once again grew in the majority  
of cases. An increase in the yield of I after fruit bear-  
ing was connected with the appearance of new shoots on the  
old bushes. The data obtained may be used to determine the  
periods of harvesting essential oil cultures.

Card : 2/2

USSR/Cultivated Plants - Medicinal. Essential Oil-Bearing.  
Toxins.

M

Abs Jour : Ref Zhur Biol., No 12, 1958, 53886

Author : Dalkovaya, Ye.N., Shevchenko, A.S.  
Inst : Dnepropetrovsk University

Title : East Indies Basil (*Ocimum gratissimum*) Under the Condi-  
tions of the Sokologorensk Essential Oil Sovkhoz

Orig Pub : Nauchn. zap. Dnepropetr. un-t, 1955, 54, 43-47

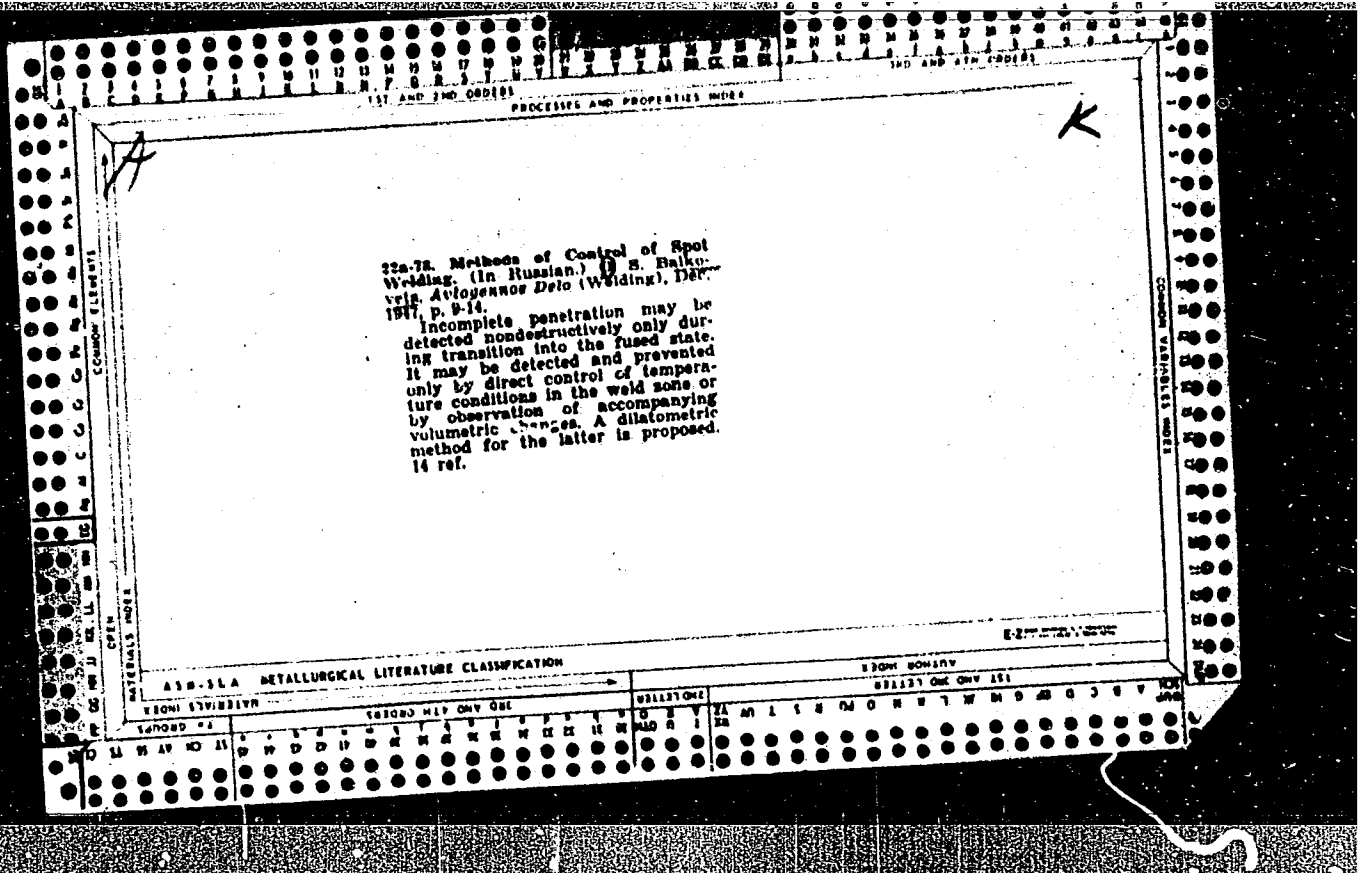
Abstract : No abstract.

Card 1/1

BAIKOVAYA, Ye.N.

Outlook for the cultivation of essential oil plants in the  
southeastern part of the Ukraine. Trudy Bot.inst.Ser.6 no.7:  
91-96 '59. (MIRA 13:4)

1. Dnepropetrovskiy gosudarstvennyy universitet im. 300-letiya  
vossoyedineniya Ukrainy s Rossiyey.  
(Ukraine--Aromatic plants)





Б. БАЛКОВЕЦ, В. С.

USSR/Steel, Stainless  
Welding - Steel

May 1947

"Spot and Roller Welding of Type 18-8 Rustproof  
Steel," D. C. Balkovets, 3 pp

"Avtogennoye Delo" No 5

Discusses properties of rustproof steel, parti-  
culars of the welding process, and durability and  
operational conditions of the welding.

1217







USSR/Engineering - Welding, Equipment      Apr 50  
Welding, Machines

"New Equipment for Operational Control of Resistance Welding," D. S. Balkovets, 2½ pp

"Avtogen Delo" No 4

Equipment designed by All-Union Inst of Avn Materials (VIAM), consists of cathode oscillograph with prolonged glow, and ammeter for measuring current of short impulses. Instruments recommended for application in all welding shops and plant laboratories.

158r35

BALKOVETS, D.S.

---

USSR/Engineering, Welding, Control Aug 51

"Instrument for Dilatometric Control of Spot Welding Process," D. S. Balkovets, Cand Tech Sci, A. P. Pomortsev, Engr

"Avtogen Delo" No 8, pp 10-13

Describes hydroelec instrument based on registering expansion of metal upon melting in spot welding of parts of ferrous alloys, not over 4 mm thick. Consists of hydromercury signal generator, transmitting mechanism and elec signal device. App may be used for preventing lack of penetration. Use under industrial conditions for 6 mos showed satisfactory results.

200749

---

BTR

**8503\* The Nature of Nonfusion During Spot Welding.**  
(In Russian.) D. S. Balkovets. *Autogennoe Delo*, v. 22, Dec.  
1951, p. 12-13.  
A study was made of defective spot welds in various steels and  
nonferrous alloys. A test for lack of fusion using the electrocon-  
ductivity of the weld is described. Illustrated.

BALKOVETS, D. S.

USSR/Metals - Welding, Processes

Mar 52

"Investigating the Heat Processes of Spot Welding Using Models," D. S. Balkovets, Cand Tech Sci

"Avtogen Delo" No 3, pp 13-16

Describes method of wedge-shaped models to det effect of various factors on temp field in spot being welded. In particular, method was used to investigate radial distribution of temp in zone surrounding central metal column of welding contact and permitted exptl detn of heat quantity required to heat this zone. Compares results with data calcd by suggested and improved formula.

212789



BALKOVETS, D. S.

Nov 52

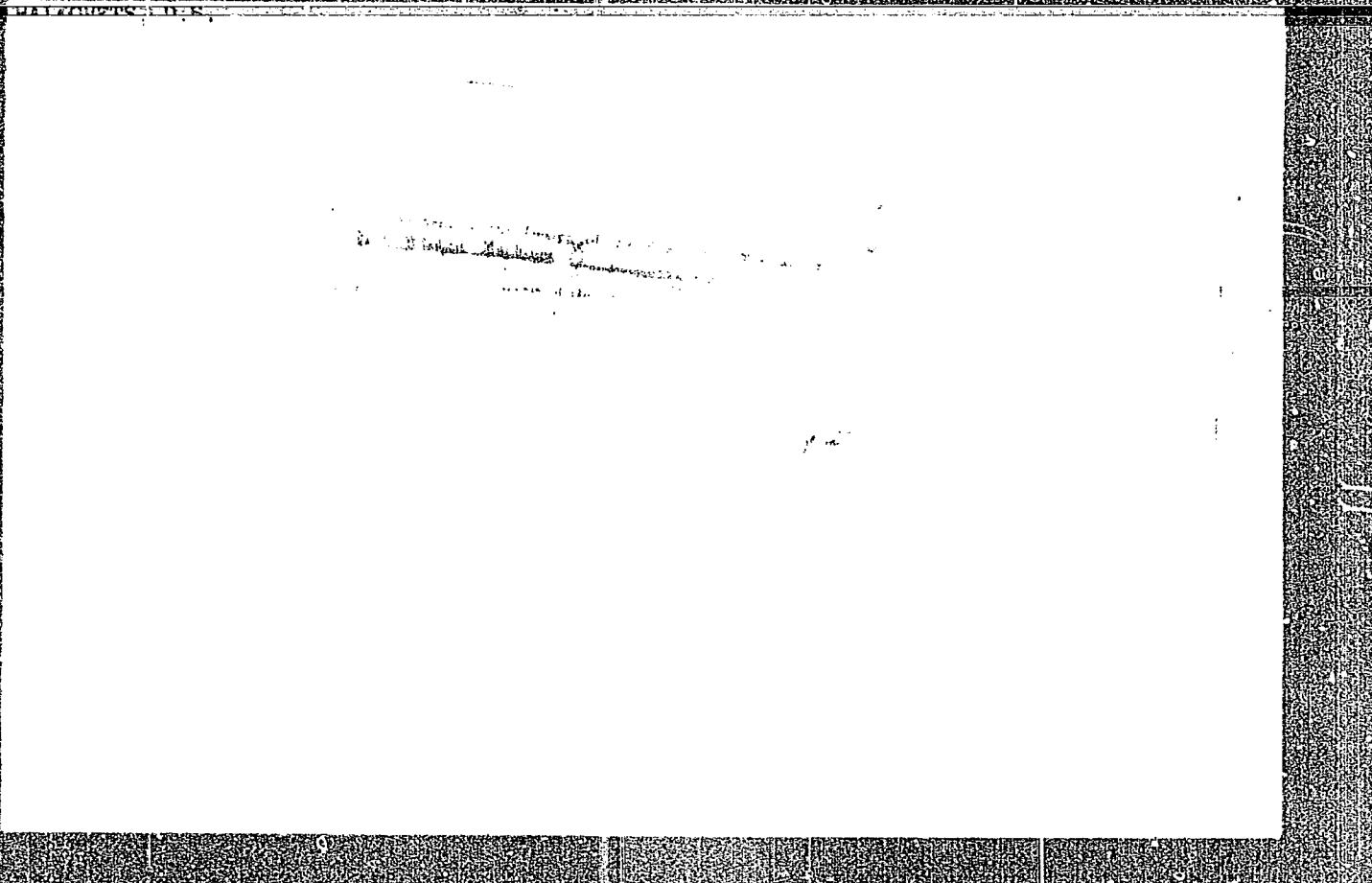
USSR/Metallurgy - Welding, Structural Analysis

"On the Ultimate Strength of a Welded Spot," D. S. Balkovets, Cand Tech Sci

Avtogen Delo, No 11, pp 13-16

Investigates causes for lack of direct proportionality between strength and area of welded spots. Concludes that ultimate strength of welded spots with identical macro- and micro-structures depends on size of spot core: in case of equality in thickness of welded pieces strength decreases with increase in dia of core. Suggests characterizing strength of welded spot by specifying breaking load at given dia of spot core.

266T44



BALKOVETS, D. S.

Dissertation: "Technological Basis for Formation of the Cast Zone of a Spot-Welded Joint." Dr Tech Sci, Leningrad Polytechnic Inst, Leningrad, 1954. (Referativnyy Zhurnal--Fizika, Moscow, Aug 54)

SO: SUM 393, 28 Feb 1955

BALKOVETS, D.S., kandidat tekhnicheskikh nauk; ORLOV, B.D., inzhener;  
CHULOSHNIKOV, P.L., inzhener.

Spot welding 30KhGSA steel by a two-impulse process. Vest.mash.34  
no.4:68-71 Ap '54. (MLRA 7:5)  
(Steel--Welding)

*Evaluation: B-81524*

BALKOVETS, D.S., kandidat tekhnicheskikh nauk

Static shear tests of aluminum alloy spot welds. Svar.proizv.  
no.2:10-11 F '55. (MIRA 8:9)

(Welding--Testing)

BALKOVETS, D.S., kandidat tekhnicheskikh nauk; CHULOSHNIKOV, P.L., inzhener

Stabilizing the electrode squeeze effort in spot welding. Svar.  
proizv. no.9:7-8 S'55. (MLRA 8:11)

(Electric welding)

GLEBOV, L.V., inzhener; RADASHKOVICH, I.M., inzhener.

D.S. Balkovets and P.L. Chuloshnikov's article "The use of the  
MTP and MShP resistance welding machines for welding light alloys."  
Svar.proizv. no.8:24-25 Ag '56. (MIRA 9:10)

1. Vsesoyuznyy Nauchno-issledovatel'skiy institut elektrosvarochnogo  
oborudovaniya (for Glebov). 2. Zavod "Elektrik." (for Radashkovich).  
(Alloys--Welding) (Electric welding--Equipment and supplies)  
(Balkovets, D.S.) (Chuloshnikov, P.L.)

*BALKOVETS, D. S.*

AID P - 5603

Subject : USSR/Engineering

Card 1/1 Pub. 107-a - 3/12

Authors : Balkovets, D. S., Kand. of Tech. Sci., B. D. Orlov,  
Kand. of Tech. Sci. and P. L. Chuloshnikov, Eng.

Title : Electronic modulator for spot welding of aluminum alloys

Periodical : Svar. proizvod., 12, 10-13, D 1956

Abstract : The process of the formation of spot weld in bonded specimens of D16T duralumin up to 1.5mm thick is briefly outlined. The authors describe their device to control spot welding impulses. They call it the electronic modulator and claim it eliminates spattering and cracks in the weld, which are common defects in spot welding of duralumin. Five micro-pictures, 5 drawings, 1 photo and 1 table; 2 Russian references (1951-55).

Institution : Scientific Research Institute of Aviation Technology (NIAT).

Submitted : No date



Name: BALKOVETS, Dmitriy Stepanovich  
Dissertation: Technological Principles of the  
Formation of the Molten Zone of a  
Spot-Welded Joint  
Degree: Doc Tech Sci  
Affiliation: Sci Res Inst of Technology and Organi-  
zation of Production  
Defense Date, Place: 21 Feb 55, Council of Leningrad  
Polytech Inst imeni Kalinin  
Certification Date: 13 Oct 56  
Source: BMVO 6/57

*D. S. Balkovets, U.S.*

135-8-5/19

SUBJECT: USSR/Welding

AUTHOR: Balkovets, D.S., Doctor of Technical Sciences.

TITLE: Effect of Current Direction on the Location of the Spot-Weld Core in Light Alloys. (O vliyaniy napravleniya toka na raspolozheniye yadra svarnoy tochki legkikh splavov).

PERIODICAL: "Svarochnoye Proizvodstvo", 1957, # 8, pp 14-15 (USSR)

ABSTRACT: The author offers a theoretical and experimental explanation of the unsymmetrical location of spot-weld cores in parts of similar light alloys of equal thickness, spot welded with similar electrodes. He questions the explanation offered by N.Kh. Andreyev (1) that the phenomenon of weld core shift towards the positive electrode (against the direction of current) is connected with the rectifier effect of oxide films in the contact area between the parts to be welded and the electrode.

The fact that a shift of weld cores toward the positive electrode is only observed when the faces of parts have been mechanically cleaned, i.e. when the oxide films have been most completely removed, indicates that the phenomenon can be explained with more probability by the Peltier effect.

Card 1/2

135-8-5/19

**TITLE:** Effect of Current Direction on the Location of the Spot-Weld Core in Light Alloys. (O vliyani napravleniya toka na raspolozheniye yadra svarnoy tochki legkikh splavov).

Displacement of a weld core - as it is usually observed - occurred also in experimental welding of lead-coated aluminum alloy sheets with lead-coated copper electrodes.

For the purpose of utilizing the phenomenon, for instance in welding of parts with different thicknesses, it would be advantageous to carry out welding immediately after cleaning the faces by such means which eliminate the oxide films.

The article contains 1 sketch and 3 bibliographical references, all Russian.

**ASSOCIATION:** "NIAT"

**PRESENTED BY:**

**SUBMITTED:**

**AVAILABLE:** At the Library of Congress.

Card 2/2

*Nauchno-issledovatel'skiy institut  
tehnologii i organizatsii proizvodstva  
aviatsionnoy promyshlennosti.*

0114-001-1-1

Call Nr: TS 227.B29

AUTHORS: Balkovets, D. S., Orlov, B. D., Chuloshnikov, P. L.

TITLE: Spot and Seam Welding of Special Steels and Alloys  
(Tochechnaya i rolikovaya svarka spetsial'nykh staley i splavov)

PUB. DATA: Gosudarstvennoye izdatel'stvo oboronnoy promyshlennosti,  
Moscow, 1957, 430 pp., 5500 copies.

ORIG. AGENCY: None given

EDITORS: Editor: Veys, A. L., Candidate of Technical Sciences;  
Editor-in-Chief: Sokolov, A. I., Eng.; Ed. of Publishing House: Bogomolova, M. F.; Tech. Ed.: Rozhin, V. P.;  
Reviewers: Prof. Gel'man, A. S., Dr. of Technical Sciences, and Poplavko, M. V., Candidate of Technical Sciences

PURPOSE: The book is intended for scientific research institutes of technology, as well as for a wide circle of practicing engineers, designers, technologists and personnel engaged in the field of quality control, and for persons interested in spot and seam welding techniques.

Card 1/7