

MUSKATIROVIC, Dragutin, dipl. inz.

Flood-wave characteristics of some rivers in Yugoslavia.  
Gradevinar 15 no.5:196-201 My '63.

TADIC, Zivorad D.; MUSKATIROVIC, Milan D.

Synthesis of 2-methyl and 5-methyl esters of isocynhomeric acid. Glas Hem dr 25/26 no.8.10:491-495 '60/'61.

1. Faculty of Technology, Institute of Organic Chemistry, Beograd.

DIMITRIJEVIC, Dorde M., prof. inz.; TADIC, Zivored, D.; MUSKATIROVIC,  
Milan D.

Reactivity of pyridinecarboxylic acids. Pt.1. Glas Hem dr 27  
no.7/8:397-406 '62

1. Faculty of Technology, Institute of Organic Chemistry,  
Beograd. 2. Clan Uredivackog odbora, "Glasnik Hemijskog drustva  
Beograd" (for Dimitrijevic).

DIMITRIJEVIC, Dorde M.; TADIC, Zivorad D.; MUSKATIROVIC, Milan D.

Reactivity of pyridine carboxylic acids. Pt. 2. Glas Hem  
dr 28 no. 2: 83-92 '63.

1. Faculty of Technology, Institute of Organic Chemistry,  
Beograd.

8(6)

SOV/112-59-2-2790

Translation from: Referativnyy zhurnal. Elektrotehnika, 1959, Nr 2, p 73 (USSR)

AUTHOR: Muskhelishvili, A.

TITLE: Adjusting the Load Curves in a Power System in Gruziiya  
(Regulirovaniye grafikov nagruzki v energosisteme Gruzii)

PERIODICAL: Metsniyereba da tekhnika, 1958, Nr 3, pp 10-13 (original in Georgian)

ABSTRACT: Bibliographic entry.

Card 1/1

MUSKHELISHVILI, A. I.

Muskhelishvili, A. I. - "The problem of selecting power capacities for the controlling of hydroelectric power stations of the Georgian power networks," Trudy Energet. in-ta (Akad. nauk Gruz. SSR), Vol. IV, 1948, p. 1-21. - (In Georgian, resume in Russian)

SO: U-4934, 29 Oct 53, (Letopis 'Zhurnal 'nykh Statey, No. 16, 1949)

MUSKHELISHVILI, A.I.

Use of electricity in food preparation in the Georgian S.S.R.  
Trudy Inst. energ. AN Gruz. SSR 17:187-194 '63.

(MIRA 17:7)

ALIKHANYAN, A.I.; ASATIANI, T.L.; MUSKHELISHVILI, G.H.

Air shower research. Part 1. A new method of air shower research.  
Dokl.AN Arm.SSR 6 no.2:33-37 '47. (MLRA 9:8)

1. Deystvitel'nyy chlen AN Armyanskoy SSR (for Alikhanyan);
2. Fizicheskiy institut Akademii nauk Armyanskoy SSR, Yerevan.  
(Cosmic rays)



**ALIKHANYAN, A.I.; ASATIANI, T.L.; MUSKHELISHVILI, G.N.**

Air shower research. Part 2. Results of air shower research.  
Dokl.AN Arm.SSR 6 no.2:38-46 '47. (MLRA 9:8)

1. Deystvitel'nyy chlen AN Armyanskoy SSR (for Alikhanyan);
2. Fizicheskiy institut Akademii nauk Armyanskoy SSR, Yerevan.  
(Cosmic rays)

MUSKHELISHVILI, G.

USSR/Nuclear Physics - Cosmic Rays  
Nuclear Physics - Mesons

Dec 47

"Mass Spectra of Varitrons," A. Alikhanyan, Corr Mem, Acad Sci USSR; A. Alikhanov, Academician; V. Morozov, G. Muskhelishvili, A. Khrimyan, Phys Inst, Acad Sci, Armenian SSR, 8 pp

"Dok Akad Nauk SSSR, Nova Ser" Vol LVIII, No 7

Authors reported in previous articles that, as a result of magnetic analysis of composition of cosmic radiation at an altitude of 3,250 meters, new particles discovered which have a mass greater than the mass of the mesotron. Also presented data showing that, in cosmic radiation, there are particles with a positive and negative sign, the mass of which exceeds that of the proton. This new group of elementary particles named varitrons. Present article presents results of spectrum analysis of these new particles.

PA60T80

MUSKHELISHVILI, G.

USSR/Nuclear Physics - Cosmic Radiation  
Nuclear Physics - Particles

Aug 48

"Spectrum of Varitron Mass," A. Alikhanyan, A. Alikhanov, V. Morozov, G. Muskhelishvili, A. Khrimyan, Phys Inst, Acad Sci Armenian SSR, 30 pp

"Zhur Eksper i Teoret Fiz" Vol XVIII, No 8

Method for mass spectrometric analysis of particles in hard and soft components of cosmic rays. Established that at altitude of 3,250 m above sea level, there are more than 12 varieties of varitrons with mass varying from 100 to 25,000 times mass of electrons and possessing positive or negative charges. Shown that varitrons registered by spectrometer were result of disassociation of heavier particles caused by deceleration in earth's atmosphere. Presence of fast protons is confirmed and it is inferred they constitute not less than 7% of total intensity.

PA 9/49T79

ALIKHANIAN, A.; MOROZOV, V.; KHRIMYAN, A.; MISKHELISHVILI, G.; and KAMALYAN, V.  
MOSKHELISHVILI, G.

"Research of the spectrum of masses of varitrons," Journal of Exptl. & Theoretical  
Physics, Vol. 19, No. 11, 1949.

MUSHKELISHVILI, G.N.

The nature of electron components of cosmic radiation at an altitude of 3250 meters above sea level. Soob. AN Gruz. SSR 15 no.8:497-503 '54. (MLRA 8:9)

1. Akademiya nauk Gruzinskoy SSR, Institut fiziki, Tbilisi. Predstavleno chlenom-korrespondentom Akademii V.I.Mamasakhli sovyem.

(Cosmic rays)

MUSEKHELISHVILI, G. N.

Applying Pauly's distribution functions to cascades. Soob. AN Gruz.  
SSR 15 no. 9: 583-586 '54. (MLRA 8:9)

1. Akademiya nauk Gruzinskoy SSR, Institut fiziki, Tbilisi. Pred-  
stavleno chlenom-korrespondentom Akademii V. I. Maslakhisovym.  
(Cosmic rays)

~~MUSKHELISHVILI, G.N.; LYUDVIGOV, R.B.; KAKHIDZE, G.P.~~

Electrodynamic valves used in Wilson chambers. Prib.i tekh.eksp.  
no.3:104-105 N-D '56. (MLRA 10:2)

1. Institut fiziki AN GruzSSR.  
(Cloud chamber)

MUSKHELISHVILI, G.N.; KILADZE, N.Sh.

Inductance and capacitance meter. Soob. AN Gruz.SSR 18 no.3:293-297  
Nr '57. (MIRA 10:7)

1. Akademiya nauk Gruzinskoy SSR, Institut fiziki, Tbilisi. Pred-  
stavleno onlence-korrespondentom Akademii V.I.Mamasakhlisovym.  
(Inductance--Measurement)  
(Electric capacitance--Measurement)



MUSKHELISHVILI, G. N.

"New Valve System for the Wilson Cloud Chamber," by G. N. Muskhelishvili, R. B. Lyudvigov, and G. P. Kakhidze, Institute of Physics, Tbilisi, Academy of Sciences Georgian SSR, Soobshcheniye Akademii Nauk Gruzinskoy SSR, Vol 17, No 9, Sep 56, pp 785-788

This article criticizes valves currently used in Wilson cloud chambers. "They are either complex and operate unsatisfactorily or relatively simple and have other drawbacks." Among the disadvantages of electromagnetic valves their considerable lag and their effect on thermal stability are listed. Vacuum activated valves, "although they have a short time lag, are not practical for use in the stratosphere."

The article describes an "electrodynamical valve" developed by the authors. It claims that the valve is relatively simple, has a time lag of the order of  $10^{-4}$  seconds, and is free of the deficiencies enumerated above.

Construction details and a schematic diagram of an experimental model of the valve are given.

The valve's suitability for application in fluid hydrogen chambers is noted. (U)

Sum. 1345

MUSKHELISHVILI, G. N. and KILADZE, N. Sh.

AUTHORS: Muskhelishvili, G.N. and Kiladze, N.Sh. 120 5 19/35

TITLE: Instrument for Measuring Inductance and Capacitance  
(Pribor dlya izmereniya induktivnosti i yemkosti)

PERIODICAL: Pribory i Tekhnika Eksperiments, 1957, No. 5,  
pp. 76 - 78 (USSR)

ABSTRACT: For measuring inductances between  $10^{-4}$  and 1.0 H and capacitances between  $10^{-7}$  and  $10^{-5}$  F with an error not exceeding 2.5%. The inductance may easily be extended up to several hundred Henrys. The advantage of the method over a bridge is that only one adjustment is required in taking a reading. All measurements are made at 5 kc/s. The vector diagram of Fig. 1 shows that for a constant current, the voltage across a coil would be a measure of its inductance were it not for the effect of loss resistance. The block diagram of Fig. 2 shows how the undesirable quadrature component may be compensated for by deriving an antiphase sample and adding to the terminal voltage of the coil. When the compensated terminal voltage goes through a minimum as the amount of sample is varied, that minimum value is a measure of the inductance of the coil. A similar argument holds for condensers except that the relation between voltage and capacitance is reciprocal. Fig. 3 shows the complete circuit of the

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*Muskhelishvili*  
MUSKHELISHVILI, G.N.; KILADZE, N.Sh.

Instruments for measuring inductance and capacitance. Prib. i tekhn.  
eksp. no. 5:76-78 S-O '57. (MIRA 10:12)

1. Institut fiziki AN GruzSSR.  
(Electronic measurements)

87381

S/120/60/000/004/023/028  
E192/E382

9.2540 (1020, 1048, 1138)

AUTHORS: ~~Mukhlishvili~~, G.N. and Zakomornyy, G.V.

TITLE: Electronic Voltage Stabiliser for Supplying Transistor Circuits

PERIODICAL: Pribory i tekhnika eksperimenta, 1960, No. 4, pp. 139 - 141

TEXT: Two regulated stabilised power supplies, whose output voltage can be varied from fractions of a volt to several tens of volts, are described and their detailed circuit diagrams are given. The first stabiliser gives an output voltage which extends up to 300 V and can give a current of 200 mA. The voltage range is divided into the following sub-ranges: 0-10; 10-50; 50-100; 100-150; 150-200; 200-250 and 250-300 V. Inside these sub-ranges the voltage can be varied continuously. The mains variation between 180 and 240 V does not change the output voltage by more than  $\pm 0.1\%$ . however, at output voltages of about 0.1 V these variations increase to  $\pm 1.5\%$ . The output impedance of the stabiliser is less than 0.001 ohm and the amplitude of the output ripple

Card 1/4

87361

S/120/60/000/004/023/028  
E192/E382

Electronic Voltage Stabiliser for Supplying Transistor Circuits  
is less than 2 mV at full load. A double triode, type 6N5C  
(6N5S), is used as the current tube which is supplied from  
a bridge-type rectifier based on germanium diodes. The  
rectifier is connected to the secondary of the input trans-  
former and the voltage to the rectifier can be varied by  
choosing a suitable tapping on the transformer. In this way,  
it is possible to reduce the power dissipated at the anodes  
of the current tube. The control voltage to this tube is taken  
from the output of a two-stage DC amplifier; the first stage  
of the amplifier is based on a double triode and operates as  
a differential system. The two-stage is based on a pentode  
and it is unusual in that its anode load is 10 MΩ, so that  
it is possible to secure a very high gain. Since the input  
and output voltages of the current tube vary over a wide range,  
an additional rectifier circuit is employed for supplying the  
pentode of the amplifier. The pentode receives two signals

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87381

S/120/60/000/004/023/028  
E192/E382

Electronic Voltage Stabiliser for Supplying Transistor Circuits

the error signal, amplified by the difference amplifier, is applied to its control grid; the screen grid receives the signal from the input of this current tube through a suitable potential divider. The stability of the output voltage is substantially dependent on the stability of the reference voltage. The reference source employed in this circuit has an instability of less than  $\pm 0.025\%$  provided the current is kept constant. The second stabiliser is, in many respects, similar to the first one except that it is largely based on pencil tubes. 5 tubes, type 6N5S, connected in parallel, are used as the current control element so that the output current can be of the order of 1 A. The output voltage can be varied from 0 to 50 V, in sub-ranges of 0-10 and 10-50 V. The output impedance of the source is less than 0.05 ohm.

Card 3/4

87381

S/120/60/000/004/023/028  
E192/E382

Electronic Voltage Stabiliser for Supplying Transistor  
Circuits

There are 2 figures and 1 Soviet reference.

ASSOCIATION: Institut elektroniki, avtomatiki i telemekhaniki  
AN GruzSSR (Institute of Electronics,  
Automatics and Telemechanics of the AS Georgian  
SSR)

SUBMITTED: April 29, 1959

Card 4/4

MUSKHELISHVILI, G.N.; MIKIRTUMOV, V.R.

Microflowmeter for liquids. Prib.i tekhn.eksp. 6 no.5:174-176  
S-0 '61. (MIRA 14:10)

1. Institut elektroniki, avtomatiki i telemekhaniki AN Gruzinskoy  
SSR.

(Flowmeter)



22876

S/089/61/010/005/004/015  
B102/B214

21,3200

AUTHORS: Gverdtsiteli, I. G., Nikolayev, Yu. V., Oziashvili, Ye. D.,  
Ordzhonikidze, K. G., Muskhelishvili, G. N., Kiladze, N. Sh.,  
Mikirtumov, V. R., Bakhtadze, Z. I.

TITLE: An automatic cascade apparatus for obtaining highly  
concentrated heavy nitrogen isotope

PERIODICAL: Atomnaya energiya, v. 10, no. 5, 1961, 487-492

TEXT: The growing use of  $N^{15}$  in different domains (for example,  $N^{15}$   
nitrates in homogeneous reactors;  $N^{15}$  has a thermal neutron capture cross  
section of  $2 \cdot 10^{-5}b$ , whereas the value for natural nitrogen is 1.8b) makes  
it of interest to develop suitable methods for the preparation of this  
isotope. The principal difficulty lies in the smallness (0.365%) of  $N^{15}$   
content in the natural nitrogen. Spindel and Taylor (Ref. 1: W. Spindel,  
T. Taylor. J. Chem. Phys., 23, 981 (1955); 24, 626 (1956); Trans. N. Y.  
Acad. Sci., 12, 3 (1956); T. Taylor, W. Spindel. Proceedings of the

Card 1/4

22676

S/089/61/010/005/004/015

B102/B214

An automatic cascade apparatus for...

International Symposium on Isotope Separation. Amsterdam, North - Holland Publishing Company, 1958, p. 158; L. Kauder, T. Taylor, W. Spindel. J. Chem. Phys., 31, 232 (1959)) have developed a cascade apparatus with two columns allowing  $N^{15}$  to be obtained with 99.8 % purity. On this basis the authors of the present paper have developed and constructed an automatic cascade apparatus that allows 99.8 % pure  $N^{15}$  to be obtained from natural nitrogen by the method of  $NO-HNO_3$  exchange. The yield is about 0.5 g per day. The chemical exchange  $NO-HNO_3$  is described in Ref. 1, and also in the introduction of the present paper. Fig. 2 shows the scheme of construction of the actual automatic apparatus; 3 and 6 (in Fig. 2) correspond to the first and the second column of the cascade. The  $HNO_3$  is conveyed from the reservoir 1 to the first column via a regulating valve 4 and a flow meter 2. The enriched solution is taken through a regulating valve 5 and a second flow meter 2 to the upper part of the second column for further enrichment, the remaining part flowing through the sleeve pipe 7 into the reactor. In the reactor  $10 HNO_3$  reacts with  $SO_2$ . The oxide

Card 2/4

An automatic cascade apparatus for...

S/089/61/22876/C10/005/004/015  
B102/B214

mixture produced is led into the column 3 where it reacts with nitric acid with isotope exchange. The  $\text{HNO}_3$  from column 6 enters the reactor 9 (which is analogous to the reactor 10). The nitric oxide from the reactors is brought back to the column 6 and reaches finally the lower part of the first column. The NO free of  $\text{N}^{15}$  is discharged from the cascade; the  $\text{H}_2\text{SO}_4$  formed in the reactors is led off to the reservoir. The  $\text{HNO}_3$  enriched in  $\text{N}^{15}$  is led away from the lower part of the second column through an electromagnetic dropper 8. Columns, valves, and connecting pieces are made of nonrusting steel of the type 1X19H9T (1Kh19N9T). The packing material is teflon. The reactors consist of quartz. The automatic regulation is related to the stabilization of the acid and water flows in the large and small reactor, to the stabilization of the quantity of the discharged product (acid), and the regulation of the gas addition. The regulating system consists of the automatic stabilizers, a signal block controlling the automatic regulators and stabilizers, and a feeding block. The whole regulating system is free from contacts in its working and must give an accurate and reliable performance over a period of

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22876

S/089/61/010/005/004/015  
B102/B214

An automatic cascade apparatus for...

operation. The enriched samples (N<sub>2</sub> and NO) were subjected to a mass spectroscopic investigation which allowed the isotopic composition to be determined to an accuracy of ±0.02%. Depending on the amount of nitrogen taken the concentrations are given by:

Nitrogen taken, g/day	N <sup>15</sup> concentration, %
0.55	99.8
0.69	64
0.84	50

X

The authors thank V. A. Vlasenko, R. V. Tishchenko, R. M. Sakandelidze, D. K. Puradashvili, G. L. Partsakhashvili, L. V. Yermakova, A. M. Gasparov, M. S. Mikhelashvili, L. I. Chernova, S. V. Bubnov, and I. A. Kuras for collaboration. There are 5 figures, 1 table, and 5 references: 2 Soviet-bloc and 3 non-Soviet-bloc.

SUBMITTED: June 7, 1960

Legend to Fig. 2: Specifications of length in mm; (A) outlet of the product.

(NOTE: Due to the size of the figure, we were unable to fit it to a master.)

Card 4/4

BE3

E 10364-63

ACCESSION NR: AP3002728

S/0120/63/000/003/0097/0099

AUTHOR: Mukhlishvili, G. N.; Bakhtadze, Z. I.

49

48

TITLE: Generator of large time intervals and a precision time relay 10

SOURCE: Pribory i tekhnika eksperimenta, no. 3, 1963, 97-99

TOPIC TAGS: transistorized pulse generator, large time intervals, current discriminator, keyed circuit, capacitor bank, contactless time relay

ABSTRACT: The transistorized pulse generator described is designed to obtain precise large time intervals. The circuit of the generator is shown in Fig. 1 of the Enclosure. A capacitor is charged through a resistor R. The diode D is cut off by a voltage  $U_0$ , which is taken from a voltage divider consisting of resistors  $R_1$  and  $R_2$ . When the voltage on the capacitor exceeds  $U_0$  the diode becomes conducting, and the current flows through current discriminator A (a monostable multivibrator), which controls the key circuit K. Then the key circuit is closed and the capacitor discharges through the diode. After the capacitor discharge, the keying circuit triggers, and the entire cycle is repeated. With

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L 10364-63

ACCESSION NR: AP3002728

a capacitor bank consisting of nine 8-microfarad capacitors, time intervals between pulses of 3.5 min were obtained. The maximum spread did not exceed + or - 0.14%. Temperature variations within 0 and 50C cause variations in the time interval of less than + or - 0.2%. Another experimental unit with a bank of 90-microfarad capacitors generated pulses with a time interval of 4.5 min and maximum deviations not exceeding + or - 0.45%. It is concluded that the generators could be converted into contactless time relays of high accuracy. A brief description of such a circuit is given. Orig. art. has: 5 figures.

ASSOCIATION: Institut elektroniki, avtomatiki i telemekhaniki AN GruzSSR  
(Institute of Electronics, Automation, and Telemechanics AN GruzSSR)

SUBMITTED: 01Jun62 DATE ACQ: 12Jul63

ENCL: 01

SUB CODE: 00 NO REF SOW: 000

OTHER: 000

Card 2/2

MUSKHELISHVILI, G.N.; MIKIRTUMOV, V.R.

Transistorized precision voltage and current stabilizers.  
Prib. i tekh. eksp. 8 no.6:116-118 N-D '63. (MIRA 17:6)

1. Institut elektroniki, avtomatiki i telemekhaniki AN  
GruzSSR.

ACC NR: AT6015127 SOURCE CODE: UR/0000/65/000/000/0059/0063

AUTHOR: Muskhelishvili, G. N.; Gvedashvili, G. A. 48

ORG: none 8/1

TITLE: Electron-optical memory 160

SOURCE: AN GruzSSR. Institut elektroniki, avtomatiki i telemekhaniki. Skhemy avtomaticheskogo upravleniya (Automatic control circuits). Tiflis, Izd-vo Metsniver-eba, 1965, 59-63

TOPIC TAGS: computer memory, information storage and retrieval, data storage, storage tube, computer storage device

ABSTRACT: A nonvolatile electron-optical memory system capable of storing 100 bits on 1 mm<sup>2</sup> of working surface has been designed and tested. The memory medium does not deteriorate with repeated use. The basic schematic diagram of the system is shown in Fig. 1. Vacuum enclosure 1 contains a translucent plate 2 which is coated on one side with a translucent conducting layer 3 and a layer of "skotofor" (a substance which changes its optical properties when an electron beam strikes it) 4. A photocathode 5 is positioned on the other side of the translucent plate. Electron gun 7 serves as the electron-beam source. The information to be stored must be modulated by electrode 8 and focused by device 9. Deflecting plates 10 serve as the address system. Information is erased by applying a heating current to layer 3 through electrode 6. The electron beam from gun 11 is focused by electrode

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L 26192-66

ACC NR: AT6015127

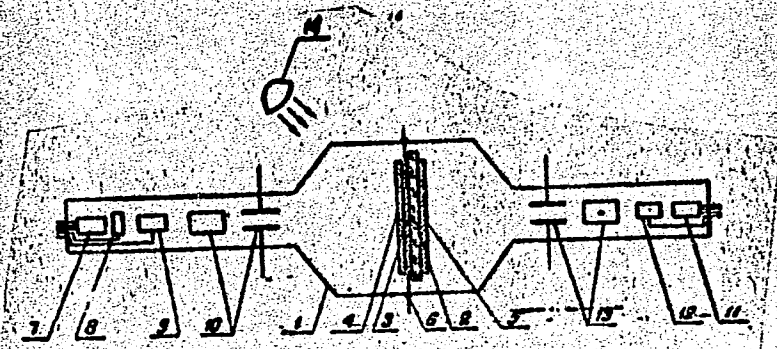


Fig. 1. Electron-optical memory system

12 and applied to photocathode 5 to read the stored information. Deflecting plate 12 serves as an address system. The screen is illuminated by pulsed light source 14. The model used 10LM2G, 11LMZG, and 16LM1G dark-trace tubes for storage. An LI-17 image orthicon was used for reading. Tests established that the S/N ratio of retrieved information is increased if beam electron density and the accelerating potential of the dark-trace tube are high. The S/N ratio of output signal may be raised 10-15% by using a light filter ( $\lambda = 5620 \text{ \AA}$ , bandwidth =  $100 \text{ \AA}$ ). It was established that  $5 \times 10^5$  bits may be stored in 10LM2G or 11LMZG tubes with a working area of  $5.1 \times 10^3 \text{ mm}^2$ , and  $7.5 \times 10^5$  bits in 16LM1G tubes. Read time is of the order of a few microseconds and is considerably less than write and erase time. The system

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I 26192-46

ACC NR: AT6015127

is suitable for read-only memory but it requires a complex address system. Orig. [BD]  
art. has: 4 figures.

SUB CODE: 09/ SUBM DATE: 29Sep65/ ORIG REF: 002/ OTH REF: 001/ ATD PRESS: 4251

Card 3/3

L 65064-65 EWT(1)/EWA(h) GG

ACCESSION NR: AP5021982

UR/0286/65/000/014/0058/0058  
621.318.57

AUTHOR: Muskhelishvili, G. N.

13  
13

TITLE: A contactless relay. Class 21, No. 172920

SOURCE: <sup>25</sup>Byulleten' izobreteniy i tovarnykh znakov, no. 14, 1965, 58

TOPIC TAGS: magnetic amplifier, electric relay

ABSTRACT: This Author's Certificate introduces a contactless relay based on a high frequency oscillator with two tuned circuits. The sensitivity of the device is increased and operational reliability is improved by using a magnetic amplifier as a variable inductance in one of the tuned circuits.

ASSOCIATION: none

SUBMITTED: 26Aug53

ENCL: 01

SUB CODE: EC

NO REF SOV: 000

OTHER: 000

Card 1/2

ACC NR: AP7002582

(A,N)

SOURCE CODE: UR/0413/66/000/023/0078/0078

INVENTOR: Muskhelishvili, G. N.

ORG: none

TITLE: Device for measuring small flow rates of liquid. Class 42, No. 189169  
[announced by Institute of Electronics, Automation, and Remote Control, AN Georgian  
SSR (Institut elektroniki, avtomatiki i telemekhaniki AN Gruzinskoy SSR)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 23, 1966, 78

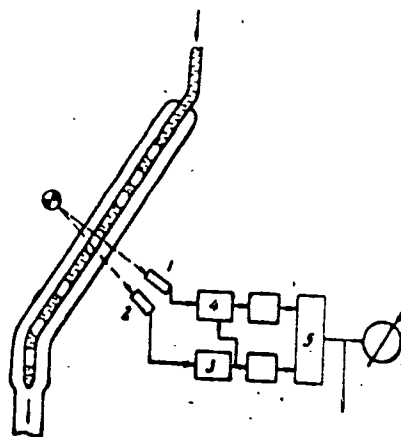
TOPIC TAGS: flow meter, liquid flow

ABSTRACT: This Author Certificate presents a device for measuring small flow rates of liquid, containing a sensor in the form of a section of tubing with a jacket and with holes for self-sucking of gas, a source and receiver of radiation, and a measuring device. To eliminate the dependence of the readings on the physical properties of the liquid, the sensor has two radiation receivers. One receiver is connected to a monostable trigger and the second is connected to a bistable trigger which is returned to the initial state by a signal from the first trigger (see Fig. 1). The trigger outputs are connected to the input of a signal scaling circuit determined by the passing volumes of liquid and gas to the signal determined by the city of motion of the volumes.

UDC: 681.121.92

ACC NR: AP7002582

Fig. 1. 1 and 2 - radiation receivers;  
3 - monostable trigger; 4 - bistable  
trigger; 5 - scaling circuit



Orig. art. has: 1 diagram.

SUB CODE: 13, 09/ SUBM DATE: 14 Aug 64

Card 2/2

ACC NR: AP7000341

SOURCE CODE: UR/0413/66/000/022/0103 103

AUTHOR: Muskhelishvili, G. N.

ORG: None

TITLE: A method for measuring small liquid flow rates. Class 42, No. 107  
[announced by the Institute of Electronics, Automation and Remote Control (Institut elektroniki, avtomatiki i telemekhaniki)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 22, 1966, 103

TOPIC TAGS: flow meter, flow measurement, fluid flow

ABSTRACT: This Author's Certificate introduces a method for measuring small liquid flow rates with gas bubbles introduced into the stream. Measurement reliability and accuracy are improved by self-suction of the gas into the flow meter to convert the continuous stream to be measured into an interrupted flow. The average electric signal produced by passage of the separate volumes of the medium being monitored and the gas is measured at the output of the indicator.

SUB CODE: 20, 14/ SUBM DATE: 29Jun64

Card 1/1

UDC: 681.121.92

MUSKHELISHVILI, L.V.

Unique representative of the genus *Calliostoma* from the Middle Sarmatian of Mergeliya. Soob. AN Gruz. SSR 35 no.2:339-342 Ag '64.  
(MIRA 17:12)

1. Institut paleobiologii AN Gruzinskoy SSR. Submitted January 20, 1964.

MUSKHELISHVILI, L.V.

Variability of Middle Sarmatian mollusks in Megreliya (western Georgia). Scob. AN Gruz. SSR 34 no.2:383-388 My '64.

(MIRA 18:2)

1. Institut paleobiologii AN Gruzinskoy SSR. Submitted July 15, 1963.



MUSKHELISHVILI, L.V.

Systematic position and ecologic characteristics of Sarmatian  
Cardiidae. Soob. AN Gruz. SSR 38 no.1:133-138 Ap '65.  
(MIRA 18:12)  
1. Institut paleobiologii AN GruzSSR. Submitted Oct. 9, 1964.

*Muskhelishvili, N. I.*  
MUSKHELISHVILI, NIKOLA IVANOVICH.

Applications des integrales analogues a celles de Cauchy a quelques problemes de la physique mathematique. Tiflis, Imprimerie de l'Etat, 1922. viii, 157., ll., diagrs.

Preface in Georgian and in French.

Contents: Propositions auxiliares. Applications simples a la theorie du potentiel logarithmique et a l'hydrodynamique. Applications au probleme biharmonique fondamental. Probleme a deux dimensions de la theorie de l'elasticite.

4C20.MC

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of Congress, 1955.

*Muskhelishvili, N.*

MUSKHELISHVILI, NIKOLAI IVANOVICH.

Praktische Lösung der fundamentalen Randwertaufgaben der Elastizitätstheorie in der Ebene für einige Berandungsformen. (Zeitschrift für Angewandte Mathematik und Mechanik, 1933, v. 13, no. 4, p. 264-282, bibl.)

IA3. Z4 v.13

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of Congress, 1955.

MUSKHELISHVILI, NIKOLAI IVANOVICH.

Nekotorye osnovnye zadachi matematicheskoi teorii uprugosti; osnovnye uravneniia, ploskaia zadacha, kruchenie i izgib. S predisl. A. N. Krylova. 2. perer. i dopoln. izd. Moskva, AN SSSR, 1935. 453 p. diags. (Akademiia nauk SSSR. Nauchno-tehnicheskaiia literatura)

Bibliography: p. 448-453.

Some fundamental problems of the mathematical theory of elasticity; basic equations, plane problem, torsion and bend.

NN NNC

DLC: QA931.M87 1935

SO: Manufacturing and Mechanical Engineering in the Soviet Union  
Library of Congress, 1953.

MUSKHELISHVILI, N.I. Continued

Singulyarnyye integral'nyye uravneniya s yadami tipa koshi na razomknutyky knoturakh. tbilisi, Trudy matem. in-ta AN GrSSR, 11 (1942), 141-171.

O chislennom reshenii ploskoy zadachi teorii' uprugosti. tbilisi, Trudy matem. in-ta Gr. fil. AN, 1 (1937), 87-88.

SO: Mathematics in the USSR, 1917-1947

edited by Kurosh, A.G.,

Markushevich, A.I.,

Rashevskiy, P.K.

Moscow-Leningrad, 1948

MUSKHELISHVILI, NIKOLAY IVANOVICH.

Singuliarnye integral'nye uravneniia: granichnye zadachi teorii funktsii i nekotorye ikh prilozheniia k matematicheskoi fizike. Moskva, Gostekhizdat, 1946. 448 p., diagrs.

Bibliography: p. 443-448.

Title tr.: Singular integral equations: boundary problems of function theory and their application to mathematical physics.

Reviewed by W. J. Trjitzinsky in Mathematical Reviews, 1947, v. 8, no. 10, p. 586.

QA431.M8 1946

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of Congress, 1955.

MUSKHELISHVILI, NIKOLAĬ IVANOVICH

Nekotorye osnovnye zadachi matematicheskoi teorii uprugosti; osnovnye uravneniia, ploskaia teoriia uprugosti, kruchenie i izgib. 3. perer. i znachitel'no dopoln. izd. Moskva, AN SSSR, 1949. 635 p. diagra.

Bibliography: p. (621)-628.

Some fundamental problems of the mathematical theory of elasticity; basic equations, plane theory of elasticity, torsion and bend.

CU MH WaU

DLC: QA931.M87 1949

SO: Manufacturing and Mechanical Engineering in the Soviet Union  
Library of Congress, 1953.

USSR/Academy of Sciences - Georgian SSR Feb 51

"Science in Soviet Georgia," N. I. Muskhelishvili,  
Pres, Acad Sci Georgian SSR

"Nauka i Zhizn" No 2, pp 9-12

Acad Sci Georgian SSR created and developed by the Soviet government, has now 5 departments: Social Sci, Math and Natural Sci, Agr, Tech Sci, and Med. The academy governs 35 research institutes and 9 scientific institutions of complex character. The academy publishes a monthly "Soobshcheniya Akademii Nauk Gruzinskoy SSR" (Communications of Acad

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Sci Georgian SSR). Among their prominent members are: I. N. Vekua, mathematician, Prof Ye. K. Kharadze, astronomer, P. G. Melikishvili, chemist, A. I. Dzbanelidze and L. Sh. Davitashvili, geologists, and many others.

222704

MUSKHELISHVILI, N. I.



USSR/Scientists - Mathematics, Mechanics Jul 51  
 "Outstanding Researcher in the Field of Applied  
 Mathematics and Mechanics, Academician N. I. Mus-  
 khelishvili, On his 60th Birthday," N. G. Chetayev,  
 Corr Mem, Acad Sci USSR

"Is Ak Nauk SSSR, Otdel Tekh Nauk" No 7,  
 pp 963-968

Gives biography of N. I. Muskhelishvili and re-  
 view of his works in the field of the theory of  
 elasticity and applied mathematics. He is identi-  
 fied as president of Acad Sci Georgian SSR since  
 1941, deputy of Supreme Soviet in 1937 and 1946

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USSR/Scientists - Mathematics, Mechanics Jul 51  
 (Contd)

and member of commission for final formulation of  
 the text of the USSR constitution.

205T100

MUSKHELISHVILI, N. I.

USSR/Academy of Sciences - Mathematics

May/June 51

"Nikolay Ivanovich Muskhelishvili: On the Occasion of his Sixtieth Birthday"

"Prikl Matemat 1 Mekh" Vol XV, No 3, pp 265-278

Muskhelishvili is outstanding mathematician widely known to foreign sci and eng societies, especially in the fld of elasticity. He was born 16 Feb 1891 in Tbilisi (Tiflis). He became Pres, Acad Sci Georgian SSR in 1941 after its

18571

USSR/Academy of Sciences - Mathematics (Cont.)

May/June 51

Founding. Lists his 70 works published 1915 - 1950, mainly on the 2-dimensional theory of elasticity.

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MUSKHELISHVILI, Nikolay Ivanovich

ZHAK, I.Ye.; MUSKHELISHVILI, N.I., akademik.

Riemann summation of double numerical series. Soob. AN Gruz. SSR 13 no.10:  
587-593 '52. (MLBA 6:5)

1. Stalingradskiy pedagogicheskiy institut im. A.S. Serafimovicha (for  
Zhak). 2. Akademiya Nauk Gruzinskoy SSR (for Muskhelishvili). (Series)

MUSKHELISHVILI, N. I.

①  
\*Muskhelishvili, N. I. Singular integral equations. Boundary problems of function theory and their application to mathematical physics. Translation by J. R. M. Radok. P. Noordhoff N. V., Groningen, 1953. vi+447 pp. 28.50 Dutch florins.  
Translation of Singulyarnye integral'nye uravneniya [Gostehizdat, Moscow-Leningrad, 1946; these Rev. 8, 586; see also these Rev. 11, 523].

Mathematical Reviews  
May 1954  
Analysis

10-7-54  
LL

**Some Basic Problems of the  
Mathematical Theory of Elasticity**

By N. I. Muskhelishvili. Translated from the Russian by J. R. M. Radok. 3rd Ed. Groningen, Netherlands, P. Noordhoff, Ltd., 1953. 704 pp., illus., diagrs., figs. \$10.50.

The recent appearance of this impressive new text brings to the English-speaking public one of the latest outstanding contributions to the theory of elasticity. In this treatise Muskhelishvili presents the most recent advances in the methods of analysis of problems in the field of elasticity which have appeared in the Russian literature. The usefulness of these methods may be observed in the increasing number of papers now appearing in the non-Russian literature which are either utilizing or extending Muskhelishvili's work to their specific applied problems.

The subject matter represents a new and modern viewpoint of the theory of elasticity for problems in the plane or two-dimensional category. The text is divided into seven parts and covers in a very lucid and well-organized concise manner the variety of concepts necessary for the basic understanding of the problems in elasticity.

The first part, subdivided into three chapters, recapitulates the basic concepts of the mathematical theory of elasticity with the development of the complete system of equations of the mechanics of an elastic isotropic body. The development is augmented with the proofs of some of the fundamental propositions associated with the equations. The topics discussed in great detail are: analysis of stress; analysis of strain including transformations, displacements, and compatibility; generalized Hooke's Law; Saint Venant's principle; fundamental boundary-value problems of static elasticity and uniqueness of solution; and dynamic equations of an elastic body.

Part II deals with the general formulas of the plane theory of elasticity in a manner which has been found very useful for the effective solution of the fundamental boundary-value problems as well as for investigations of a general nature. This part, subdivided into four chapters (4-7), begins with the discussion of the basic equations of the plane theory of elasticity, treating such topics as plane strain, deformation of thin plates under forces acting in its plane, and basic equations with and without the presence of body forces.

The following three chapters represent the effect of the modern viewpoint of the theory of elasticity. Muskhelishvili elaborates in great detail on the definition of the stress function with its limitations and usefulness. This development is followed by the introduction of the complex representation of these biharmonic functions with the corresponding representation of the displacements, stresses, forces, and moments. The use of the complex representation in problems of plane strain and stress leads one to the problem of deter-

(OVER)

*N. I. Muskhelishvili*

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mining two analytic functions which satisfy both the simply and multiply connected domain, and the uniqueness of the solutions is proved. The final section of the chapter discusses the state of stress on the elastic constants.

Chapter 8 presents in a concise but well-organized manner the theory of multivalued displacements and the associated concept of dislocations. The development then leads to the introduction of thermal stresses.

The concluding phase of Part II is devoted to the fundamentals of conformal mapping and the application of conformal mapping to the transformation of the formulas of the plane theory of elasticity together with the boundary conditions into the image region.

Part III deals with the solution of several problems of the plane theory of elasticity utilizing the power series. Muskhelishvili shows that this method of solution is directly applicable to regions bounded by one or two concentric circles. Thus with the use of conformal transformation, it is possible to extend this method to regions of more general shape. Chapter 8 is

devoted to the development of the Fourier series in complex form. In Chapter 9, the applications to the solutions for regions bounded by a circle are given with many important practical examples. The circular ring problem is covered in great detail in Chapter 10. The extension of the use of the power series to problems where the boundaries are of more general shape by means of conformal mapping is discussed in Chapter 11. The application is given for the case of simply connected regions such as mapping onto a circular ring and also the solution of the fundamental problem for a continuous ellipse. An interesting note is added which shows that a solution to this problem previously given by A. Timpe in 1923 was incorrect and a recent solution given by D. I. Sherman agrees with the one in the text.

Parts IV and V are concerned primarily with the fundamental properties of Cauchy integrals and their application to the solution of boundary problems of plane elasticity. Chapter 12 presents the definition of Cauchy integrals, the principal value and boundary values, and the deriva-

tives of the Cauchy integrals. Chapter 13 is concerned with the formulation of the boundary values of holomorphic or analytic functions and the application of potential theory for a circle and half-plane.

The application of the Cauchy integrals is elegantly covered in Chapters 14-17. The treatment covers such topics as: the reduction of the fundamental problems to functional equations, to Fredholm equations and the existence theorems for them, with the corresponding applications. Various practical solutions of mapping by rational functions and also general methods are presented. The author includes other methods of solution as presented by various researchers.

Part VI treats the solution of the boundary problems of the plane theory of elasticity by reduction to the problem of linear relationship. The term, linear relationship of the boundary-value, is used by Muskhelishvili to represent the reduction to a single boundary problem of complex function theory. (This problem is completely covered in the author's book "Singular Integral Equations," also translated by Radok.) The four chapters in this part treat the development of

(CONT)

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### *N.I. Muskhelishvili*

the problem from the first principles and apply the methods of solution to the problem of the half-plane, plane with straight cuts, regions bounded by circles, infinite plane cut along circular arcs, regions mapped on to a circle by rational functions, and specific related problems.

Part VII considers the problems of the extension, bending, and torsion of cylindrical homogeneous and compound bars, which are of practical interest. The problem of Saint Venant is treated basically, with the additions of certain results which represent applications of the complex function theory. The topics treated are complex torsion functions, stress functions, applications of conformal mapping, torsion of bars of different materials, extension and bending of bars of different materials with uniform Poisson's ratio, and extension and bending of bars with different Poisson's ratio. The concluding phase of the book consists of three appendixes covering

a concise introduction to the concept of a tensor, the determination of functions from their differentials in multiply-connected regions, and determination of a function of a complex variable from its real part.

The book is very impressive and excellently written, containing information in a well-printed and easily accessible form. The translator is to be highly congratulated for his elegant treatment of the translation and for inserting explanatory footnotes and additional indexes which augment the rich contents of the subject matter. This book may well be considered the classic text in the field of the theory of elasticity and is a very valuable addition to the technical literature. The publisher should be commended for the excellent appearance of the book.

HARRY ZUCKERBERG  
Professional Engineer  
New York, N.Y.





**PKHAKADZE, Sh.S.; MUSKHELISHVILI, N.I., akademik.**

Iterated integrals. Soob.AN Gruz.SSR 14 no.1:3-10 '53. (MLL 6:9)

1. Akademiya nauk Gruzinskoy SSR (for Muskhelishvili). 2. Akademiya nauk Gruzinskoy SSR, Tbilisskiy matematicheskiy institut im. A.M. Buzmadze (for Pkhakadze). (Integrals, Multiple)

DZHVARSHYSHVILI, A.G.; MUSKHELISHVILI, N.I., akademik.

Theorem of N.N.Luzin for functions of two variables. Soob.AN Gruz.SSR 14  
no.1:11-15 '53. (MIRA 6:9)

1. Akademiya nauk Gruzinskoy SSR (for Muskhelishvili). 2. Akademiya nauk  
Gruzinskoy SSR, Tbilisskiy matematicheskiy institut im. A.M.Razmadze (for  
Dzhvarshyshvili). (Calculus of variations)

MUSKHELISHVILI, N.I.

Mathematical Reviews  
Vol. 14 No. 11  
December, 1953  
Mechanics.

✓ Soromet'ev, M. P. Elastic equilibrium of an elliptic ring. (Akad. Nauk SSSR. Prikl. Mat. Meh. 17, 107-113 (1953). (Russian)

The author investigates a ring bounded by two confocal ellipses, the loads being applied on the boundaries. A. Timpe [Math. Z. 17, 189-205 (1923)] solved the above problem, but Muskhelishvili [Some fundamental problems of the mathematical theory of elasticity, Izdat. Akad. Nauk SSSR, Moscow-Leningrad, 1949, p. 231; these Rev. 11, 626] pointed out that Timpe's solution is incorrect. The author gives now a correct solution. He uses a conformal mapping method presented in an earlier work [Ukrain. Mat. Zhurnal 1, no. 3, 68-80 (1949); these Rev. 12, 886]. A numerical example of a ring with given confocal ellipses as boundaries, and the outer boundary compressed by a constant distributed normal load illustrates the use of general formulas.

T. Lister (Lexington, Ky.)

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MUSKHELISHVILI, N. I.

USSR/Mathematics - Integrals, Potential Nov/Dec 53

"Three-Dimensional Analog of the Cauchy-type Integral and Certain Applications of It," A. V. Bitsadze

Iz Ak Nauk SSSR, Ser Mat, Vol 17, No 6, pp 525-538

The theory of one-dimensional integrals of the Cauchy type plays an important role in the soln of so-called two-dimensional problems of mathematical physics (e. g. N. I. Muskhelishvili, Singular Integral Equations (Singulyarnye Integral'nyye Uravneniya) Moscow-Leningrad Gostekhizdat (State Tech Press), 1946). Here the author constructs an apparatus of two-dimensional Cauchy-type integrals and

274775

applies apparatus to problems in the theory of Newtonian potential. Presented by Acad S. I. Sobolev, 30 Apr 53.

GERONIMUS, Ya.L.; MUSKHELISHVILI, N.I., akademik.

Tangential derivative of the logarithmic potential of a simple stratum.  
Dokl. **AN SSSR** 91 no.6:1257-1260 Aug '53. (Mda 6:3)

1. Akademiya nauk **SSSR** (for Muskhelishvili). (Harmonic analysis)

MUSKHELISHVILI, N.I.

PHASE I

TREASURE ISLAND BIBLIOGRAPHICAL REPORT

AID 563 - I

BOOK

Call No.: QA931.M874

Author: MUSKHELISHVILI, N. I., Academician

Full Title: SOME BASIC PROBLEMS OF THE MATHEMATICAL THEORY OF ELASTICITY-FUNDAMENTAL EQUATIONS. PLANE THEORY OF ELASTICITY. TORSION AND BENDING. 4th edition, revised and augmented

Transliterated Title: Nekotoryye osnovnyye zadachi matematicheskoy teorii uprugosti -Osnovnyye uravneniya. Ploskaya teoriya uprugosti. Krucheniye i izgib  
Izd. 4-e ispravl. i dopolnennoye

PUBLISHING DATA

Originating Agency: Academy of Sciences, USSR

Publishing House: Academy of Sciences, USSR

Date: 1954

No. pp.: 647

No. of copies: 5,000

Editorial Staff

Editors: G. F. Mandzhavidze and A. Ya. Gorgidze

PURPOSE: For readers interested in the practical application and the mathematical aspects of the question.

TEXT DATA

Coverage: This is the 4th edition, corrected and developed as compared with the 3rd edition which has been translated into English

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Nekotoryye zadachi matematicheskoy teorii uprugosti  
-Osnovnyye uravneniya. Ploskaya teoriya uprugosti.  
Kruchenije i izgib Izd. 4-e ispravl. i dopolnennoye

AID 563 - I

by J. R. M. Radok, Groningen, Holland, in 1953. The second edition of this book received the Stalin prize of first class. According to the author, the changes made in the text of this edition, as compared with the third, are numerous, and, while not extensive in volume, are sometimes rather essential.

No. of References: Total number 257, of which 187 are Russian

Facilities: None given

2/2

VAL'FISH, A.Z., redaktor; MANDZHAVIDZE, G.F., redaktor; MIKELADZE, Sh.Ye.,  
redaktor; MUSKHELISHVILI, N.I., otvetstvennyy redaktor; CHELIDZE, V.G.,  
redaktor; CHOGOSHVILI, G.S., redaktor; KABACHKOV, S.R., tekhnicheskii  
redaktor.

[Linear discontinuous boundary problems of the function theory,  
singular integral equations and some of their applications] Lineinye  
razryvnye granichnye zadachi teorii funktsii, singuliarnye integral'nye  
uravnenia i nekotorye ikh prilozhenia. Tiflis, Izd-vo Akademii nauk  
Gruz.SSR. 1956. 158 p. (Akademiia nauk Gruz.SSR. Matematischekii institut.  
Trudy, vol. 23)

(MLRA 10:5)

(Functions, Discontinuous)

(Integral equations)

(Functions of complex variables)



28(0)

SOV/26-59-5-8/47

AUTHOR: Muskhelishvili, N.I., Academician; President of the Academy of Sciences of the Georgian SSR

TITLE: Prospects for the Development of **Natural Science** in Georgia

PERIODICAL: Priroda, 1959, <sup>17</sup>Nr 5, pp 45 - 49 (USSR)

ABSTRACT: The author states that the Academy of Sciences in Georgia received, as part of the 7-year plan, an assignment to carry out 81 scientific investigations covering 222 problems. One of the special works given to it is the development of computing mathematics, which have a bearing upon the development of automats. A Computing Center has been created at the Academy. It will have at its disposal high-powered computing machines, now in construction, to serve principal institutions of the Soviet Union. Other departments of the Georgian Academy, namely the Instituty: fiziki, elektroniki, avtomatiki i telemekhaniki (Institutes of Physics, of Electronics, of Automatics and of Telemechanics)

Card 1/3

SOV/26-59-5-8/47

Prospects for the Development of **Natural Science in Georgia**

are also participating in the construction of these machines. Other problems assigned to the Academy are: the development of the Theory of Resiliency of Anisotropic Bodies, and the Membrane Theory. Georgian mathematicians are working on the development of singular integral equations, of topology, hydromechanics etc. It is 10 years since the Academy began research on cosmic rays. A high altitude station is being constructed for this purpose, with a 1000-ton electromagnet. An atomic reactor is also being installed to be used in connection with research in chemistry, biology, medicine, and to supply short-lived isotopes to Caucasian scientific institutions. Other works and researches are: on superconductivity and on semiconductors, as a result of which, elements of cybernetic system will be created. The research into the crust of the earth is connected with the work on seismology within the area of the Caucasus. Extensive

Card 2/3

MUSKHELISHVILI, N.I.; GORDELADZE, L.G., red. izd-va; DZHAPARIDZE,  
N.A., tekhn. red.

[Science in Soviet Georgia; brief review] *Nauka v Sovetskoj  
Gruzii; kratkii obzor.* Tbilisi, Izd-vo Akad. nauk Gruzinskoj  
SSR, 1961. 87 p. (MIRA 15:2)  
(Georgia—Science)

report presented at the 1st All-Union Congress of Theoretical and Applied Mechanics, Moscow, 27 Jan - 3 Feb '60.

1114 SKRIZI, SKILY, N.I.

- 35. S. S. Bredentsev (Sverdlovsk): On the stability of the dynamic contact problem for a half-space under conditions of rigid contact.
- 36. J. J. Brilla (Brestskaya): Anisotropic plates with direct stresses.
- 37. S. S. Bredentsev (Sverdlovsk): On the essential non-linearity of certain problems on column stability.
- 38. I. M. Zhurav (Moscow), A. V. Krasovskiy (Moscow): On the determination of stability factors under alternating random loads.
- 39. A. V. Krasovskiy (Moscow): An experimental investigation of a group of various vibration models.
- 40. I. M. Zhurav (Moscow): On the stability of constructional-elastic systems under random loads.
- 41. A. V. Krasovskiy (Moscow), A. V. Krasovskiy (Moscow): The field of stability of dynamic systems.
- 42. A. V. Krasovskiy (Moscow): The state of stress of lamellar systems of regular construction.
- 43. S. S. Bredentsev (Sverdlovsk): Stochastic processes of vibrations of shells of thin-walled structures.
- 44. S. S. Bredentsev (Sverdlovsk): Application of finite element methods to the investigation of shells.
- 45. S. S. Bredentsev (Sverdlovsk): Determination of stresses and deformations in plates.
- 46. S. S. Bredentsev (Sverdlovsk): The film of atoms and filled shells.
- 47. S. S. Bredentsev (Sverdlovsk): Applications of the finite element method to the investigation of shells.
- 48. S. S. Bredentsev (Sverdlovsk): Experimental investigation of the behavior of constructionally supported shell structures for long loading times.
- 49. S. S. Bredentsev (Sverdlovsk), A. V. Krasovskiy (Moscow), V. P. Pavlov (Moscow): Investigation of shell plates under random loading.
- 50. S. S. Bredentsev (Sverdlovsk): Basic principles of the mechanics of shells.
- 51. S. S. Bredentsev (Sverdlovsk): Fundamentals of the linear theory of shells.
- 52. S. S. Bredentsev (Sverdlovsk): The solution of certain contact problems for foundations using a tapered shell.
- 53. S. S. Bredentsev (Sverdlovsk): On the equilibrium equations of thin elastic plates.
- 54. S. S. Bredentsev (Sverdlovsk): The group of two and three shells.
- 55. S. S. Bredentsev (Sverdlovsk), S. S. Bredentsev (Sverdlovsk), S. S. Bredentsev (Sverdlovsk): Analysis of the properties of plates under random loads (4-4. part) by the vibration plate method.
- 56. S. S. Bredentsev (Sverdlovsk), A. V. Krasovskiy (Moscow): The plane film method of investigation of the behavior of constructionally supported shells.
- 57. S. S. Bredentsev (Sverdlovsk): Stochastic and dynamic analysis of the film of constructionally supported shells of different shapes.
- 58. S. S. Bredentsev (Sverdlovsk): On the analysis of a shell closed cylindrical shell.
- 59. S. S. Bredentsev (Sverdlovsk): On the distribution of stresses in shells of elastic materials in quasi-isotropic polycrystalline materials.
- 60. S. S. Bredentsev (Sverdlovsk): A statistical method in the analysis of shells.
- 61. S. S. Bredentsev (Sverdlovsk), S. S. Bredentsev (Sverdlovsk): On stress concentration in a plate with an elliptical hole.
- 62. S. S. Bredentsev (Sverdlovsk): Foundations of the general engineering theory of elastic beams.
- 63. S. S. Bredentsev (Sverdlovsk): The law of deformation of beams.
- 64. S. S. Bredentsev (Sverdlovsk): The law of deformation of shells.
- 65. S. S. Bredentsev (Sverdlovsk): The law of deformation of shells.
- 66. S. S. Bredentsev (Sverdlovsk): A method of obtaining polynomial stress and displacement functions.
- 67. S. S. Bredentsev (Sverdlovsk): A contribution to the theory of the plastic deformations of thin shells.
- 68. S. S. Bredentsev (Sverdlovsk): The propagation of elastoplastic waves and shear waves in the microplastic deformations of shells.

KELDYSH, M.V.; PALLADIN, A.V.; KUPREVICH, V.F.; ABDULLAYEV, Ph.M.; SATPAYEV, K.I.; MUSKHELISHVILI, N.I.; MAMEDALIYEV, Yu.G.; MATULIS, Yu.Yu.; GROSUL, Ya.S.; PLAUDE, K.K.; KARAKYEV, K.K.; UMAROV, S.U.; AMBARTSUMYAN, V.A.; BATYROV, Sh.B.; EYKHFEI'D, I.G. [Eichfeld, J.]

Comments by presidents. Nauka i zhizn' 28 no.10:2-17 0 \*(1.

(MIRA 15:1)

1. Prezident Akademii nauk SSSR (for Keldysh). 2. Prezident Akademii nauk Ukrainskoy SSR (for Palladin). 3. Prezident Akademii nauk Belorusskoy SSR (for Kuprevich). 4. Prezident Akademii nauk Uzbekskoy SSR (for Abdullayev). 5. Prezident Akademii nauk Kazakhskoy SSR (for Satpayev). 6. Prezident Akademii nauk Gruzinskoy SSR (for Muskhelishvili). 7. Prezident Akademii nauk Azerbaydzhanskoy SSR (for Mamedaliyev). 8. Prezident Akademii nauk Litovksoy SSR (for Matulis). 9. Prezident Akademii nauk Moldavskoy SSR (for Grosul). 10. Prezident Akademii nauk Latviyskoy SSR (for Plaude). 11. Prezident Akademii nauk Kirgizskoy SSR (for Karakeyev). 12. Prezident Akademii nauk Tadjikskoy SSR (for Umarov). 13. Prezident Akademii nauk Armyanskoy SSR (for Ambartsumyan). 14. Prezident Akademii nauk Turkmenskoy SSR (for Batyrov). 15. Prezident Akademii nauk Estonskoy SSR (for Eykhfel'd).

(Russia--Economic conditions) (Research)

Muskhelishvili, N.I.

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PHASE I BOOK EXPLOITATION SOV/6201

Vsesoyuznyy s"yezd po teoreticheskoy i prikladnoy mekhanike. 1st, Moscow, 1960.

Trudy Vsesoyuznogo s"yezda po teoreticheskoy i prikladnoy mekhanike, 27 yanvarya -- 3 fevralya 1960 g. Obzornyye doklady (Transactions of the All-Union Congress on Theoretical and Applied Mechanics, 27 January to 3 February 1960. Summary Reports). Moscow, Izd-vo AN SSSR, 1962. 467 p. 3000 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Natsional'nyy komitet SSSR po teoreticheskoy i prikladnoy mekhanike.

Editorial Board: L. I. Sedov, Chairman; V. V. Sokolovskiy, Deputy Chairman; G. S. Shapiro, Scientific Secretary; G. Yu. Dzhanelidze, S. V. Kalinin, L. G. Loytsyanskiy, A. I. Lur'ye, G. K. Mikhaylov, G. I. Petrov, and V. V. Rumyantsev; Resp. Ed.: L. I. Sedov; Ed. of Publishing House: A. G. Chakhirev; Tech. Ed.: R. A. Zamarayeva.

Card 1/6

(25)

Transactions of the All-Union Congress (Cont.)

SOV/6201

**PURPOSE:** This book is intended for scientific and engineering personnel who are interested in recent work in theoretical and applied mechanics.

**COVERAGE:** The articles included in these transactions are arranged by general subject matter under the following heads: general and applied mechanics (5 papers), fluid mechanics (10 papers), and the mechanics of rigid bodies (8 papers). Besides the organizational personnel of the congress, no personalities are mentioned. Six of the papers in the present collection have no references; the remaining 17 contain approximately 1400 references in Russian, Ukrainian, English, German, Czechoslovak, Rumanian, French, Italian, and Dutch.

**TABLE OF CONTENTS:**

**SECTION I. GENERAL AND APPLIED MECHANICS**

- Artobolevskiy, I. I. Basic Problems of Modern Machine Dynamics 5
- Bogolyubov, N. N., and Yu. A. Mitropol'skiy. Analytic Methods of the Theory of Nonlinear Oscillations 25

Card 2/6

Transactions of the All-Union Congress (Cont.)	SOV/6201	
Sretenskiy, L. N. Review of Reports on the Theory of Tides		213
Struminskiy, V. V. Present State of the Problem of Supersonic Gas Flow Past Bodies		225

SECTION III. MECHANICS OF RIGID BODIES

Berezantsev, V. G. The Theory of Limiting State of Stress in Soil Mechanics and Its Applications		299
Vekua, I. N., and N. I. Muskhelishvili. Methods of the Theory of Analytic Functions in the Theory of Elasticity		310
Gol'denveyzer, A. L. Development of the Theory of Elastic Thin Shells		339

Card 5/6



PHASE I BOOK EXPLOITATION

SOV/6095

Muskhelishvili, Nikolay Ivanovich

Singulyarnyye integral'nyye uravneniya; granichnyye zadachi teorii funktsiy i nekotoryye ikh prilozheniya k matematicheskoy fizike (Singular Integral Equations; Boundary-Value Problems of the Function Theory and Some of Their Applications in Mathematical Physics). 2d ed., rev. Moscow, Fizmatgiz, 1962. 599 p. 8500 copies printed.

Ed.: S. M. Polovinkin; Tech. Ed.: K. F. Brudno.

**PURPOSE:** This book is intended for aspirants and senior students in departments of physics and mathematics and also for research engineers.

**COVERAGE:** The book is a systematic presentation of the mathematical apparatus of Cauchy-type integrals and singular integral equations. A considerable part of the book deals with applications of this apparatus to the solution of numerous problems of the potential theory, the theory of elasticity, and other sections of mathematical physics. The second edition has

Card 1/8 Z

Singular Integral Equations (Cont.)

SOV/6095

been completely revised as regards the presentation of material and the introduction of new material. No personalities are mentioned. There are 382 references: 287 Soviet (including 3 translations), 32 English, 31 German, 24 French, and 8 Italian.

TABLE OF CONTENTS:

Preface to the Second Edition	9
From the Preface to the First Edition	10
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CH. I. BASIC PROPERTIES OF CAUCHY-TYPE INTEGRALS

I. Some Definitions and Lemmas	
1. Smooth and piecewise smooth lines	14

Card 2/2 2

KELDYSH, M.V., akademik; FEDOROV, Ye.K., akademik; ARTSIMOVICH, L.A., akademik;  
 SISAKYAN, M.M., akademik; GORSKIY, I.I.; PAPIYSA, P.L.; FOK, V.A.;  
 LANDAU, L.D.; LIFSHITS, Ye.M.; SPAL'NIKOV, A.I.; MELATNIKOV, I.M.;  
 AIEFSEYEVSKIY, N.Ye.; VAYNSHTEYN, L.A.; PALLADIN, A.V., akademik;  
 SATPAYEV, A.I., akademik; AMBARTSUNYAN, V.A., akademik; PUPREVICH,  
 V.F.; MUSKHELISHVILI, N.I., akademik; PARAFEYEV, K.K.; MUSTEL', E.R.;  
 MASEVICH, L.G., doktor fiz.-matem.nauk; EFRON, K.M.; MARTYNOV, D.Ya.,  
 prof.; GALDOR'YEV, A.A., akademik; MAROV, K.K., prof.; COLOVKOVA,  
 A.G., prof.; FILATOVA, L.G., prof.; FEYVE, Ya.V.; SEMIKHATOV, B.N.,  
 prof.; TIL'OV, A.G.; RYCHAGOV, G.I.; BARSKAYA, V.F.; VLASOVA, A.A.;  
 BARANOVA, Ye.P.; KIBARDINA, L.A.; ISACHENKO, A.F.; IL'INA, Yu.P.;  
 DANILOV, A.I., prof.; FLAUDE, K.K.; NECHAYEVA, T.N., prof.; CHEPER,  
 L., doktor; SZANTO, Ladislav, akademik; BELACHIK, Yozef; FAN KUOK  
 V'YEN; EYGENSON, M.S., prof. (L'vov); STARKOV, N.; AERAMOVICH, Yu.;  
 VOSKRESHINSKIY, V.; KROPACHEV, A.; REZVOY, D., prof., (L'vov);  
 KONDRAT'YEV, V.N., akademik; LEEEDINSKIY, V.I., kand.geol.-mineral.-  
 nauk; YANSHIN, A.L., akademik

"Priroda" is 50 years old. Priroda 51 no.1:3-16 Ja '62.

(MIRA 15:1)

1. Prezident AN SSSR (for Keldysh). 2. Glavnyy uchenyy sekretar'  
 Prezidiuma AN SSSR (for Fedorov). 3. Akademik-sekretar' Otdeleniya  
 fiziko-matem.nauk AN SSSR (for Artsimovich). 4. Akademik-sekretar'  
 Otdeleniya biologicheskikh nauk AN SSSR (for Sisakyan). 5. Chlen-  
 korrespondent AN SSSR, zamestitel' akademika-sekretarya Otdeleniya

(Continued on next card)

MUSKHELISHVILI, N.I., red.; SEDOV, L.I., red.; MIKHAYLOV,  
G.K., red.

[Transactions of the International Symposium on Applications  
of the Theory of Functions in Continuum Mechanics] Trudy  
Mezhdunarodnogo simpoziuma prilozenia teorii funktsii v  
mekhanike sploshnoi sredy. Moskva, Nauka. Vol.2. 1965. 476 p.  
(MIRA 18:11)

1. International Symposium on Applications of the Theory of  
Functions in Continuum Mechanics, Tiflis. 1963.

ACC NR: AM6022151

Monograph

UR/

Muskhelishvili, Nikolay Ivanovich

Some fundamental problems in the mathematical theory of elasticity; basic equations, plane elasticity theory, torsion and bending (Nekotoryye osnovnyye zadachi matematicheskoy teorii uprugosti; osnovnyye uravneniya, ploskaya teoriya uprugosti, kruchesniye i izgib) 5th ed., rev. and enl. Moscow, Izd-vo "Nauka," 1966, 707 p. illus., biblio. Errata slip inserted. 11,000 copies printed.

TOPIC TAGS: elasticity theory, ~~mathematical elasticity theory~~, solid mechanics

*Cauchy problem, integral calculus, boundary value problem, bending stress, torsion stress*  
PURPOSE AND COVERAGE: This is the fifth edition of the well-known book by

Academician N. I. Muskhelishvili (the third and fourth edition have been translated into English) concerning the fundamental problems of the mathematical theory of elasticity. It differs from the fourth edition only by the addition of one new chapter (Chapter Eight), compiled by N. I. Muskhelishvili's colleagues G. I. Barenblatt (Moscow), A. I. Kalandiya (Tbilisi), and G. F. Mandzhavidze (Tbilisi). New results in the solution of problems analyzed in the fourth edition obtained after that edition had been published (1953) are presented in this chapter. The book is intended primarily for scientists working on problems of the mathematical theory of elasticity. The bibliography lists 387 Soviet and 189 non-Soviet sources.

TABLE OF CONTENTS [abridged]:

Card 1/2

UDC: 539.30

MUSKHELISHVILI, T.A.

Material on reptiles of the Mta-Tusheti area. Soob. AN Gruz. SSR 26  
no. 3: 305-307 Mr '61. (MIRA 14:4)

1. AN Gruzinskoy SSR, Institut zoologii, Tbilisi. Predstavleno  
chlenom-korrespondentom Akademii nauk Gruzinskoy SSR L.P. Kalandadze.  
(Georgia--Reptiles)

MUSKHELISHVILI, T.A.

Continuing finds. Priroda 50 no.1:124 Ja '61.

(MIRA 14:1)

1. Institut zoologii AN GruzSSR  
(Georgia—Geckos)

MUSKHELISHVILI, T.A.

New data on the distribution of *Ophisops elegans* Men. in Georgia.  
Zool.zhur. 41 no.10:1579-1580 0 '62. (MIRA 15:12)

1. Institute of Zoology, Academy of Sciences of the Georgian  
S.S.R., Tbilisi.

(Georgia—Lizards)



MUSKHELISHVILI, T.A.

Presence of *Bremia arguta transcaucasica* Jarovskii in  
Georgia. Soob. AN Gruz. SSR 31 no. 2:421-423 Ag '63.  
(MIRA 17:7)

MUSKHELISHVILI, T.A.

Fauna of lizards (Sauria, Scincidae) in the vicinity of Tbilisi.  
Dob. AN Graz. Ser. 35 no. 11. 19-205 1964.

1. Institut zoologii AN GruzSSR. predstavleno chlenom-korrespondentom AN GruzSSR L.K. Gubanov.

MUSKHELISHVILI, T.A.

New data on the reproduction of *Mertensiella caucasica* Waga.  
Soob. AN Gruz. SSR 36 no.1:183-185 0 '64.

(MIRA 18:3)

MUSKHELISHVILI, T.A.

Distribution of *Eumeces schneideri* (Daudin) in Georgia. Zool.  
zhur. 44 no.9:1419-1421 '65. (MIRA 18:10)

1. Institut zoologii AN Gruzinsky SSR, Tbilisi.



DZIDZIGURI, Archil Amvrosiyevich; MUSKHELISHVILI, Vakhtang Lavanovich;  
KUTATELADZE, Aslan Aleksandrovich; ONIANI, Shurman Il'ich;  
Prinimali uchastiye: MATIKASHVILI, T.I.; DURMISHIDZE, N.Sh.;  
KERSIEN, I.O., otv. red.; D'YAKOVA, G.B., red.izd-va;  
LOMILINA, L.N., tekhn. red.

[Simultaneous operation of mine ventilators] Sovmestnaia  
rabota shakhtnykh ventilatorov. Moskva, Gos. nauchno-  
tekhn. izd-vo lit-ry po gornomu delu, 1961. 182 p.

(MIRA 15:2)

(Fans, Mechanical)

(Mine ventilation)

MUSKHIN, K.N.

Category : USSR/Nuclear Physics - Elementary Particles

C-3

Abs Jour : Ref Zhur - Fizika, No 2, 1957 No 3130

Author : Alpers, V.V. Barkov, L.M., Gerasimova, R.I., Gurevich, I.I., Muskhin, K.N.,  
Nikol'skiy, B.A., Toporkova, E.P.

Title : Production of Slow  $\eta^{\pm}$ -mesons in the Nuclei of Photographic Emulsion by  
460 Mev Protons and Neutrons of 400 Mev Effective Energy.

Orig Pub : Zh. eksperim. i teor fiziki, 1956, 30, No 6, 1025-1033

Abstract : The emulsion-camera procedure was used to study the production of  
charged  $\eta$ -mesons by 460 Mev protons and by neutrons of 400 Mev  
effective energy.

Card : 1/1

MUKHIN, K. N.  
Category : USSR/Nuclear Physics - Elementary particles C-3  
Abs Jour : Ref Zhur - Fizika, No 2, 1957 No 3129  
Author : Alpers, V. V., Barkov, L. M., Gerasimova, R. I., Gurevich, I. I.,  
Mishakova, A. P., Mukhin, K. N.  
Title : Production of Slow  $\pi$  Mesons in Photographic Emulsion Nuclei by 660  
Mev Protons.  
Orig Pub : Zh. eksperim. i teor. fiziki, 1956, 30, No 6, 1034-1039  
Abstract : The emulsion camera procedure was used to study the production of  
slow  $\pi$  mesons in the nuclei of the emulsion by the action of  
660 Mev protons. The procedure used made possible an effective study  
of the stars with the production of slow  $\pi$  mesons, and also the energy  
and angular spectra of the slow  $\pi$  mesons produced in the nuclei.  
Card : 1/1



MUSKOVIC, S.

Rudolf Bednarik's Malovance ohnistia v oblasti Malych Karpat (Painted Fireplaces in the Area of Male Karpaty); a book review;

p. 557 (SLOVENSKY NARODOPIS) Vol. 5, no. 5, 1957,  
Bratislava, Czechoslovakia

SO: Monthly Index of East European Accessions (EEAI) LC, Vol. 7, No. 3,  
March 1958

KECSKES, L.; ZAHORCSEK, A.; MUSLER, F.

Paper chromatographic isolation of estrogens of human urine. Kiserletes orvostud. 10 no.4:397-401 Aug 58.

1. Pecs i Orvostudomanyi Egyetem Szuleszeti es Hogyogyszati Klinikaja.  
(ESTROGENS, in urine  
isolation by paper chromatography (Hun))

L 10703-67 EWT(d)/EWT(m)/EWP(v)/EWP(t)/ETI/EWP(k)/EWP(h)/EWA(l) IJP(c) JL/DJ  
 ACC NR: AP6027580 (A,N) SOURCE CODE: UR/0403/66/000/006/0013/0016

AUTHOR: Pogodin-Alekseyev, G. (Doctor of technical sciences, Meritorious in science and technology of the RSFSR); Meznyayev, B. (Candidate of technical sciences); Muslimov, I. (Engineer)

ORG: None

TITLE: Electrochemical machining of materials

SOURCE: VDMKH SSSR. Informatsionnyy byulleten', no. 6, 1966, 13-16

TOPIC TAGS: *SHAPING MACHINE,* electrochemistry, electrolysis, machine tool / ACE-2 shaping machine, EKHO-1 shaping machine, 7972-4014 shaping machine, BLUZ-14 shaping machine, BLUZ-3 shaping machine

ABSTRACT: Seven various electrolytic devices used for material shaping and forming operations are described and illustrated. The first device designed by the Lublin Branch of ENIIS is used for obtaining cone- or wedge-shaped articles by means of moving the workpiece (anode) in a cylinder (cathode) filled with a 15-pct salt solution (electrolyte). The process is described including data on article sizes, tolerances, electrode gaps, productivity, etc. The second apparatus is a machine tool of a semi-automatic ACE-2 type used for more complicated shaping operations. It is based on the principle of anodic dissolution of metals in a 7 to 10-pct salt solution at small inter-electrode gaps. It is provided with an electronic control system. Its production capacity is 7000 cu mm/min, requiring a power of 60 kw. The third device of semi-automatic EKHO-1 type is used for profile blade milling by means of straight moving electrodes of a mirror-image profile.

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ACC NR: AP6027580

4

A 10-pct salt solution is used as electrolyte. The fourth description covers an electrochemical machine-tool of 7972-4014 type designed by the Moginsk Heating Equipment Plant. It is used for shaping holes of fuel pump drive fittings in a 6 to 10-pct salt solution. Its production is 40 cu mm/min. Its 990 x 580 x 980 mm casing is made of plastic materials. Its weight is 400 kg. The fifth described machine-tool of BLUZ-14 type designed by the ultrasonic laboratory of the Minsk Tractor Plant is used for removing various surface defects caused by heat treatment of pinion gears and other similar articles. A method of anodic dissolution in a running water-salt electrolyte (10 to 20%) is applied. A d-c power supply of 15 kw, 10 to 15 v, 250-300 amp is needed. The overall size is 900 x 650 x 1100 mm. The sixth device of an ultrasonic BLUZ-3 type is used for removing barbs from pinion gears by means of electrolytic jets (10 to 20-pct salt solution). It is fed from a d-c source of 500 amp and 20 to 40 v. Its size is 1240 x 600 x 1000 mm. The seventh item mentioned in the text covers the description of an electrochemical honing grinding machine used for polishing ductile metal alloys. A cross-section of the machine equipped with an electrolyte bath is presented. The operation of the machine is generally described. Orig. art. has: 6 photos, 1 diagram.

SUB CODE: 13/ SUBM DATE: None

Card

2/2 *6/2*

I. 45245-65 EWT(d)/EWP(e)/EPA(e)-2/EWT(m)/EWP(l)/EFF(n)-2/EWP(o)/EWA(p)/EWP(r)/  
EPA(w)-2/T/EWP(t)/EWP(k)/EWP(L)/EWP(z)/EWP(b)/EWP(L) Pap-10/Fr-4/Er-4/PL-7/Pu-4  
ACCESSION NR: AP5008928 JD/WH 8/0117/65/000/003/0040/0044

AUTHOR: Muslimov, I. S.

TITLE: Equipment for ultrasonic machining of materials

SOURCE: Mashinostroitel', no. 3, 1965, 40-44

TOPIC TAGS: <sup>14</sup>ultrasonic machine tool, machine tool/ 4773A ultrasonic machine, 4772A ultrasonic machine, 4772M ultrasonic machine, 4770A ultrasonic machine, UZSK 80 ultrasonic machine, ME 22 ultrasonic machine, ME 32 ultrasonic machine, UZSN 2 ultrasonic machine, UZR2 2A125 ultrasonic machine, STK 1222 ultrasonic machine, UZU1 0.1 ultrasonic machine

ABSTRACT: The following ultrasonic machining equipment which was shown at the Exhibition of Achievement of the National Economy is briefly described, and a table of technical specifications is presented for each item: a) Model 4773A represents the largest ultrasonic machining device in the world with a capacity of 9000 mm<sup>3</sup>/min (in glass) with a class 2 accuracy and class 9-10 finish. b) Model 4772A has a capacity of 5000 mm<sup>3</sup>/min (in glass) with a machining accuracy of ± 10 micron and a tool positioning accuracy of ± 5 micron. Ultrasonic generator UZM-1.5S at 22 ± 7.5% Keps is the driver. c) Model 4772M has an automatically regulated frequency control;

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66  
60  
B

L 45245-65

ACCESSION NR: AP5008928

cap.-1800 mm<sup>3</sup>/min (in glass). d) 4770A is designed for semi-automatically cutting shapes out of 0.2-15 mm thick hard metals like germanium, etc. e) Semi-automatic model UZSK-80 for machining of hard stones and alloys has a capacity of 1200 (in glass) and uses generator UZG-2.5. f) ME-22 for drilling diamond disks, ceramics, and the like, rotates at 800 and 1500 rpm and operates at 22 000 cps. g) ME-32 is a higher accuracy version of ME-22 with a capacity of 1000 mm<sup>3</sup>/min (in glass). h) UZSN-2 is used to engrave micromodular designs on quartz, germanium, ferrite; maximum capacity 50 mm<sup>3</sup>/min. i) UZR2-2A 125 is used for cutting internal threads (M14-40) with 10-40 mm diameter taps using generator UZG-2.5. j) STK-1222 is used for profiling cutting tools; cap. 3-5 mm<sup>3</sup>/min (in hard alloys). k) UZU1-0.1 is used for engraving hard alloys and puncturing glass and ceramics. It has a 100-watt generator. Orig. art. has: 11 figures.

ASSOCIATION: none

SUBMITTED: 00

ENCL: 00

SUB CODE: IE

NO REF SOV: 000

OTHER: 000

Card 2/2 00

L 32978-65 EWT(m)/EWG(m) JAJ/RM/RWH

ACCESSION NR: AP5007430

S/0286/65/000/004/0061/0061

AUTHOR: Muslimov, Kh. I.; Rizayev, N. U.; Sultanov, A. S.

TITLE: A method for producing a cation exchange resin. Class 39, No. 168436

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 4, 1965, 61

TOPIC TAGS: cation exchange resin

ABSTRACT: This Author's Certificate introduces a method for producing a cation exchange resin based on products of the interaction of furfural with organic acids. A carboxyl cation exchange resin with a high exchange capacity is produced by using  $\beta$ -furylacrylic acid.

ASSOCIATION: none

SUBMITTED: 11Jun62

ENCL: 00

SUB CODE: MT

NO REF SOV: 000

OTHER: 000

Card 1/1

MUSLINOV, S. M.

USSR / Cultivated Plants. Plants for Technical Use. :  
Oil Plants. Sugar Plants.

Abs Jour : Ref Zhur - Biol., No 8, 1958, No 34719

Author : Muslinov, S. M.

Inst : All-Union Cotton Scientific Research Institute

Title : Square-Pocket Cultivation  
of the Cotton Plant in Saline Soils.

Orig Pub : Sots. s. Kh. Uzbekistana, 1957, No 1, 45-47.

Abstract : Experimental studies of various seeding pat-  
terns for the planting of cotton plant in sa-  
line soils have been conducted in 1956 by the  
Fedchenkovskiy Improvement Station of Soyuz  
NIKHI\*. Experiments have shown that longitudi-  
nal-transversal cultivation of cotton plant  
cultures considerably reduces the labor required  
for crop raising. In addition, the height of

\*The All-Union Cotton Scientific Research Institute

Card 1/3



USSR / Cultivated Plants! Plants for Technical Use. H  
Oil Plants. Sugar Plants.

Abs Jour : Ref Zhur - Biol., No 3, 1958, No 34719

the plants increases, as well as the amount of monopodes and sympodes, the amount of bolls and the average weight of the latter. With the reduction in the number of plants growing in a single seed hole, the number of bolls growing on a single plant is higher and the weight of the cotton wool is greater in all types of cultivation. The highest yield was obtained by disposing the plants in a pattern measuring 60 x 60 x 4 and 50 x 50 x 3 cm. Comparison studies of cotton plant cultivation patterns measuring 60 x 45 and 50 x 50 cm were carried out on a large scale. On saline highly fertile soils with a high level of ground water and on

Card 2/3

USSR / Cultivated Plants. Plants for Technical Use. 11  
Oil Plants. Sugar Plants.

Abs Jour : Ref Zhur - Biol., No 6, 1958, No 34719

fields with negligible downgrade, a seeding pattern of 60 x 60 cm and with density of 80 to 95 thousand plants per hectare is recommended. In fields with well pronounced slopes and in less fertile soils, as well as in old plowland, a seeding pattern of 50 x 50 cm with a stand density of 90 to 110 thousand plants per hectare is to be followed. -- Rizina.

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74

*Handwritten notes:*  
1952. 05. 11 (4) ...  
1952 (11, 12, 13)

L 36991-66 EWP(j)/EWT(m) RM

ACC NR: AP6008513

SOURCE CODE: UR/0062/66/000/001/0181/0182

AUTHOR: Muslin, D. V. ; Vasileyskaya, N. S. ; Khidekel', M. L. ;  
Razuvayev, G. A. 29ORG: Laboratory of Stabilization of Polymers, Academy of Sciences, SSSR  
(Laboratoriya stabilizatsii polimerov Akademii nauk SSSR); Institute of Chemical  
Physics, Academy of Sciences, SSSR (Institut khimicheskoy fiziki Akademii nauk  
SSSR)TITLE: 2,4-di-tert-butyl-6-trimethylsilylphenol<sup>1</sup> and the corresponding phenoxyl

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 1, 1966, 181-182

TOPIC TAGS: phenol, chemical synthesis, silane

ABSTRACT: This article describes the synthesis of a steric-hindered phenol (and corresponding phenoxyl) containing a trimethylsilyl group in the ortho-position. 2,4-di-tert.-butyl-6-trimethylsilylphenol is obtained by hydrolysis of 2,4-di-tert.-butyl-6-trimethylsilyl phenoxytrimethylsilane synthesized by the Wurtz-Fittig reaction from 2,4-di-tert.-butyl-6-bromophenoxytrimethylsilane. Upon oxidation of the new steric-hindered compound with an alkalide solution  $K_3[Fe(CN)_6]$  or  $PbO_2$ , stable 2,4-di-tert.-butyl-6-trimethylsilylphenoxyl is obtained. The electron paramagnetic resonance spectrum of this compound represents a triplet caused by splitting at the meta-protons of the benzene ring.

SUB CODE: 07/ SUBM DATE: 28May65/ ORIG REF: 001/ OTH REF: 002

Card 1/1

UDC: 541+541.51+538.113+546.287