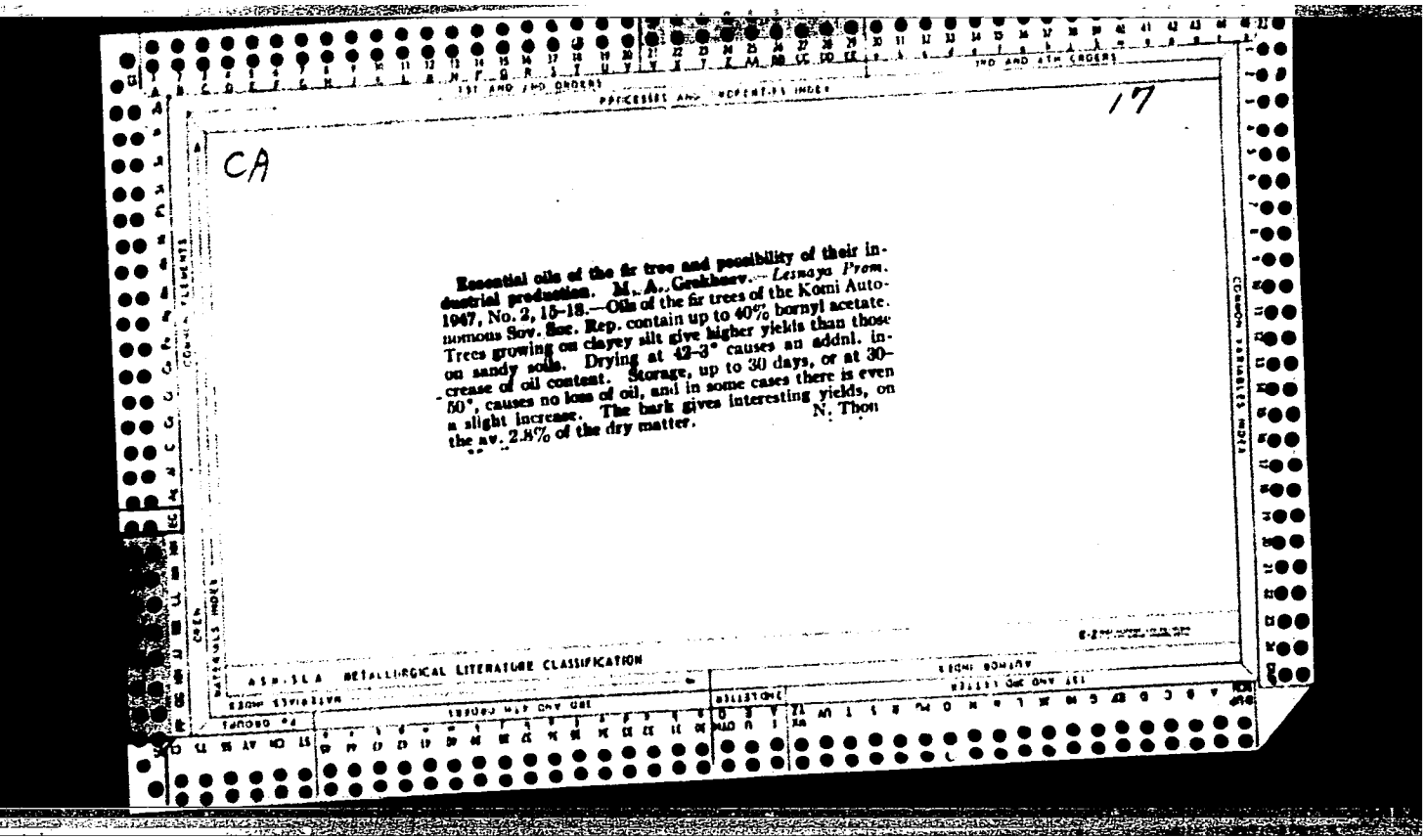
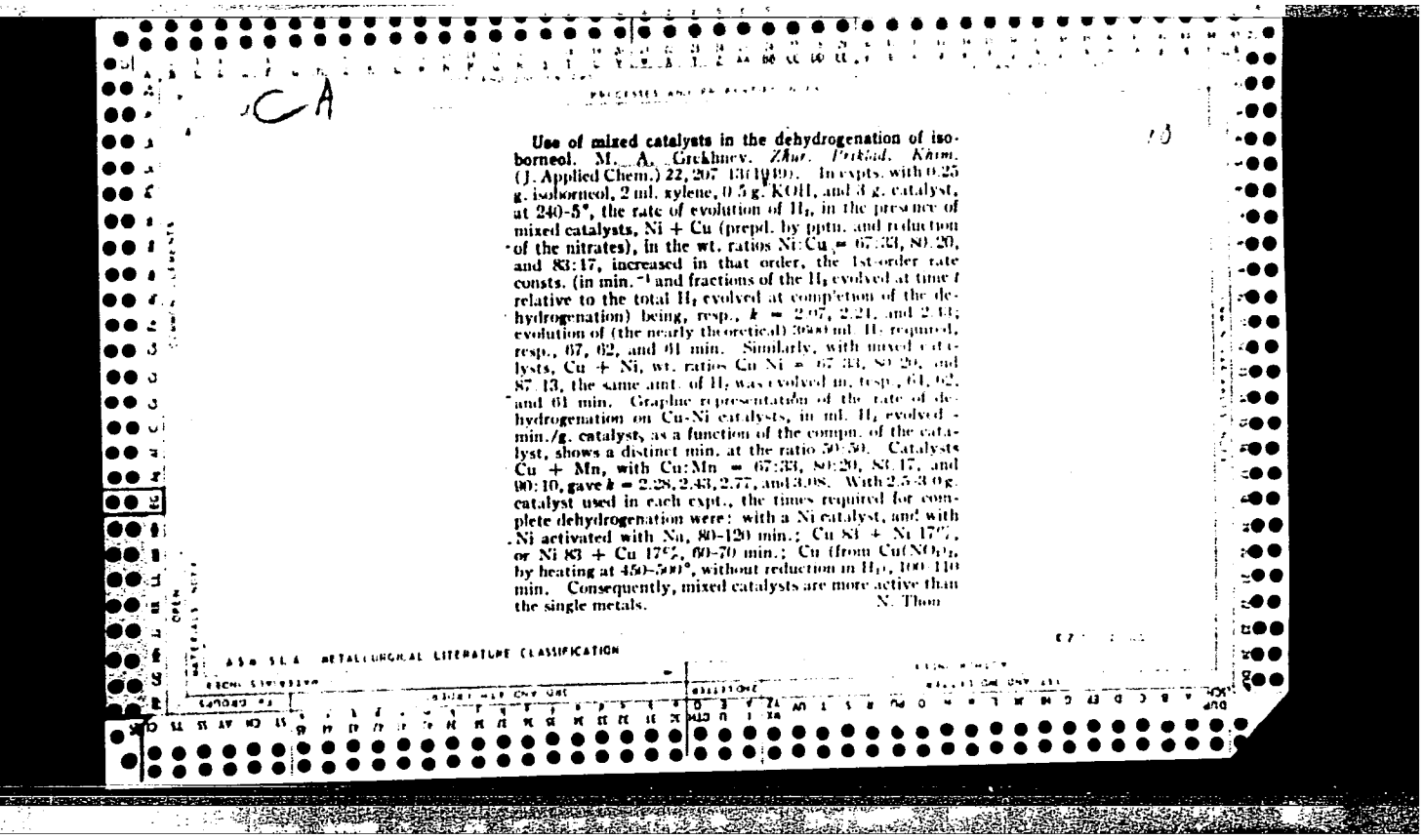


CA

17

Essential oils of the fir tree and possibility of their industrial production. M. A. Grokhovsky.—*Lesnaya Prom.* 1947, No. 2, 15–18.—Oils of the fir trees of the Komi Autonomous Sov. Soc. Rep. contain up to 40% bornyl acetate. Trees growing on clayey silt give higher yields than those on sandy soils. Drying at 42–3° causes an addnl. increase of oil content. Storage, up to 30 days, or at 30–50°, causes no loss of oil, and in some cases there is even a slight increase. The bark gives interesting yields, on the av. 2.8% of the dry matter.

N. Thon



CA

Use of mixed catalysts in the dehydrogenation of isoborneol. M. A. Grekhnev. *Zhur. Prikład. Khim.* (J. Applied Chem.) 22, 207–13(1949). In expts. with 0.25 g. isoborneol, 2 ml. xylene, 0.5 g. KOH, and 3 g. catalyst, at 240–5°, the rate of evolution of H_2, in the presence of mixed catalysts, Ni + Cu (prepd. by pptn. and reduction of the nitrates), in the wt. ratios Ni:Cu = 67:33, 80:20, and 83:17, increased in that order, the 1st-order rate consts. (in $min.^{-1}$) and fractions of the H_2 evolved at time t relative to the total H_2 evolved at completion of the dehydrogenation being, resp., k = 2.07, 2.21, and 2.33; evolution of (the nearly theoretical) 5980 ml. H_2 required, resp., 67, 62, and 61 min. Similarly, with mixed catalysts, Cu + Ni, wt. ratios Cu:Ni = 67:33, 80:20, and 87:13, the same amt. of H_2 was evolved in, resp., 61, 62, and 61 min. Graphic representation of the rate of dehydrogenation on Cu-Ni catalysts, in ml. H_2 evolved - min./g. catalyst, as a function of the compn. of the catalyst, shows a distinct min. at the ratio 50:50. Catalysts Cu + Mn, with Cu:Mn = 67:33, 80:20, 87:17, and 90:10, gave k = 2.28, 2.43, 2.77, and 3.08. With 2.5–3.0 g. catalyst used in each expt., the times required for complete dehydrogenation were: with a Ni catalyst, and with Ni activated with Na, 80–120 min.; Cu 83 + Ni 17%, or Ni 83 + Cu 17%, 60–70 min.; Cu (from $Cu(NO_3)_2$ by heating at 450–500°, without reduction in H_2), 100–110 min. Consequently, mixed catalysts are more active than the single metals.

N. Thon

GREKHNEV, M. A.

2

(1)

Dehydration of isoborneol in the vapor phase. M. A. Grekhnev. *Zhur. Priklad. Khim.* 26, 231–3(1953).—Passage of isoborneol vapor through a tube at 240-60° filled with 3–4 mm. grains of the catalyst (metal alloy catalyst, whose components are not mentioned) yields 97–8% camphor free of chem. and mech. impurities. For a catalyst grain size of 3 mm. the best temp. is 250° and a 30-cm. catalyst bed with 8–10 min. contact time. The residual material is unreacted isoborneol. G. M. Kosolapoff

GREKHNEV, P.

In besieged Sevastopol. Voen. znan. 40 no.8:8-9 Ag '64.
(MIRA 17:11)

GREKHNEV, P., polkovnik zapasa

In Frontline Tula. Voen. znan. 41 no.9:10-11 S '65. (MIRA 18:10)

GREKHNEV, P., polkovnik zapasa

And Kursk was a fortress. Voen. znan. 42 no.2:12-13 F '66.
(MIRA 19:1)

GREKHNEV, V.A.

What is heat? Uch. zap. MOPI 92:255-263 '60. (MIRA 14:9)
(Heat, Mechanical equivalent of)

GREKHNEVA, Zh.G.

[Mobile equipment for loading large-size bundles of lumber] Perenosnaia ustanovka dlia krupno-paketnoi pogruzki lesa. Tomsk, Tomskoe knizhnoe izd-vo, 1959. 15 p. (MIRA 17:3)

GREKHOV, A. V.

"A Tabular Method of Solving Systems of Linear E uations and Its Application to the Design of Electric Circuits," Transactions of the Power Engineering Institute (Trudy instituta energetiki), No 3, Power Engineering Institute, AS Uzbek SSR, 1949, 143 pp.

GREKHOV, A. V.

112-1-541 D

Translation from: Referativnyy Zhurnal, Elektrotekhnika, 1957, Nr 1, p. 88 (USSR)

AUTHOR: Grekhov, A. V.

TITLE: Investigation of Schemes for the Improvement of Dynamic Stability of Electric Systems by Connecting Load Resistances (Issledovaniye skhem povysheniya dinamicheskoy ustoychivosti elektricheskikh sistem putem vklyucheniya nagruzochnykh soprotivleniy).

ABSTRACT: Bibliographic entry on the author's dissertation for the degree of Candidate of Technical Sciences, presented to the Power Engineering Institute, Uzbek SSR Academy of Sciences, (Energ. in-t AN UzSSR) Tashkent, 1956

ASSOCIATION: Power Engineering Institute, Uzbek SSR Academy of Sciences, (Energ. in-t An UzSSR Tashkent)

Card 1/1

GREKHOV, A.V

8(3) PS PHASE I BOOK EXPLOITATION SOV/1476

Akademiya nauk Uzbekskoy SSR. Institut energetiki i avtomatiki

Voprosy peredachi elektroenergii na dal'niye rasstoyaniya (Problems in Long-distance Transmission of Electric Power) Tashkent, Izd-vo AN Uzbekskoy SSR, 1958. 176 p. (Series: Its: Trudy, vyp. 11) 650 copies printed.

Resp. Ed.: Kh.F. Fazylov, Academician, UzSSR Academy of Sciences; Ed. of Publishing House: N.A. Romanika; Tech. Ed.: Z.P. Gor'kovaya.

PURPOSE: The book is intended for personnel of scientific research institutes and for engineers and technicians of industrial design organizations.

COVERAGE: This collection contains five articles concerning capacitive self-excitation of synchronous and induction machines and methods of calculating the limits of self-excitation. An analysis is presented of some problems of normal and emergency operating conditions of long electric transmission lines. References appear after each article.

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TABLE OF CONTENTS:

is the basis for self-excitation which the author calls "reactive-synchronous." The second is the basis for asynchronous self-excitation. The author proceeds to a study of two cases of capacitive self-excitation: 1) in the simplest case of an induction machine and 2) in a generator with salient poles, with a longitudinal excitation winding and no damping coils on the rotor. The author concludes with a short review of methods of combating underirable self-excitation and finds that there is no universal method which is at the same time effective and economical. There are 19 references, of which 18 are Soviet (including 2 translations), and 1 English. The article contains 9 diagrams.

Shchedrin, N.N., Corresponding Member, Academy of Sciences, Uzbek SSR.
Some Methods of Calculating the Limits of Self-excitation of Induction and Synchronous Machines 47

The author is of the opinion that experimental methods of determining the limits of self-excitation are difficult and there is no possibility of obtaining operational data from existing power systems. The development of sufficiently simple and exact methods of calculating these limitsis therefore important for the design of certain electric power systems. In practice, the problem is reduced to finding

the initial and terminal values of capacitance between which lies the self-excitation zone. The terminal value, which corresponds to reactive-synchronous self-excitation, is easily determined from the characteristic equation of the machine. The article is devoted to finding the initial value, which corresponds to asynchronous self-excitation. The author determines the number of initial parameters, investigates the characteristic equations and finds the root values of these. For unsymmetrical types of machines, the author introduces approximate methods based on simplified equivalent circuits. There is one appendix, 12 diagrams and 7 Soviet references (including 1 translation).

Pospelov, G.Ye. Efficiency of Electric Transmission and its Dependency on the Distribution of Compensators 79

The author investigates the effect of the distribution of line-drop compensators along a transmission line on the losses of active power and on the efficiency of electric transmission. Energy losses over a period of a year are of decisive importance; however, the author considers it indispensable to study the effect of these losses with load changes throughout a

wide range, corresponding to maximum and minimum values. Commenting on the works presented in the references, the author claims that they discuss only the maximum conditions or use formulas inconvenient for calculation. Besides, the conditions under which maximum efficiency is obtained are not clearly presented. The author attempts to clarify all these problems and submits formulas for determining losses of active power and efficiency of transmission. He finds that associated with maximum efficiency are comparatively small active powers, low power factors at the end of the line, and voltage differentials not exceeding 10 per cent. The location of compensators may affect the efficiency of transmission by 2 to 3 per cent for lines 900 km long. There are 23 diagrams and 8 Soviet references (including 1 translation).

Grekhov, A.V. Increasing the Dynamic Stability of Electric Systems by the Inclusion of Load Resistances 127

The article is a condensation of the author's Candidate thesis, which he prepared under the supervision of Academecian Kh.F. Fazylov, Academy of Sciences, Uzbek SSR. The author enumerates

several accepted methods of increasing the dynamic stability of long electric power transmission lines. Most of these methods require the introduction of complex and costly systems of automatic control. The author discusses a method of electric braking of generators, which he considers to be most efficient. Braking is achieved by momentary automatic switching-in of load resistances. The author compares the various types of load resistances and the methods of switching them into the generator circuit. He selects the method of parallel switching of active load resistances according to the diagram in Fig. 1. Switching takes place almost simultaneously with the occurrence of a short in the system and, according to the author, it provides electric braking of the generator during the period of maximum excess of power. The method is said to be simple and economical as well as efficient. The article analyzes several variant methods of parallel load switching as employed in the Kuybyshev - Moscow electric power transmission line. The author makes analytical calculations for various operating conditions. There are 15 diagrams and 5 Soviet references.

The author attempts to determine appropriate technical solutions which would ensure the desired economy of operation of long-distance electric power transmission. He bases his economic analysis on Marxist-Leninist teachings and discusses a series of articles which appeared in the Soviet periodicals during the period 1934 to 1956. There are 30 Soviet references.

AVAILABLE: Library of Congress

JP/sfm
4-16-59

8(0) SOV/112-59-2-2779

Translation from: Referativnyy zhurnal. Elektrotekhnika, 1959, Nr 2, p 72 (USSR)

AUTHOR: Grekhov, A. V.

TITLE: Increasing the Dynamic Stability of Electric Systems by Connecting Load Resistors (Povysheniye dinamicheskoy ustoychivosti elektricheskikh sistem vklyucheniyem nagruzochnykh soprotivleniy)

PERIODICAL: Tr. In-ta energ. i avtomatiki AN UzbekSSR, 1958, Nr 11, pp 127-155

ABSTRACT: The effectiveness of parallel-connected load resistors intended to increase dynamic stability is considered; the resistors are connected to the generator buses via a normally closed breaker and spark gaps. At the moment of short-circuit, a high voltage is applied to the spark gaps which causes flash-over. The arc is extinguished and the resistors disconnected by the circuit breaker at the proper moment. Such a scheme permits switching on the resistors almost simultaneously with the moment of short-circuit and ensures

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SOV/112-59-2-2779

Increasing the Dynamic Stability of Electric Systems by Connecting Load Resistors

braking the generator during the minimum-power transmission. With properly selected load resistors, dynamic stability would be determined by system parameters under post-failure conditions, and the short-circuit, in so far as its effect on dynamic conditions is concerned, would be similar to loss of a transmission-line section. Experimental study of the load-resistor effectiveness (on an electrodynamic model) confirmed the possibility of increasing the dynamic stability of a transmission line whose parameters are close to the 400-kv Kuybyshev-Moscow transmission line.

A.A.K.

Card 2/2

GREKHOV, A.V.

Use of electric braking for increasing the dynamic stability in complex power systems. Izv. AN Uz. SSR. Ser. tekh. nauk 9 no.2: 15-22 '65. (MIRA 18:8)

1. Uzbekskiy nauchno-issledovatel'skiy institut energetiki i avtomatiki.

L 22399-66 EWT(1)

ACC NR: AP6013978 SOURCE CODE: UR/0167/65/000/002/0015/0022

AUTHOR: Grekhov, A. V.

ORG: Uzbek Scientific Research Institute of Power and Automation (Uzbekskiy nauchno-issledovatel'skiy institut energetiki i avtomatiki)

TITLE: Use of electrical braking for increasing the dynamic stability in a compound power system

SOURCE: AN UzSSR. Izvestiya. Seriya tekhnicheskikh nauk, no. 2, 1965, 15-22

TOPIC TAGS: electric power transmission, electric power production, electric generator

ABSTRACT: The purpose of this article is to find the effect of electrical braking on increasing the dynamic stability of a compound electric power system consisting of stations of commensurable power, connected by long transmission lines.

Because of the nonlinearity of the problem, the studies were made by numerical analysis on concrete circuits of the system, and numerical calculations of the dynamic stability were made on a static alternating current model. The following systems were investigated:

(1) A system consisting of two stations of commensurable power. The line is 814 km long, and the power transmitted is 1200 MW at a voltage of 400 kV. The line has three switching points, 40% of the inductance is compensated for by a

series capacitor, while the capacity of the line is compensated for by shunt coils. All the generators of the system are provided with a device for automatically switching in braking impedances. The dynamic stability of the system was calculated for three-terminal and two-terminal short circuits to ground lasting 0.15 and 0.20 seconds. It was found that for short circuits at the start of the line the generators of the transmitting station lose power and accelerate, while the generators in the receiving system take on load and are retarded. The angle between the voltage vectors of the transmitting and receiving system increases more rapidly than when the receiving system is represented by buss bars of infinite power. To increase the effect of the braking it is necessary to leave the impedances connected until the relative acceleration of the rotors is equal to zero. For short circuits at the end of the line, the generators of both systems lose power and are accelerated. The relative acceleration is determined by the difference in excess power in the two systems. The dynamic stability is better than for short circuits at the start of the line. Since the generators of both systems are accelerated, their braking impedances are connected in. The duration of the braking may be limited to the period of the short circuit.

(2) A system of two stations of commensurable power with an intermediate supporting synchronous compensator: The line is similar to the previous case but instead of the series capacitor in the middle of the line there is a supporting synchronous compensator which maintains the voltage constant. Under steady state conditions and for static stability, the line acts as though it was half

as long. The power of the synchronous condenser is 600 Mva, and it is connected to the line through a series capacitor which compensates for up to 90% of the reactive impedance of the transformer and the transient reactance of the condenser. Calculations for short circuits at the start of the line showed that the dynamic stability is always disturbed, even for "strong" regulation of the excitation of the compensator. A calculation was made for the case where there was a series capacitor, and the synchronous compensator was connected in. While the system was stable without synchronous condenser, the stability was disturbed with the synchronous condenser in. When the system had a synchronous condenser with a compensated reactive impedance, and the compensating compensator was not shunted during the period of short circuit, any disturbance of operation led to loss of dynamic stability. Dynamic stability is maintained if, during the short circuit, the synchronous condenser is disconnected from the system, or at the time of short circuit is shunted by a capacitor to compensate for the reactance of the synchronous condenser.

(3) A system of three stations of commensurable power, connected by long transmission lines. The first part of the system is the same as the system consisting of two stations, while the third system, connected at one end, transmits 600 MW of active power over a distance of 764 km. It is shown from calculations of the dynamic stability during short circuits at various points in the system that electrical braking is very effective. To maintain dynamic stability, it is usual to increase the moment of inertia of the machines.

L 22399-66
ACC NR: AP6013978

Calculations made for different moments of inertia in the system showed that with no electrical braking the dynamic stability is disturbed, while with braking, it is maintained with a large margin. Thus, electrical braking makes it possible to dispense with increasing the moments of inertia of the machines. Orig. art. has: 6 figures. [JPRS]

SUB CODE: 10, 09 / SUBM DATE: 01Aug64 / ORIG REF: 007

Card 4/4 dda

GREKHOV, F., kand. sel'skokhoz. nauk

Economic efficiency of breeding meat and wool-bearing sheep.
Inform. biul. VDNKH no.2:20-22 F '65. (MIRA 18:3)

1. GREKHOV, F. A.

2. USSR (600)

4. Wool

7. Quality of wool from fine-wool and coarse-wool crosses. Trudy VIPh 20. 1952.

9. Monthly List of Russian Accessions, Library of Congress, March 1953. Unclassified.

USSR/Farm Animals. Small Horned Stock. Q

Abs Jour: Ref Zhur-Biol., No 20, 1958, 92593.

Author : Grekhov, F.I., Veretin, I.G.
Inst :
Title : The Ostrogozhsk Sheep Breed.

Orig Pub: Ovtsevodstvo, 1958, No 2, 7-10.

Abstract: The Ostrogozhsk sheep breed was obtained through the cross-breeding of Mikhnovsk sheep with Romney Marsh rams. Animals of this breed have the height of 73 cm in rams, 65 cm in ewes, measured at the withers. The average wool at a shearing is respectively 6 - 6.9 and 3.9 kg. The live weight of the lambs for removal was at 50% of the weight of the mature ewes, the twist in the heavy wool was

Card : 1/2

GREKHOV, F.A., dotsent, kand. sel'skokhoz. nauk

Work results of the development of Liskino dual-purpose sheep with a crossbred wool-type. Izv. TSKHA no.4:205-219 '65. (MIRA 18:11)

1. Kafedra ovtsevodstva Moskovskoy sel'skokhozyaystvennoy ordena Lenina akademii imeni Timiryazeva. Submitted January 7, 1965.

GREKHOV, F.A.

Meat characteristics of five and seven-month old castrated male sheep of the Ostrogozhsk and Liski regions. Biul.MOIP. Otd.biol. 70 no.5:110-114 S-O '65.

(MIRA 18:12)

GREKHOV, F.A., dotsent, kand. sel'skokhozyaystvennykh nauk

New Ostrogozhsk sheep strain with crossbred wool. Izv.TSKHA no. 1:163-178 '65 (MIRA 19:1)

1. Kafedra ovtsevodstva Moskovskoy sel'skokhozyaystvennoy ordena Lenina akademii imeni Timiryazeva.

GREKHOV, G.F.

Calculating the wood-earth surfacing of motortruck roads. Nauch. trudy LTA no.96:129-138 '61. (MIRA 17:3)

RABINOVICH, K. R.; GREKHOV, G.F.

Geological structure presence and prospects of ore in the southeastern part of the Irtysh shear zone. Trudy Alt. GMNII AN Kazakh. SSR 9:64-71 '60. (MIRA 14:6)

1. Altayskiy gornometallurgicheskiy nauchno-issledovatel'skiy institut AN Kazakhskoy SSR (for Rabinovich). 2. Vostochno-Kazakhstanskoye geologicheskoye upravleniye (for Grekhov).
(Irtysh Valley--Geology, Structural)

KORCHUNOV, N.G.; BARANOV, A.I.; GREKHOV, G.F.; DRANITSYNA, N.N.; STRELE, L.A., red.

[Methods of conducting practice training for the students of forestry faculties] Metodika provedeniia uchebnoi praktiki dlia studentov lesoinzhenernykh fakul'tetov; uchebnoe posobie. Leningrad, Leningr. Lesotekhn. akad. 1962. 61 p. (MIRA 16:7)

(Foresters—Education and training)

AUTHOR: Grekhov, I.A. 130-58-4-14/20

TITLE: Operating Experience with Cold-rolling Mills (Opyt raboty na stanakh kholodnoy prokatki)

PERIODICAL: Metallurg, 1958, Nr 4, pp 26 - 29 (USSR).

ABSTRACT: The author mentions the advantages of cold-rolling for producing high-quality, thin-walled tubes of carbon steel, stainless, heat-resisting bearing tubes and high-pressure tubes. He outlines the special design features of types KhPT-75, KhPT-55 and KhPT32 cold-rolling tube mills designed and manufactured by the Ural'skiy zavod tyazhelogo mashinostroyeniya (Urals Heavy Engineering Works) and goes on to analyse the reasons for idle time when these mills were tested at the Novotrubnyy Works. Work was carried out jointly by works' personnel, designers from the mill manufacturers and scientists from the Ural'skiy politekhnicheskiy institut (Urals Polytechnical Institute) to improve constructional features and reduce idle time. The main cause of failure of the working stand was found to be wear or failure of bearings and measures were taken to protect roll bearings from overloading. A ready-assembled spare working stand was found to be desirable also some modifications to the stand and its rails. Some modifications in the mill-drive system were made,

including the replacement of cast by forged parts, bearing changes and the reduction to 75 per minute of the frequency of double travel of the working stand. On the KhPT-55 and -32 mills, the main reducing gear, in spite of being made of special alloy steel, was found to be and remains a weak spot; on the KhPT-75 mill it is satisfactory. The same holds for the feed mechanism and the author lists the modifications introduced at the Novotrubnyy Works and mentions two new designs as yet untested. Regular inspection and adjustment of the turning-pinions has prevented idle time due to failures here. Better foundations for the housings of the working stand and feed mechanisms were introduced. There are 3 figures.

ASSOCIATION: Pervoural'skiy novotrubnyy zavod (Pervoural'sk New Pipe Rolling Mill)

GRISHOV, V.T., inzh.

Raising the economic efficiency of the burning of raw coals in furnaces with a pulverizing [illegible] nr.26:33-43 '62. (MIRA 17:8)

ACC NR: AP6033255 SOURCE CODE: UR/0109/66/011/010/1781/1788

AUTHOR: Grekhov, I. V.; Kryukova, N. N.; Chelnokov, V. Ye.

ORG: none

TITLE: Investigation of characteristics of silicon p-n junctions with controlled avalanche

SOURCE: Radiotekhnika i elektronika, v. 11, no. 10, 1966, 1781-1788

TOPIC TAGS: pn junction, silicon diode, avalanche diode

ABSTRACT: As the diffusion coefficient of Al at 1320C is higher by one order of magnitude than that of B, the breakdown voltage of a diffused-Al silicon specimen is much higher than that of a diffused -B specimen (experimental curves shown). Reverse-current I-V characteristics were measured in silicon p-n junctions equipped with (diffused-Al) guard rings, at 18—140C. Specimens with breakdown

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ACC NR: AP6033255

voltages of 440 and 770 v had resistivities of 5.5 and 15 ohms-cm, respectively. These controlled-avalanche junctions could withstand high short-time reverse voltages (heavy reverse currents). The p-n junctions suffered breakdown much earlier than surface breakdown would take place. The breakdown holes of 0.3--0.8-mm diameter occurred in the central (diffused-B) part of the specimens. The knockout energy is roughly constant which is seen from an experimental breakdown-power vs. pulse-duration plot. By using rippled d-c voltage and a cathode-ray oscillograph, the breakdown of individual microplasmas was observed. Orig. art. has: 7 figures, 5 formulas, and 2 tables.

SUB CODE: 09 / SUBM DATE: 27May65 / ORIG REF: 002 / OTH REF: 004

Card 2/2

ACC NR: AP7005830 SOURCE CODE: UR/0181/66/008/012/3474/3479

AUTHOR: Grekhov, I. V.; Kryukova, N. N.; Chelnokov, V. Ye.

ORG: Physicotechnical Institute im. A. F. Ioffe, AN SSSR, Leningrad (Fiziko-tekhnicheskiy institut AN SSSR)

TITLE: Microplasma phenomena in silicon

SOURCE: Fizika tverdogo tela, v. 8, no. 12, 1966, 3474-3479

TOPIC TAGS: silicon, semiconductor plasma, pn junction, surface property, volt ampere characteristic, dielectric breakdown

ABSTRACT: This is a continuation of earlier work on deep lying p-n junctions (Radiotekhnika i elektronika v. 9, 56, 1966) and deals with microplasma phenomena occurring in cascade breakdown of deep p-n junctions prepared by diffusion of boron in n-type silicon. Most earlier investigations were limited to microplasmas produced at the emergence of the p-n junction to the surface. The present investigation deals with junctions that have a large depth (40 - 100 μ). Since the radiation from the microplasma is practically absorbed by the silicon, the data on the microplasma deformation was obtained by studying the character of breakdown of a large number of cascade microdiodes prepared on a single silicon plate by photolithography. Protection against surface breakdown was afforded by a guard ring. The junctions were prepared by a procedure described by the authors earlier (Elektrichestvo v. 7, 56, 1966). By studying the oscillogram of the inverse volt-ampere characteristic of the diode

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ACC NR: AP7005830

during the breakdown it was possible to determine the distribution of the microplasmas over the area of the junction, the volt-ampere characteristic, the variation of the microplasma temperature with current, and the geometric dimensions of the microplasma. The results show that the microplasmas are distributed quite uniformly over the area of the junction. Their number can be quite large, and the breakdown voltage can differ greatly from junction to junction. The breakdown volt-ampere characteristic can be approximated by an exponential function. The calculated geometrical dimensions of the microplasma were found to agree well with the experimental data. Orig. art. has: 4 figures, 8 formulas, and 1 table.

SUB CODE: 20/09/ SUBM DATE: 19Feb66/ ORIG REF: 003/ OTH REF: 008

Card 2/2

ACC NR: AP7006046 SOURCE CODE: UR/0109/66/011/010/1856/1864

AUTHOR: Grekhov, I. V.; Liniychuk, I. A.; Chelnokov, V. Ye.; Shuman, V. B.

ORG: none

TITLE: Influence of space charge layer on volt-ampere characteristic of multi-stratal diffusion structures in silicon

SOURCE: Radiotekhnika i elektronika, v. 11, no. 10, 1966, 1856-1864

TOPIC TAGS: volt ampere characteristic, pn junction

ABSTRACT: Results are presented from calculation of the dependence of width of space charge layer in diffusion silicon pn junctions on the applied voltage for certain practically interesting cases (with low additive concentration gradient in junction). Calculations were performed on the BESM-2 computer. Experimental data are presented on the investigation of the volt-ampere characteristic of diffusion p-n junctions; the data is compared with calculated data. Calculations and experiment are in good agreement. Thus, the calculated dependences can be used in planning diffusion multi-stratal structures. The authors thank D. I. Kurakina for help in the experimental work. Orig. art. has: 9 figures and 11 formulas. [JPRS: 39,568]

SUB CODE: 09

Card 1/1

L 30991-66 EWP(e)/EWT(m)/T/EWP(t)/EWP(k)/EWP(z)/EWP(b) IJP(c) JD

ACC NR: AP6002888 SOURCE CODE: UR/0286/65/000/024/0045/0045

INVENTOR: Grekhov, I. V.; Liniychuk, I. A.; Lebedeva, L. V.; Tuchkevich, V. M.; Chelnokov, V. Ye.; Shuman, V. B.; Yakivchik, N. I.

ORG: none

TITLE: Method of creating a source of diffusion of aluminum in silicon. Class 21, No. 176989 [announced by the Physical Engineering Institute im. A.F. Ioffe,AN SSSR (Fiziko-tekhnicheskiy institut AN SSSR)

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 24, 1965, 45

TOPIC TAGS: aluminum, diffusion, aluminum diffusion, junction, pnp junction, npnpn junction, pnn junction, junction forming

ABSTRACT: This Author Certificate introduces a method of forming an aluminum source for the diffusion of aluminum in silicon in an oxidizing atmosphere such as air. To simplify the technique and accelerate the diffusion, aluminum in the form of $Al(NO_3)_3$ solution or of a mixture of aluminum-oxide powder with powder oxides of metals such as tungsten, titanium, or tantalum is deposited by any well-known method on the surface of silicon plates. In a variant of the above method, in order to obtain structures of the types p-n-p or n-p-n-p-n, the surface of silicon plate is first coated with a boron or phosphorus compound and subjected to heat treatment. In a further variant of the first and second methods, in order to form semiconducting structures of such

Card 1/2 UDC: 539.121.72.092.2:621.382

L 30991-66

ACC NR: AP6002888

types as p-n-n+, one of the sides of the silicon plate is coated with an alcoholic solution of aluminum, boron, and nickel compounds, and the other side is coated with a solution of orthophosphoric acid in alcohol, followed by a heat treatment. [ND]

SUB CODE: 20,09 SUBM DATE: 05Mar64/ ATD PRESS: 4189

GREKHOV, I.V.; LINIYCHUK, I.A.; TUCHKEVICH, V.M.; CHELNOKOV, V.Ye.; SHUMAN, V.B.; YAKIVCHIK, N.I.

Some applications of regulated silicon power rectifiers.
Elektrichestvo no.2:76-77 F '65. (MIRA 18:3)

GREKHOV, N.T., inzh.; PISTSOV, Yu.N., inzh.; ZERNITSKIY, V.G., inzh.; KARTOKHIN, I.I.

Raising heat loads during the combustion of low-grade fuels. Obog. i brik.ugl. no.28:58-68 '62. (MIRA 17:4)

GREKHOV, V.V.

Electric drive made by efficiency promoters. Bum. prom. no.2: 24 F '64. (MIRA 17:3)

1. Direktor bumazhnoy fabriki "Krasnyy klyuch".

NAUMENKO, V.D.; [illegible], V.V.

Method of examining the brain in a [illegible] wound. Sud.-med. ekspert. 7 no.3:51-52 Jl-S '64.

(MIRA 17:10)

1. Nauchno-issledovatel'skiy institut sudebnoy meditsiny (Dir. - prof. V.I. Prozorovskiy) Ministerstva [illegible] SSSR, Moskva.

GREKHOVA, I.P.

Lowering disease incidence of infants in nurseries. Vop.okh.mat. i det. 7 no.8:64-66 Ag '62. (MIRA 15:9)

1. Iz Gor'kovskogo nauchno-issledovatel'skogo pediatricheskogo instituta (dir. - kand.med.nauk N.P.Zhukova) i iz yasley No.7 Priokskogo rayona Gor'kogo (zav. N.A.Semenova).
(CHILDREN--CARE AND HYGIENE)

GREKHOV, I.T.

Combustion in rubbled-hearth, boiler furnaces under various conditions of air blow. Izv.vys.ucheb.zav.; tekh.tekst.prom. no.4:127-132 '59. (MIRA 12:11)

1. Moskovskiy tekstil'nyy institut.
(Textile industry--Equipment and supplies)
(Boilers)

GREKHOV, I.T., kand.tekhn.nauk; PISTSOV, Yu.N., inzh.

Effect of aerodynamic conditions on the combustion of low-grade fuels in layered-bed furnaces with an atomizer. Obog.i brik.ugl. no.30:90-100 '63. (MIRA 17:4)

L 39038-66 EWT(1) GD-2

ACC NR: AP6002887 SOURCE CODE: UR/0286/65/000/024/0044/0045

AUTHOR: Grekhov, I. V.

ORG: none

TITLE: Semiconductor voltage stabilizing tube (stabilitron)
Class 21, no. 176988

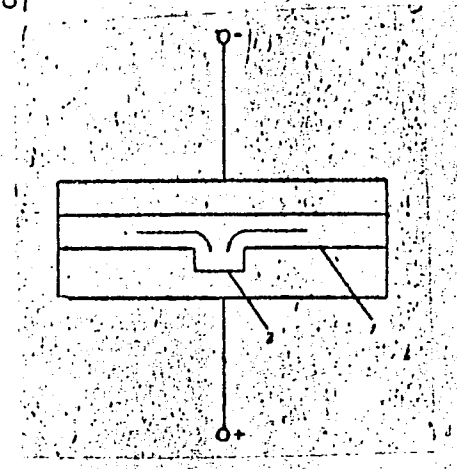
SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 24, 1965, 44-45

TOPIC TAGS: semiconductor device, voltage stabilizer, triode tube, voltage stabilization, stabilizer

ABSTRACT: The semiconductor voltage stabilizing tube, made in the form of a triode of the n-p-n type, is characterized by the fact that a voltage stabilizing tube section with the same type of conductance as the base is set up in the collector junction of the structure in order to increase the power of the device. The area of the tube section and the breakdown voltage is smaller than the area and the breakdown voltage of the entire collector junction, and its distance from the surface of the structure on the side of the collector, measured downward, is shorter than that of the entire collector junction.

Card 1/2

L 39638-66
ACC NR: AP6002887



1. collector junction of the structure, 2. voltage stabilizing tube section

SUB CODE: 09, / SUBM DATE: 30Mar63

Card 2/2 MLP

L 38192-66 EWT(l)/EWT(m)/T/EWP(t)/ETI IJP(c) JD/JG
ACC NR: AP6023613 SOURCE CODE: UR/0105/66/000/007/0056/0059

AUTHOR: Volle, V. M.; Grekhov, I. V.; Kryukova, N. N.; Tuchkevich, V. M.; Chelnokov, V. Ye.; Shuman, V. B.; Yakivchik, N. I.

ORG: Leningrad Physicotechnical Institute im. Ioffe, AN SSSR (Leningradskiy fiziko-tekhnicheskiy institut. AN SSSR)

TITLE: VKDL-type diffused silicon avalanche power rectifiers

SOURCE: Elektrichestvo, no. 7, 1966, 56-59

TOPIC TAGS: semiconductor rectifier, silicon controlled rectifier

ABSTRACT: The development is reported of new types of diffused silicon power rectifiers. The rectifiers, which can be operated safely under high peak inverse voltages, differ from conventional diffused silicon rectifiers in that, due to special preparation of the p-n junction, the possibility of local electric breakdown at the intersection of the p-n junction with the surface is eliminated. Therefore, under peak inverse voltages, the process of avalanche breakdown takes place in the central section of the junction, while large power is dissipated in the inverse direction. In 1964, the Leningrad Physicotechnical Institute im. Ioffe, AS USSR, in cooperation with the "Elektrovypryamitel'" plant developed a series of such rectifiers bearing the designations VKDL-100, VKDL-200 and VKDL-350 for 100, 200, and 350 amp, respectively, and an 800-v operating voltage. The rectifying element of these devices is in the

Card 1/3 UDC: 621.382.3

ACC NR: AP6012361

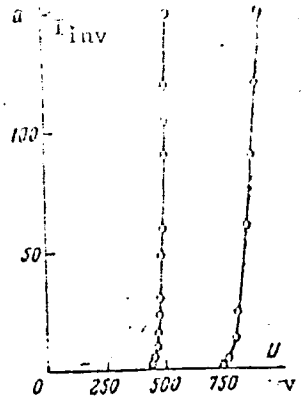


Fig. 1. Voltage-inverse current characteristic of the VKDL rectifiers

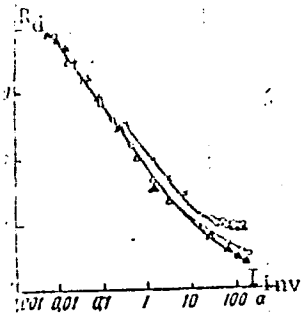


Fig. 2. Dependence of the dynamic resistance of the VKDL rectifiers on the inverse current

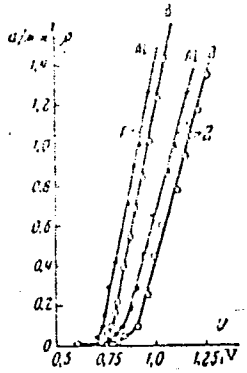


Fig. 3. Voltage-forward current characteristic of p-n junctions

form of a 25-mm silicon plate with a p-n-n^+ type conductivity. Two thermally compensating tungsten disks are pressed against the plate. A method of planar guard ring construction, described elsewhere (Haitz, R. M., A. Goetzberger, R. M. Scarlett,

and W. J. Shockley, J. Appl. Phys., v. 34, 1963), was used to eliminate the possibility of surface breakdown. The p-n junctions were made by the method of phosphorus boron and aluminum diffusion. The boron p-n junction was 18 mm in diameter with a planar guard ring 2 mm wide. The thickness in the diffused layer in the central section of the silicon plate was 60—80 μ, and in the region of the guard ring, 120—160 μ. The thickness of the diffused layer formed by phosphorus on the side of the base contact was 20 μ. Typical voltage-inverse current characteristics of the rectifiers in the breakdown region at 500 and 800 v are shown in Fig. 1. The characteristics correspond to the central p-n junction. The breakdown voltage of the p-n junction in the guard ring exceeds that of the central p-n junction by 250—600 v depending on the initial silicon resistance. Dependence of the dynamic resistance of avalanche rectifiers on inverse current is shown in Fig. 2, and the voltage-forward current characteristic in Fig. 3. With respect to the forward voltage drop, the above devices are divided into three groups: those with a 0.4—0.5, 0.5—0.6, and 0.6—0.7 v forward voltage drop for a nominal current. The inverse current under nominal conditions for all rectifiers does not exceed 5 ma. The lifetime of the avalanche rectifiers is up to 25,000 hr. The number of thermal cycles ranging from -50 to +150C should not exceed 5000 during the entire lifetime. The rectifiers can be connected either in series or in parallel. When connected in parallel, they should have equal forward voltage drops. Orig. art. has: 1 table and 8 figures. [JR]

SUB CODE: 09/ SUBM DATE: 10May65/ ORIG REF: 003/ OTH REF: 001/ ATD PRESS: 5045

KONIENKO-KONEVA, Z.P., GREKHOV, M. D., NIKITIN, N. G. AND BORISOV, I. F.
Vets, Turkmen Vet. Exptl. Station.
"Treatment of Hemosporidioses of small cattle with LP-2 and intramuscular injection of flavacridine."

SO: Veterinariia 25 (3), Mar 1948, p 16

BORISOV, V.S.; GOL'DIN, L.L.; GORYACHEV, Yu.M.; GREKOV, N.N.; SKACHKOV, S.V.; TALYZIN, A.M.

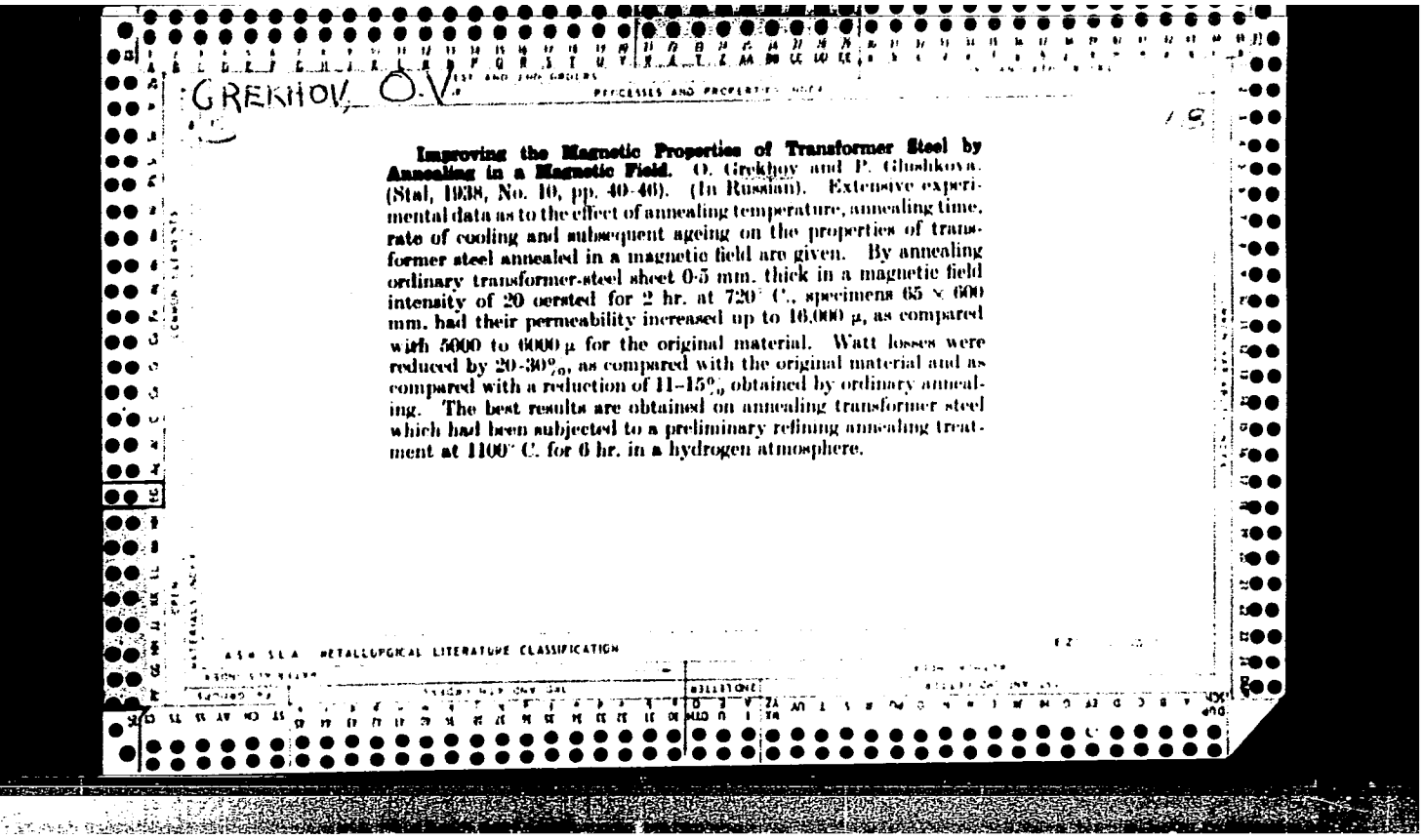
Measurement of the principal magnetic characteristics of S-units of a proton synchrotron. Prib. i tekh. eksp. 7 no.4:206-212 Jl-Ag '62. (MIRA 16:4)

1. Institut teoreticheskoy i eksperimental'noy fiziki Gosudarstvennogo komiteta po ispol'zovaniyu atomnoy energii SSSR. (Magnetic measurements) (Synchrotron)

GORYACHEV, Yu.M.; GREKOV, N.N.; SKACHKOV, S.V.

Effect of the vacuum chamber on the magnetic field in a proton synchrotron. Prib. i tekh. eksp. 7 no.4:217-223 Jl-Ag '62. (MIRA 16:4)

1. Institut teoreticheskoy i eksperimental'noy fiziki Gosudarstvennogo komiteta po ispol'zovaniyu atomnoy energii SSSR. (Magnetic measurements) (Synchrotron)



GREKHOV, O.V.

Improving the Magnetic Properties of Transformer Steel by Annealing in a Magnetic Field. O. Grekhov and P. Glushkova. (Stal, 1938, No. 10, pp. 40-46). (In Russian). Extensive experimental data as to the effect of annealing temperature, annealing time, rate of cooling and subsequent ageing on the properties of transformer steel annealed in a magnetic field are given. By annealing ordinary transformer-steel sheet 0·5 mm. thick in a magnetic field intensity of 20 oersted for 2 hr. at 720° C., specimens 65 × 600 mm. had their permeability increased up to 16,000 μ, as compared with 5000 to 6000 μ for the original material. Watt losses were reduced by 20-30%, as compared with the original material and as compared with a reduction of 11–15% obtained by ordinary annealing. The best results are obtained on annealing transformer steel which had been subjected to a preliminary refining annealing treatment at 1100° C. for 6 hr. in a hydrogen atmosphere.

ASM SLA METALLURGICAL LITERATURE CLASSIFICATION

GREKHOV, O. V.

USSR/Electricity - Measurements, Magnetic — Jul 51

"'The Tare Method' in Magnetic Tests of Dynamo and Transformer Steel in Differential Units," Prof R. I. Yanus; O. V. Grekhov, V. V. Druzhinin, Engineers, Verkh-Isetskiy Metallurgical Plant

"Elektrichestvo" No 7, p 76

Suggests a method similar to the well-known "tare method" used in accurate weighings. The method substantially increases the accuracy of std magnetic tests without any addnl labor, expense, or complications of the testing methods. Submitted 24 Jan 51.

199T27

GREKOV, P.N.; GRUZINOV, V.K.; LAZAREV, B.L.

Efficient distribution of pickup elements for the automatic control of the horizontal burden distribution. Stal' 20 no.11:977-980 N '60. (MIRA 13:10)

1. Ural'skiy politekhnicheskiy institut i NTMK.
(Blast furnaces) (Automatic control)

GREKHOV, V.V.

"Gunshot wound of the skull and brain; surgical anatomy and operative surgery " by E.M.Margolin. Reviewed by V.V.Grekhov. Vop.neirokhir. 22 no.2:57-58 M-Ap '58. (MIRA 11:4)
(HEAD--WOUNDS AND INJURIES) (MARGOLIN, E.M.)

GREKHOV, V.V. (Moskva)

Topography of craniopharyngioma. Vop.neirokhir. 23 no.6:12-17 N-D '59. (MIRA 13:4)

1. Patologoanatomicheskaya laboratoriya Nauchno-issledovatel'skogo ordena Trudovogo Krasnogo Znameni instituta neyrokhirurgii imeni akademika N.N. Burdenko AMN SSSR.
(CRANIOPHARYNGIOMA pathology)

KOREYSHA, L.A., prof.; MASLENNIKOVA, V.V.; GREKHOV, V.V. (Moskva)

Trigeminal neuralgia in tumors of the hypophysis. Vop.neirokhir. no.1:49-53 '62. (MIRA 15:1)

1. Nauchno-issledovatel'skiy ordena Trudovogo Krasnogo Znameni institut neyrokhirurgii imeni akad. N.N. Burdenko AMN SSSR.
(NEURALGIA, TRIGEMINAL) (PITUITARY BODY—TUMORS)

GREKHOV, Ye.V.

Results of pipeline transportation of paraffin base oils. Neftianik 1 no.9:9:11 S '56. (MLRA 9:11)

1. Starshiy mekhanik kontory po perekachke nefti ob"yedineniya Molotovneft'.
(Petroleum--Pipelines)

L 56503-65

ACCESSION NR: AP5016758 UR/0286/65/000/010/0081/0081
681.142.644

B

AUTHOR: Grekhov, Yu. N.

TITLE: A protection circuit for preventing nonlinear self-oscillations in a dc operational amplifier. Class 42, No. 171159

SOURCE: Byulleten' izobretsniy i tovarnykh znakov, no. 10, 1965, 81

TOPIC TAGS: dc amplifier, operational amplifier, overload protection, transistorized amplifier

ABSTRACT: This Author's Certificate introduces an overload circuit for a dc operational amplifier. The circuit is designed for preventing nonlinear self-oscillation by connecting a limiter with a compensating capacitance to the summing point. The operational stability of the circuit is improved by making the limiter in the form of two transistors of opposite conductivity connected in parallel. The bases of the transistors are connected through resistors to the summing point. The collectors are connected to the common point of two additional resistors which connect the input circuit and feedback circuit with the input of the amplifier. The emitters

Card 1/3

L 56503-65
ACCESSION NR: AP5016758 0

are connected to the zero level bus.

ASSOCIATION: none

SUBMITTED: 02Jul64 ENCL: 01 SUB CODE: EC

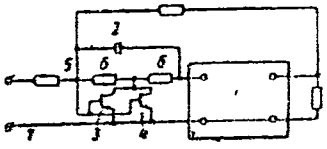
NO REF SOV: 000 OTHER: 000

Card 2/3

L 56503-65

ACCESSION NR: AP5016758

ENCLOSURE: 01



[illegible]mplifier; 2--compensating capacitance; [illegible] and 4--transistors; 5--summing [illegible]tional resistors; [illegible]

Card 3/3

L 13609-66 EWT(1)/EWA(h)

ACC NR: AP6002889 SOURCE CODE: UR/0286/65/000/024/0047/0047

INVENTOR: Grekhov, Yu. N.

ORG: none

TITLE: Self-tuning synchronous filter. Class 21, No. 176997

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 24, 1965, 47

TOPIC TAGS: electric filter, synchronous filter, filter circuit

ABSTRACT: A self-tuning synchronous filter (see figure) for selecting signals with respect to shape is introduced. It consists of a multiplier, an adder stage, delay

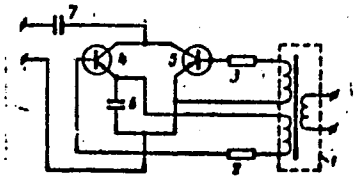


Fig. 1. Self-tuning synchronous filter

1 - Transformer; 2 and 3 - resistors; 4 and 5 - transistors; 6 - reservoir capacitor; 7 - dividing capacitance.

lines, phase shifters, and limiting amplifiers. To separate a weak quasi-harmonic signal from strong fluctuating background noise and to simplify the multiplier circuit, the latter is designed in the form of two bridge-balanced transistor modulators

Card 1/2 UDC: 621.372.542.21

L 13609-66

ACC NR: AP6002889

connected in parallel. A reservoir capacitor, which isolates the difference frequency of input and control signals, is connected to one of the branches of each of the bridge-balanced modulators. Orig. art. has: 1 figure. [JR]

SUB CODE: 09/ SUBM DATE: 18Jun64/ ATD PRESS: 4187

jw

Card 2/2

VLADIMIROVA, Mariya Grigor'yevna; GREKHOVA, Lidiya Ivanovna;
ARASHKEVICH, V.M., retsenzent; OKUN', R.M., red.izd-va;
LAVRENT'YEVA, L.G., tekhn. red.

[Harmful substances and the control of their content in the air of gold-recovery plants] Vrednye veshchestva i kontrol' soderzhaniia ikh v vozduke zolotoizvlekatel'nykh fabrik i zavodov. Moskva, Gosgortekhizdat, 1963. 43 p.
(MIRA 16:11)

(Gold--Metallurgy) (Air--Pollution)
(Metalworkers--Diseases and hygiene)

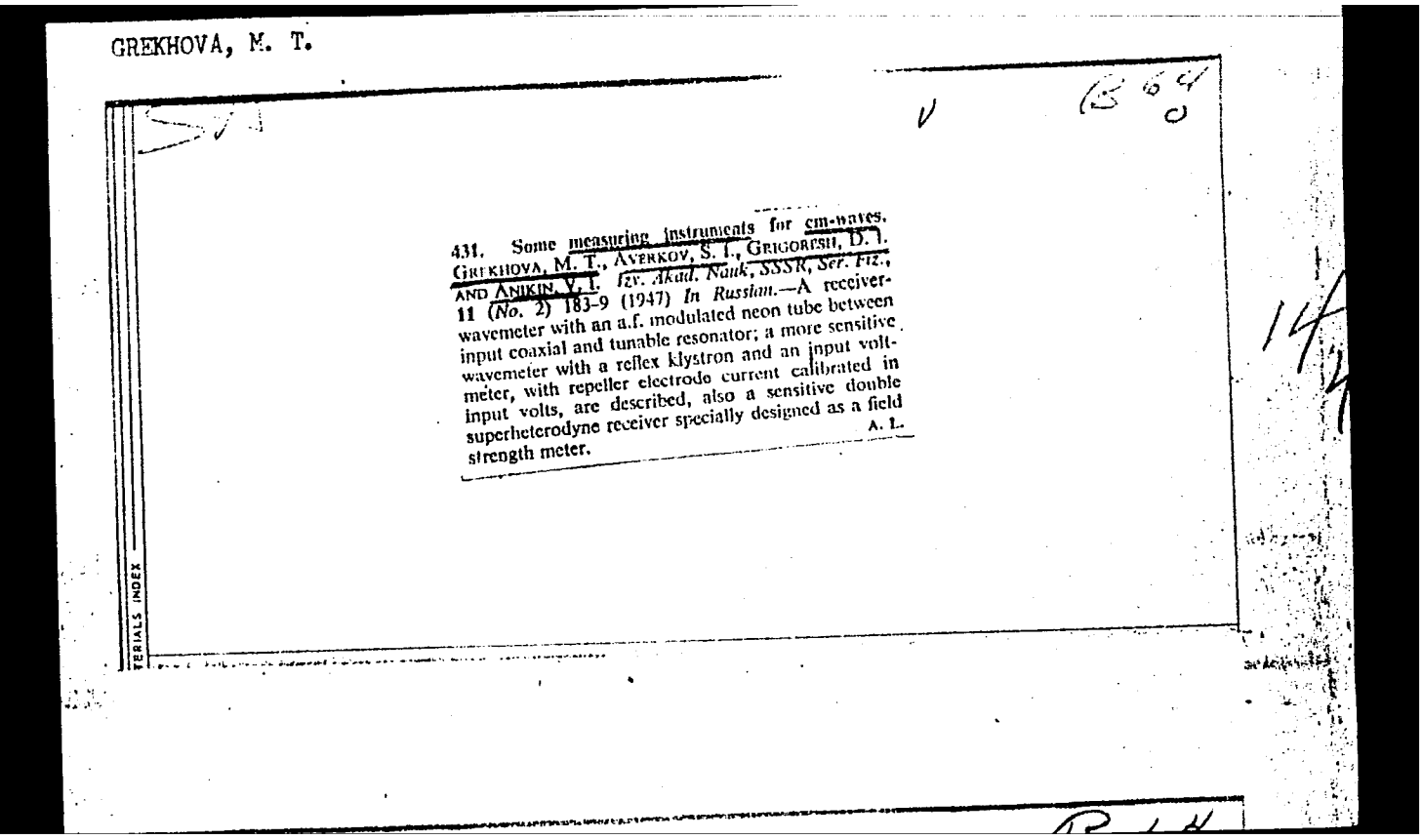
GREKHOVA, L.N., inzh.; BELOGINTSEVA, N.V.

Use of a size with polyacrylamide for silk warp slashing.
Tekst. prom. 25 no.4:35-36 Ap '65. (MIRA 18:5)

1. Nauchno-issledovatel'skaya laboratoriya tekstil'noy fabriki imeni Lakina (for Grekhova). 2. Master prigotovitel'nogo otdela tekstil'noy fabriki imeni Lakina (for Beloginteeva).

GREKHOVA, M. T. and VASIL'YEV, R. F.

"An electronic micrometer," Zavodskaya laboratoriya, Vol. 12, Nos 9/10, 1946, p 882.



GREKHOVA, M. T.

431. Some measuring instruments for cm-waves. GREKHOVA, M. T., AVERKOV, S. I., GRIGORISH, D. AND ANIKIN, V. I. *Izv. Akad. Nauk, SSSR, Ser. Fiz.*, 11 (*No.* 2) 183–9 (1947) *In Russian.*—A receiver-wavemeter with an a.f. modulated neon tube between input coaxial and tunable resonator; a more sensitive wavemeter with a reflex klystron and an input voltmeter, with repeller electrode current calibrated in input volts, are described, also a sensitive double superheterodyne receiver specially designed as a field strength meter. A. L.

TERIALS INDEX

GREKHOVA, M. T. PA 43/49T61

USSR/Engineering Apr 49
Colorimeter
Photoelectricity

"Defending the Photocolorimeters Produced by the Gor'kiy Physicotechnical Institute," Prof M. T. Grekhova, Dir, Sci Res Physicotech Inst, 1 p

"Zavod Lab" Vol XV, No 4

Instruments criticized were produced in 1943. Since then, Institute has not produced any. They were constructed under difficult conditions when makeshift parts had to be used. Only photoelements available were silver-sulfide elements
43/49T61

USSR/Engineering (Contd) Apr 49

made at Acad Sci Ukrainian SSR. Long storage in the warehouse also affected quality of instruments.

43/49T61

LEONTOVICH, M.A., akademik, redaktor; GREKHOVA, M.T., professor, redaktor; AYZERMAN, M.A., doktor tekhnicheskikh nauk, redaktor; GINZBURG, V.A., professor, redaktor; GORELIK, G.S., professor, redaktor; LEONTOVICH-ANDRONOVA, Ye.A., dotsent, redaktor; ZHELETSOV, N.A., dotsent, redaktor; PETROV, V.V., kandidat tekhnicheskikh nauk, redaktor; NIKOLAYEV, Ya.N., dotsent, redaktor; AGITOVA, N.A., redaktor; BRYLEYEV, A.M., redaktor; ALEKSEYEV, T.V., tekhnicheskiy redaktor.

[Dedicated to the memory of Aleksandr Aleksandrovich Andronov] Pamiati Aleksandra Aleksandrovicha Andronova. Moskva, 1955. 718 p. (MIRA 8:4)

1. Akademiya nauk SSSR.
(Mathematical physics)(Automatic control)(Astrophysics)

AVERKOV, S.K.; ANIKIN, V.I; BRAVO-ZHIVOTOVSKIY, D.M.; GAPONOV, A.V.; GRIKHOVA, M.T.; YERGAKOV, V.S.; LOPYREV, V.A.; MILLER, M.A.; FLYAGIN, V.A.

Diode oscillator noise source in the three-centimeter band. Radiotekh. i elektron 1 no.6:758-771 Je '56. (MIRA 10:I)
(Oscillators, Electron-tube--Noise)
(Wave guides)

GREKHOVA, M.V.

SYVOROTKIN, G.S.; DMITRIYEVA, Ye.A.; GREKHOVA, M.V.

Using fertilizers in tree nurseries. Trudy TSNII MPS no.129:172-182 '57. (MLRA 10:5)

(Nurseries (Horticulture))
(Fertilizers and manures)

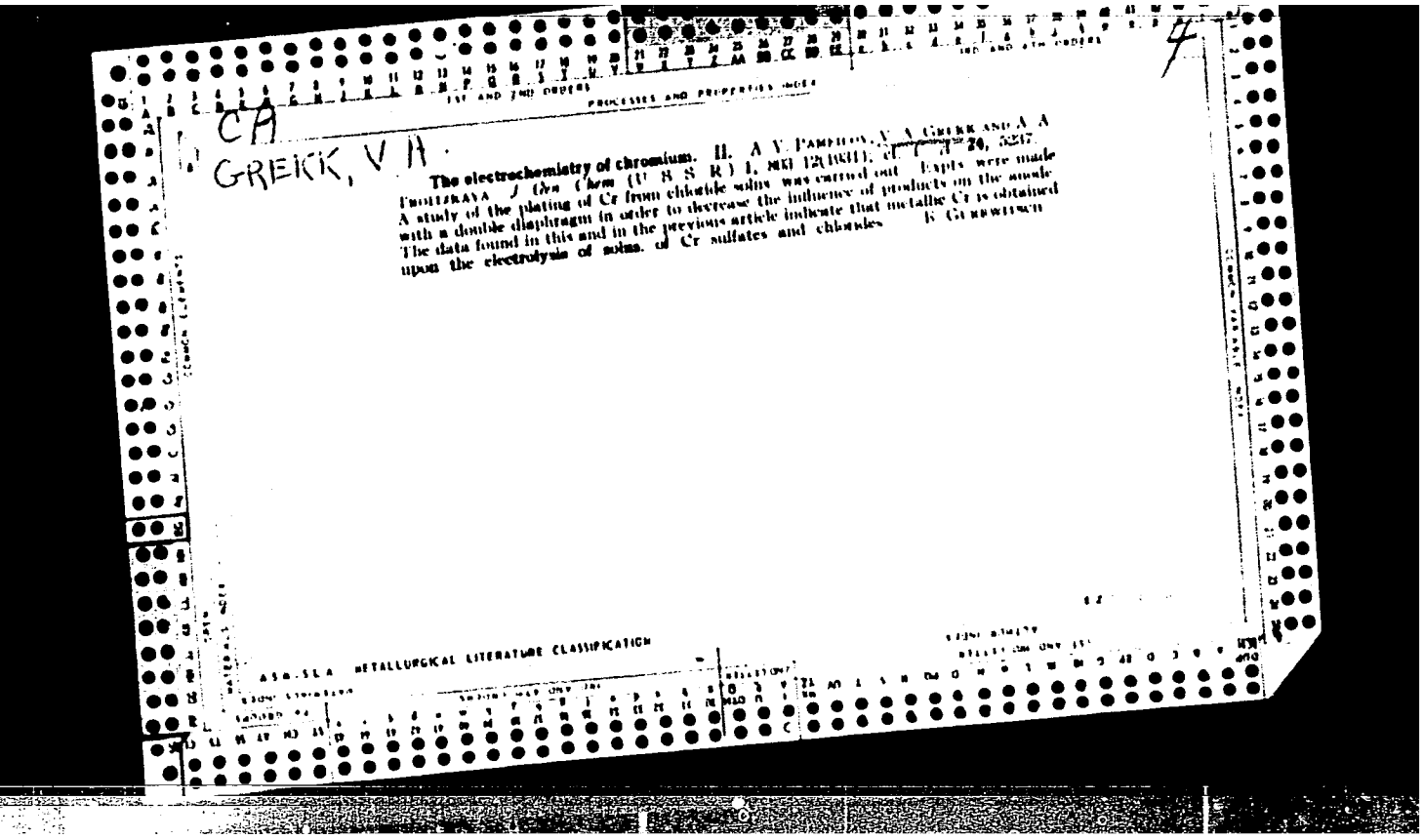
GREKHOVSKIY, F.V., and BYKOV, A.A.

"Experience in the Use of Seismographic Prospecting Under Winter Conditions in the Kuibyshev Region Along the Volga," Publ in Prospecting and Conservation of Natural Resources, No 2, Feb. 56, pp 36-42.

BANAYTIS, S.I.; GREKIS, M.K.; YEVDOKIMOV, A.V.

Experimental bases in complex therapy of traumatic shock and Pavlov's theory. Vest. khir. 71 no.3:3-12 1951. (CIML 20:11)

1. Military Medical Academy imeni S.M. Kirov, Leningrad.



GREKOV, A.

Placement of a double-rate charge on electric power. Energetik 12 no.2:27 F '64. (MIRA 17:4)

ACC NR: AP7001342 SOURCE CODE: UR/0386/66/004/011/0461/0464

AUTHOR: Fridkin, V. M.; Gorelov, I. M.; Grekov, A. A.; Lyakhovitskaya, V. A.; Rodin, A. I.

ORG: Institute of Crystallography, Academy of Sciences SSSR (Institut kristallografii Akademii nauk SSSR)

TITLE: Phase boundary in ferroelectric SbSI as the analog of an electric domain in a semiconductor

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki. Pis'ma v redaktsiyu. Prilozheniye, v. 4, no. 11, 1966, 461-464

TOPIC TAGS: semiconductor single crystal, antimony compound, ferroelectricity, domain boundary, phase boundary

ABSTRACT: This is a continuation of earlier work (Dokl. AN SSSR v. 169, no. 4, 810, 1966) where a new optic method of observing the phase transition in single-crystal SbSI was reported. The method was used in the present work to trace the motion of the phase boundaries in SbSI crystals grown from the gas phase in the form of needles (1 x 0.1 x 7 mm). The needle axis was the c axis of the crystal. The observation was made in transmitted light through parallel pincacoid (100) faces in a direction perpendicular to the c axis. The tests showed that a constant electric field applied to the crystal causes the interphase boundary to move toward the cathode at a rate 10^{-3} cm/sec. Under certain experimental conditions (in the presence of a temperature gra-

Card 1/2

ACC NR: AP7001342

dient in the absence of an external field), undamped oscillations of the interphase boundary were observed, accompanied by electric oscillations in the external circuit of the crystal. It is shown that the observed displacements are connected with motion of ferroelectric regions in the crystal, analogous to the motion of electric domains in a semiconductor. While this analogy does not fully determine the concrete mechanism or the direction of motion of the interphase boundary, it does provide an explanation for both the motion itself and its oscillations. It is also shown that the period of the oscillations agrees with the value that would follow from the Maxwell time constant for SbSI. Orig. art. has: 1 figure.

SUB CODE: 20/ SUBM DATE: 09Sep66/ ORIG REF: 004/ OTH REF: 004

Card 2/2

L 15173-63 EWT(1)/EWG(k)/EWP(q)/EWT(m)/BDS/EEC(b)-2 AFFTC/ASD/ESD-3
Pz-4 GG/JD/AT/IJP(c)
ACCESSION NR: AR3003338 S/0058/63/000/005/E051/E051

SOURCE: RZh. Fizika, Abs. 5E319

AUTHOR: Grekov, A. A.

TITLE: Molecular metallurgy and semiconducting properties of thin layers of aluminum and indium antimonides

CITED SOURCE: Sb. Materialy 3-y Nauchn. konferentsii aspirantov. Rostovsk. un-t. Rostov-na-Donu, 1961. 130-132

TOPIC TAGS: antimonide, aluminum, indium, stoichiometry control, semiconducting property

TRANSLATION: A method is proposed for controlling the stoichiometry of semiconductor compounds of the type $A^{III}B^{V}$ with simultaneous evaporation of the components. The entire surface on which the sputtering was carried out was broken up into three sections. The two outer sections were screened by a metallic shutter; on the center section, which has been broken up into a large number of rectangular subsections, the components were precipitated from molecular beams of regularly varying intensities. The stoichiometry in the middle section and the deviations from stoichiometry

Card 1/2

L 15173-63

ACCESSION NR: AR3003338

on the two sides are determined from the thicknesses of the wedges of the pure components on the outer sections. This method was used to obtain thin layers of AlSb and InSb. The mixture obtained by slow evaporation of the components during 3—5 minutes in vacuum of 5×10^{-5} mm Hg on glass bases at room temperature, was subject to one hour of annealing at 300°C (AlSb) or 150°C (InSb), as a result of which the corresponding compound was produced. The resistance of the layer was monitored during the synthesis process. The installation made it possible to investigate the temperature dependence of the resistance directly in the sputtering chamber, without subjecting the specimens to atmospheric action. Ye. Givargizov

DATE ACQ: 17Jun63 SUB CODE: PH ENCL: 00

Card 2/2

L 3393-66 EWT(d)/EWT(m)/EWP(v)/EWP(t)/EWP(k)/EWP(h)/EWP(b)/EWP(l)/EWA(c)
JD/HW

ACCESSION NR: AT5023377 UR/0193/65/000/007/0006/0008
621.778.06--462

38
B+1

AUTHORS: Pertsikov, Z. I.; Grekov, A. A.
44 55 44 55

TITLE: Experience gained in building and using a 150-ton tube drawing machine
44 55
14

SOURCE: Byulleten' tekhniko-ekonomicheskoy informatsii, no. 7, 1965, 6-8

TOPIC TAGS: tube drawing, tube drawing machine, pipe manufacture
18
44 55

ABSTRACT: A 150-ton tube drawing machine built by IZTM in 1964 is described. The machine (see Fig. 1 on the Enclosure) automatically takes bundles of tube blanks (up to 15 tons), opens them, pierces the blanks, draws the tubes, and delivers them. It is based on a two-chain layout and has the following specifications: drawing speed 17 m/min at 15 tons; return speed 25 m/min; drawing length 12 m; tube lengths 4-8.5 m; tube diameter 94-155 mm; piercing force 245 tons; 31.7 x 13 m machine size. The tube blank goes from loading area 1 and 2 (see Fig. 2 on the Enclosure) on incline 5 to loading station 6 and is pierced and delivered to the drawing station (consisting of frame 7, double chains 8, ejectors 9, and carriage 10). The transfer of the blank is performed by the apparatus shown in Fig. 3 on the Enclosure. The calculated cycle time is 72 seconds, which

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corresponds to a capacity of 570 m/hr of 8- to 9-m tubes. With a 0.7 utilization coefficient the annual output should approach 10 000 tons. Orig. art. has: 3 figures.

ASSOCIATION: none

SUBMITTED: 00 ENCL: 03 SUB CODE: IE

NO REF SOV: 000 OTHER: 000

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ENCLOSURE: 01

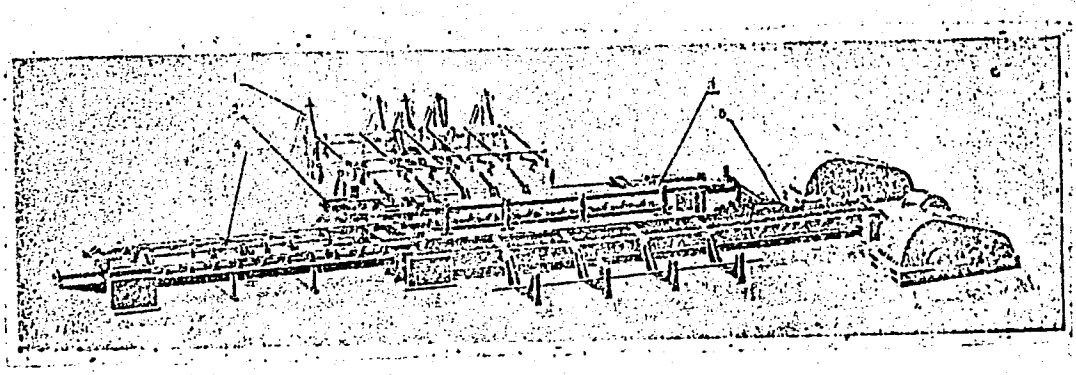

Fig. 1
General view:
1- loading area; 2- hydraulic piercer; 3- aligning mechanism;
4- transfer mechanism; 5- working line.

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ENCLOSURE: 02

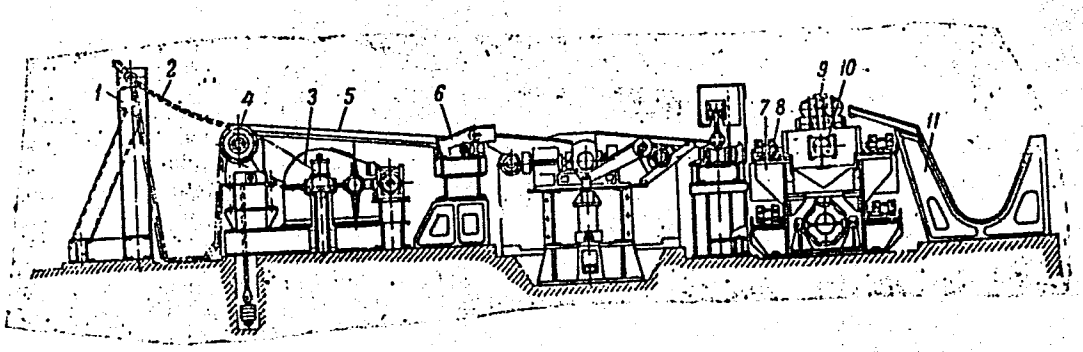

Fig. 2.
Cross sectional view

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ENCLOSURE: 03

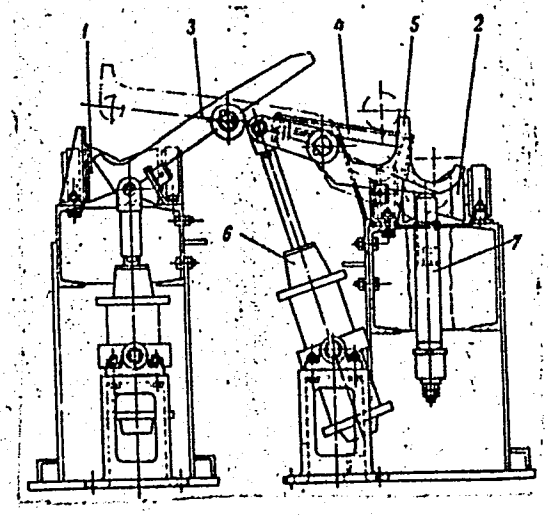

Fig. 3.
Transfer mechanism

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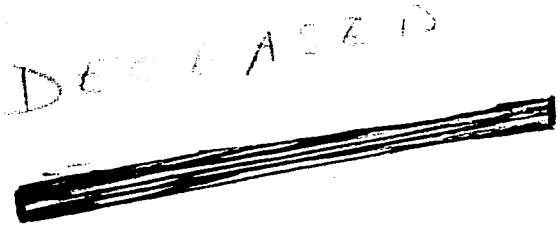

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