

S/109/60/005/06/017/021
E140/E163

AUTHOR: Baranov, L.I.

TITLE: On the Inductive Character of pn-junction Diode
Impedance at High Current Densities in the Forward
Direction

PERIODICAL: Radiotekhnika i elektronika, 1960, Vol 5, No 6,
pp 1002-1005 (USSR)

ABSTRACT: Voltage peaks observed in the pulse operation of
pn-junction diodes indicate that in the forward
direction the impedance has an inductive character.
The cause of this has been ascribed by certain authors
(Refs 1-5) to a variation of semiconductor bulk
conductivity caused by variation of injected carrier
concentration. The present article gives a theoretical
consideration of this and verifies the assumption on
theoretical grounds.
There are 2 figures and 6 references, of which 4 are
German and 2 Soviet.

Card
1/1

ASSOCIATION: Saratovskiy gosudarstvennyy universitet imeni N.G.
Chernyshevskogo (Saratov State University imeni
N.G. Chernyshevskiy)

SUBMITTED: July 9, 1959

V/B

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S/058/62/000/005/082/119
A061/A101

AUTHOR: Baranov, L. I.

TITLE: Problem of deviations from carrier equilibrium concentrations in
semiconductors

PERIODICAL: Referativnyy zhurnal, Fizika, no. 5, 1962, 26, abstract 5E210
("Uch. zap. Saratovsk. un-t", 1960, v. 69, 119 - 129)

TEXT: Different types of deviations from the equilibrium concentration of
minority carriers in semiconductors are examined with the aid of a single system
of equations for a specimen of arbitrary length and taking boundary effects into
account. On one boundary (the n-type specimen is considered to be one-dimen-
sional) one has the p-n junction, where the concentration of excess carriers is
given. On the other boundary, one assumes the n-n⁺ junction, where the surface
recombination rate is practically given. Taking the electric field into account,
the equation of motion of minority carriers is solved under both steady and un-
steady conditions. In the steady case, one obtains the minority carrier distri-
bution, and also, depending on certain conditions (magnitude and sign of the ex-

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Problem of deviations from...

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tracting field, boundary conditions), different types of deviations from the equilibrium concentration of minority carriers: injection, accumulation, extraction, and exclusion. Under unsteady conditions, the process of re-establishment of the carrier equilibrium concentration after the removal of external stress is considered. The problem is solved by expansion in Fourier series. The problem of the reverse current peak is considered, and various special cases are examined. 1/8

[Abstracter's note: Complete translation]

Card 2/2

BARANOV, L.I.

Problem concerning the inertness of p-n diodes with forward biased junctions and high current densities. Radiotekh. i elektron. 7 no.4:693-701 Ap '62. (MIRA 15:3)

1. Fizicheskiy fakul'tet Saratovskogo gosudarstvennogo universiteta im. N.G.Chernyshevskogo.
(Transistors) (Diodes)

BARANOV, I.I.; SELISHCHEV, G.V.

Inertial characteristics of p-n junction diodes at a low leakage rate of the minority carriers through the nonrectifying contact. Radiotekh. i elektron. 9 no.031092-1096 Is '84.

(MIRA 17:7)

1. Fizicheskiy fakul'tet Saratovskogo gosudarstvennogo universiteta imeni N.G. Chernyshevskogo.

L 58317-65 EWT(1)/T/EWA(h) Feb/Pz-6 IJP(c) AT
ACCESSION NR: AP5011380 UR/0139/65/000/002/0005/0019

22
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AUTHOR: Baranov, L. I.

TITLE: Contribution to the theory of transients in semiconductors following deviations of the carrier density from equilibrium

SOURCE: ¹IVUZ. Fizika, no. 2, 1965, 5-19

TOPIC TAGS: semiconductor, carrier density, transient process, injection, accumulation, extraction, exclusion

ABSTRACT: The author calculates the variation of carrier density in the transient mode in a semiconductor, occurring when the density deviates from its equilibrium value as a result of injection, accumulation, extraction, and exclusion. The effects arising on both ends of the semiconductor are taken into account. This question is of interest both from the point of view of explaining the physical processes in inhomogeneous semiconductors, and in connection with the use of semiconductor devices and high frequencies and under pulsed

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ACCESSION NR: AP5011380

operating conditions. The transient equations are solved, subject to suitable boundary conditions, using for the semiconductor and equivalent circuit consisting of a resistor in series with a parallel resistance-capacitance network. The inhomogeneous semiconductor considered had a p-n junction on one end and an n-n' junction on the other. The change in the carrier concentration with time was calculated under the assumption that the hole density is much lower than the electron density. It is shown that the duration of the transient is determined by the time required for the limiting concentration to assume a stationary value. If $\mu E \tau \gg L$ (μ -- mobility, E -- electric field, τ -- hole lifetime, L -- diffusion length), then the duration of the transient produced by injection, accumulation, and exclusion is equal to rC , where r is the differential resistance and C the diffusion capacitance of the pn junction or the n-n junction. In all cases rC is equal to the transit time. In general the variation of concentration with time is nonlinear, except in the case of exclusion and when $\mu E \tau \gg L$. The results are in good agreement with the experimental data. In conclusion I thank Sh. Sh.

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L 58317-65

ACCESSION NR: AP5011380

Shekhter for a discussion of individual problems of the work.' Original article has: 4 figures and 56 formulas ²

ASSOCIATION: Saratovskiy gosuniversitet imeni N. G. Chernyshevskogo
(Saratov State University)

SUBMITTED: 25Jul63 ENCL: 00 SUB CODE: SS, EC

NR REF SOV: 006 OTHER: 009

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Card 3/3

BARANOV, I. I.; [unclear], S. V.

1963. U.S.S.R. Inertia letter "Nature of inertial p-n junction -
anodes with small leakage rate of the minority current carriers
through a nonrectifying junction." Radiotekh. i elektron. 10 no.6:
1163-36 1965. (MIRA 18:6)

BALANOV, L. M.

Soap for sea water. *Izv. Vsesoyuzn. Nauch. Issled. Inst. Khim. Prilozh. Khim. Tekhnol.* 10:48 (1954). Manufacture of soap from a mixture of I with good phys. and sea water laundering qualities. One half (1:1.5) one part of the I (oil) is run for 10-15 min. and 40% soln. of NaOH is added until the necessary alkali necessary for saponification is reached. The soap paste I is run for 10-15 min. and 40% soln. of NaOH is added until the necessary alkali necessary for saponification is reached. The soap paste II is run for 10-15 min. and 40% soln. of NaOH is added until the necessary alkali necessary for saponification is reached. At this stage the soap paste III is run for 10-15 min. and 40% soln. of NaOH is added until the necessary alkali necessary for saponification is reached. The soap paste III is run for 10-15 min. and 40% soln. of NaOH is added until the necessary alkali necessary for saponification is reached. Drying is by mech. passage through a rotating drum with air-intake temp. at 30° and the exhaust at 50-60°. The soap shavings, contg. fatty acids 1.5-2% of the total weight, are mixed first with synthetic fatty acids and then with glycerol to improve the plasticity of the finished product and to reduce its alkali content to 0.2% of the wt. of acids, prepared and then compressed into a bar prior to cutting, mangleing with glycerol, stamping, and packaging. The authors claim that this soap was used successfully in the maritime provinces for washing purposes. L. M. K.

BARANOV L.M.

ZALIOPO, M.N.; BARANOV, L.M.; BORODINA, G.A.

Use of synthetic fatty acids in the production of toilet soap.
Masi.-zhir.prom. 19 no.6:17-21 '54. (MIRA 7:10)
(Soap) (Acids, Fatty)

BARANOV, L. M.

V Soap for sea and hard water. M. N. Zaliopo and L. M. Baranov. *Maslobotno-Zhirnaya Prom.* 21, No. 1, 18-19 (1966).—The sea-water laundering qualities of the previously described soap (C.A. 48, 8563e) were made optimum by a compn. of 80% hydrogenated sperm-whale oil, 5% resin, and 85% coconut oil, completely saponid. with 40% NaOH. At this stage the paste should contain fatty acids 48-50 and free NaOH 1.5%. This is followed by graining with 40% soln. of NaOH and settling for 2 hrs. The settled soap is dild. with saline water, grained a 2nd time, settled for 24 hrs., cooled, dried, etc. The finished product should contain fatty acids 80-83, free alkali 0.1-0.2, and salt 0.4-0.7%.
Vladimir N. Krukovsky

(2)

11950

29560
S/122/01/000/005/011/013
D221/D304

AUTHORS: Kogan, M.G., Candidate of Technical Sciences,
Korolev, V.F., Kleymenov, A.I., and Baranov, L.N.,
Engineers

TITLE: Baths for ultrasonic cleaning of components

PERIODICAL: Vestnik mashinostroyeniya, no. 5, 1961, 68 - 69

TEXT: The Scientific Research Technological Institute developed a series of baths, Y3B-15-Y3B-18 (UZV-15-UZV-18) for ultrasonic cleaning of components. They are made of stainless steel, and sources of ultrasonic vibrations of 20 Kc, in the form of magnetostrictive transformers, type ПМС-6М (PMS-6M) are fixed into their bottom. The radiation diaphragm of each transformer is a square with a 300 mm side. The baths are enclosed into soundproof casings, which form a decorative facing at the same time. Seals are provided in the covers of sound insulating casings. An outlet is fixed under the cover, and the former is connected to the ventilation system of the shop. The coiled pipe in the bath is used for feeding

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D221/D304

Baths for ultrasonic cleaning ...

cold or hot water to control the temperature of the cleaning fluid. The vibrators are cooled with normal feed water which is consumed at the rate of 3 l/min per vibrator. Generators Y3F-10 (UZG-10) and UZG-2.5 supply the oscillatory power (10 and 2.5 kw respectively). Cleaning the components is achieved by organic solvents or in water solutions of alkalis and synthetic surface active substances. The use of acids is limited by cavitation and corrosion resistance of baths and of the radiation surface of vibrators. Gasolene Галоша (Galosha) as per ГОСТ- (GOST)443-56, is the most widely used organic solvent for removing grease and mechanical ingress of dirt. Cleaning components of resins and nitroenamels takes place in acetone mixed with alcohol, at a temperature of 30°C. Use of chloride organic solvents is restricted by their toxicity. Normally, cleaning in organic solvents is accomplished in two or three consecutive baths, the last one for final cleaning. The duration of operation depends on the degree of dirt and the form of components, and varies from 2 to 5 minutes. Cleaning in water solutions of alkalis and synthetic surface active substances takes place in one bath. A description is given of materials employed and

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Baths for ultrasonic cleaning ...

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temperature conditions. These baths are efficient for components and assemblies for precision instruments and mechanisms, watches, optical parts and where high quality cleaning must be guaranteed. There are 2 figures.

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S/182/60/000/003/003/007
A161/A029

AUTHOR: Barancv, L.V.

TITLE: Automated Control of the Mechanisms of Shape and Shaped-Tube Presses 14

PERIODICAL: Kuznechno-shtampovochnoye proizvodstvo, 1960, No. 3, pp. 19 - 24

TEXT: Engineering information is given on several new automated control systems for shape ("profil'nyye") and shaped-tube ("truboprofil'nyye") presses with accumulator-pump station, in which the valve distributors were up to now controlled manually. To turn the camshaft the operator had to turn a lever on the camshaft end, and this caused physical strain; the high-pressure pipeline was long, and the distribution system cumbersome. For 1,600 and 3,150-ton horizontal presses with accumulator-pump drive, designed by SKB-4^{III} of Mosoblsovnarkhoz (Moscow Oblast' Sovnarkhoz), a remote-control electrohydraulic semi-automatic system has been developed (one 3,150-ton press has now passed tests at a plant). It makes possible press operation with semi-automatic control of separated mechanism groups; work with manual control; selection of semi-automatic control for separate mechanisms. The central control board is shown in two photographs-

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A161/A029

Automated Control of the Mechanisms of Shape and Shaped-Tube Presses

view from outside (Fig. 1) and from inside (Fig. 2). Connection diagrams are given (in Fig. 3) of (a) hydraulic servodrive of the valve distributor of the tool board and electric control system of this distributor, (b) automatic control of the valve distributor of the feed mechanism of the hot saw; (c) proportional control of the container valve distributor. The operation of every separate control system is described in detail. For manual control, a second control board is provided from the outer side of the press. The main motions (of the press-stamp, needle and container) are controlled "proportionally", and the control lever on the control board has fixed main as well as intermediate positions for intermediate positions of the distributing shaft and hence any part opening of the distributor valves for different motion speed. Another new system has been developed for presses for aluminum and copper alloys, in which pressing rate is controlled by a hydraulic choke. (In the majority of the existing presses the pressing rate control is still manual, by manual displacement of the choke valve.) At some works, e.g., Uralsmashzavod, NZTSC, and others, a tracing electric drive system is used for this control with an intermediate electron tube amplifier, but these devices are slow (30 - 40 sec for full opening of the choke) and manual

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A161/A029

Automated Control of the Mechanisms of Shape and Shaped-Tube Presses

control cannot be completely abandoned, and a parallel valve has to be used for fast displacement of the press stamp. These systems are not applicable to copper alloys for they have to be pressed in 8 - 10 sec. The SKB-4 has used in new presses a tracing electric drive for automatic pressing speed control that opens the choke in only 2 - 2.5 sec. Fast operation of this drive has been achieved by two means: 1) A semiconductor amplifier with germanium triodes is used for intermediate amplifying, having a voltage amplification coefficient $K_u = 50 \div 300$. It is developed by ENIMS and is simpler and more reliable than a tube amplifier. (The K_u value depends on the resistance of the emf source on the amplifier input.) 2) Special flexible stabilizing feedback for work motor speed. It makes the operation of the tracing drive stable at a low ratio (1 : 30) of the reductor transmitting motion from the motor to the choke. (In the old design the ratio is 1 : 300 and 1 : 500.) The electric diagram of such automatic pressing rate control system is shown (Fig. 4). It has been assembled and tested in a press model at the machine tool laboratory of the Kolomenskiy ZIS (Kolomna Heavy Machine Tool Works). The operation of the system is described in detail. It includes an isodromic device improving the accuracy of pressing rate regulation.

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A161/A029

Automated Control of the Mechanisms of Shape and Shaped-Tube Presses

The regulation error is $\pm 5\%$ of minimum rate at a load on the work motor equal to 0.6 of the nominal load for a control range of 1 : 50. There are 4 figures and 2 Soviet references. ✓

Card 4/4

REPIN, N.Ya., kand. tekhn. nauk; BARAKOV, L.V., inzh.

Increase the effectiveness of boring and blasting operations
in Kuznetsk Basin mines. Shakht. stroi. 4 no. 3:1-4 Nr '60.

(MIRA 13:11)

1. Kemerovskiy gornyy institut.
(Kuznetsk Basin--Coal mines and mining) (Blasting)
(Boring)

BARANOV, I.V.

Remote control of gear shifting. Stan.1 instr. 32 no.2:29-30 F '61.

(Gearing) (Remote control)

(MIRA 14:2)

BARANOV, L.V., inzh.

Experimental study of short-delay blasting. Izv. vys. ucheb.
zav.; gor. zhur., no.8:126-132 '61. (MIRA 15:5)

1. Kemerovskiy gornyy institut. Rekomendovana kafedroy
stroitel'stva gornyykh predpriyatiy Kemerovskogo gornogo
instituta.

(Blasting)

KOZHEVIN, V.G., Prof.; BARANOV, L.V., kand.tekhn.nauk; SDOBNIKOV, P.V., kand.
tekhn.nauk

Reviews and bibliography. Shakht.stroi. 9 no.5:32 My '65.

(MIRA 18:6)

PROSHUNIN, K.T.; GOLUBEV, N.V.; BARANOV, L.Ye.

Tracheostomy in the treatment of tetanus. *Izv. Akad. Nauk. SSSR. Ser. Med. Biol. Sci.* 1964, no. 1:82-83. (MIRA 17:12)

BARANOV, M.
ca

Using the Marietta method in the Old Grozny oil fields. K. PONOMAREV AND M. BARANOV. *Azerbaidzhaniskee Neftyanoe Khozaystvo* 1931, No 7-8, 30-7. The Marietta air-repressuring method caused a considerable increase in the yield of crude oil. The oil was not inferior to that produced without repressuring. Water seeps better from the oil when this method is used. The influence of air pressure was studied on a large no. of wells.
A. A. BOBTLINGEK

ASD 514 METALLOGICAL LITERATURE CLASSIFICATION

BARANOV, M.

"S. Zybeline et F. Politkovski--les premiers representants de la clinique therapeutique russe." Smotrov, V. et Baranov, M. (p.536)

SO: Journal of General Chemistry (Zhurnal Obshchei Khimii) 1940, Volume 18, No. 1.

BNE'D NEV. M.

SHNITNIKOV, V.N., doktor biologicheskikh nauk, zasluzhennyy deyatel' nauki KazSSR; MARIKOVSKIY, P.I., doktor biologicheskikh nauk, redaktor; GUSEVA, N., redaktor; BARANOV, M., redaktor; KHIGIROVICH, I., tekhnicheskiy redaktor; ZLOBIN, M., tekhnicheskiy redaktor

[Our animals in photographs from nature] Nashi zhiivotnye v fotografiakh s natury. Alma-Ata, Kazakhskoe gos. izd-vo. Vol.2. 1949. 271 p. Vol.5. 1954 308 p. (MLRA 9:10)
(Kazakhstan--Zoology)

BARANOV, M.

A good beginning and a sad end. Prof.-tekh. obr. 13 no.10:9-10 0 '56.
(MIRA 9:11)

1. Prepodavatel' sorochinskogo uchilishcha mekhanizatsii sel'skogo
khozyaystva no.8, Chkalovskaya oblast'.

(Chkalov Province--Farm mechanization--Study and teaching)

BARANOV, M. kand.tekhn.nauk; KRICHEVSKIY, Z., inzh.

Using fusing agents for automatic building-up of automobile parts.
Avt.transp. 35 no.2:24-26 F '57. (MIRA 10:12)

1. Nauchno-issledovatel'skiy institut avtomobil'nogo transporta.
(Electroplating) (Automobiles--Repairing)

KIN, Il'ya Lukich; BAKINOV, N., red.; YEMAYEV, I., red.

[Development of the state budget in the Kazakh SSR.]
razvitie gosudarstvennogo biudzheta kazakhskoi SSR.
Alma-Ata, Izd-vo "Kazakhstan," 1966. 120 p.
GOST 13.001

BARANOV, Mikhail; SUSLOVSKIY, O.M. [Suslovs'kyi, O.M.], red.;
NEDOVIZ, S.V., tekhrad.

[Our collective farm's combined production and finance plan]
IEdynyi vyrobnycho-finansovyi plan nashoho kolhospu. L'viv,
Knizhkovo-zhurnal'ne vyd-vo, 1958. 40 p. (MIRA 13:3)
(Collective farms--Finance)

BARANOV, M.A., inzh.

Use of aerial photograph mosaics in location surveying. Trudy
TSNIIS no.49:65-78 '63.

Using aerial surveying data for determining the volume of earth
work and the costs of operation. 193-223 (MIRA 16:9)

PETROV, M.A.; NORMAN, E.A.; VOLODIN, A.P.; DEKISOV, V.A.;
KOCHKONOGOV, V.P.; BEGAM, L.G.; BARANOV, M.A.; TAVLENOV,
V.K.; YENIKEYEV, G.Sh.; BARANOVA, A.I.; KUDRYAVTSEV,
G.P.; MALYAVSKIY, B.K.; CHEGODAYEV, N.N.; SURIN, V.S.;
GONIKBERG, I.V., retsenzent; ENGEL'KE, V.A., retsenzent;
KHRAPKOV, V.A., retsenzent; AL'PERT, G.A., retsenzent;
ALEKSEYEV, B.N., retsenzent; SKLYAROV, A.A., retsenzent
ALEKSEYEV, Ye.P., retsenzent

[Railroad surveying; reference and methodological hand-
book] Izyskaniia zheleznykh dorog; spravocnoe i metodi-
cheskoe rukovodstvo. Moskva, Transport, 1964. 495 p.
(MIRA 18:1)

1. Babushkin. Vsesoyuznyy nauchno-issledovatel'skiy in-
stitut transportnogo stroitel'stva. 2. Leningradskiy go-
sudarstvennyy proyektno-izyskatel'skiy institut Gosudar-
stvennogo proizvodstvennogo komiteta po transportnomu
stroitel'stvu SSSR (for Gonikberg, Engel'ke, Khrapkov).
3. Sibirskiy gosudarstvennyy proyektno-izyskatel'skiy in-
stitut Gosudarstvennogo proizvodstvennogo komiteta po
transportnomu stroitel'stvu SSSR (for Alekseyev, YeP.).
4. Moskovskiy gosudarstvennyy proyektno-izyskatel'skiy
institut Gosudarstvennogo proizvodstvennogo komiteta po
transportnomu stroitel'stvu SSSR (for Al'pert).

PONOMARENKO, Nikolay Ivanovich, kand. ekon. nauk; BARANOV, M.D., red.;
FARITDENOV, K., tekhn. red.

[Significance to the national economy of the cultivation of virgin
and waste lands in Kazakhstan] Narodnokhoziaistvennoe znachenie
osvoeniia tselinnykh i zaleznykh zemel' v Kazakhstane. Alma-Ata,
Kazakhskoe gos. izd-vo, 1955. 35 p. (MIRA 11:10)
(Kazakhstan--Reclamation of land)

BOYEV, S.N., akademik, prof., otv.red.; KARABAYEV, D.K., kand.veter.nauk, red.; BONDAREVA, V.I., kand.veter.nauk, red.; ANAN'YEV, P.K., spets.red.; BARANOV, M.D., red.; MELESHKO, K.L., red.; SHVYDKO, Z.A., red.; ZLOBIN, M.V., tekhn.red.

[Collection of papers on helminthology; on the occasion of Professor Rikhard Solomonovich Shul'ts' 60th birthday] Sbornik rabot po gel'mintologii; k 60-letiiu so dnia rozhdeniia professora Rikharda Solomonovicha Shul'tsa. Alma-Ata, Kazakhskoe gos.izd-vo, 1958.
402 p. (MIRA 12:4)

1. Vsesoyuznaya akademiya sel'skokhozyaystvennykh nauk imeni V.I. Lenina, Kazakhskiy filial. 2. Akademiya nauk Kazakh.SSR i Veterinarnaya sektsiya Kazakhskogo filiala Vsesoyuznoy akademii sel'skokhozyaystvennykh nauk im. V.I.Lenina, Alma-Ata (for Boyev).
 3. Kazakhskiy nauchno-issledovatel'skiy veterinarnyy institut, Alma-Ata (for Bondareva).
- (Helminthology--Collections)

BARANOV, Mikhail Dmitriyevich; POLYUKHOV, Vladimir Fedorovich; BORSUK,
F., red.; MIKHAYLOV, F., red.; TURABAYEV, B., tekhn.red.

[Points of interest in Kazakhstan] Dostoprimechatel'nye mesta
Kazakhstana. Alma-Ata, Kazakhskoe gos.izd-vo, 1959. 368 p.
(MIRA 13:4)

(Kazakhstan--Description and travel)
(Kazakhstan--Economic conditions)

KARIMZHANOV, Sulayman Baykalyevich, kom. ekonom.; KASHIKOV,
Gusyatev; KURMANOV, N.I., kom. ekon. nauk, red.;
ALPANDOV, M.D., red.

[Growth of the national income and welfare of Kazakhstani
workers] rost natsional'nogo dokhoda i blagopostoiannya
trudiasobliksia Kazakhstana. Alma-Ata, Kazakhstan,
1964. 118 p. MIA 48

BARANOV, M.F.

HAZARENKO, K.S., redaktor; KRYLOV, G.A., redaktor; KONYAYEV, N.I., redaktor;
TOMASHEVICH, Z.P., redaktor; BLINKOVA, M.V., redaktor; TRISVIATSKIY,
L. A., redaktor; MARAKHTANOV, K.P., redaktor; KAVUN, P.K., redaktor;
BARANOV, M.F., redaktor; SMELYANSKIY, V.A., redaktor; VIDONYAK, A.P.,
tekhnicheskiy redaktor; KUCHABSKIY, Yu.K., tekhnicheskiy redaktor

[All-Union Conference on the Production of Hybrid Seed Corn, held in
Dnepropetrovsk March 28-30, 1956] Vsesoiuznoe soveshchanie po proizvod-
stvu gibridnykh semian kukuruzy v Dnepropetrovske, 28-30 marta 1956
goda. Moskva, Gos. izd-vo selkhoz. lit-ry, 1956. 480 p. (MIRA 10:1)

1. Vsesoyuznoye soveshchaniye po proizvodstvu gibridnykh semyan
kukuruzy. Dnepropetrovsk, 1956.
(Corn (Maize))

PONOMARCHUK, M.K., agronom; YAKUSHKIN, I.V., skademiik, otvetstvennyy
redaktor; ~~BABANOV, M.F.~~, redaktor; PEDOTOVA, A.F., tekhnicheskiiy
redaktor; BALLOD, A.I., tekhnicheskiiy redaktor

[Plant growing at the All-Union Agricultural Exhibition of 1956]
Rasteniyevodstvo na Vsesoiuznoi sel'skokhoziaistvennoi vystavke
1956 goda; putevoditel'. Moskva, Gos. izd-vo selkhoz. lit-ry
[1956] 512 p. (MLRA 10:1)

1. Moscow. Vsesoyuznaya sel'skokhoziaistvennaya vystavka, 1954-
(Moscow--Field crops--Exhibitions)

1. R. 1001. M. 1
KAVUN, F.K., agronom; BARANOV, M.F., redaktor; SOKOLOVA, E.N., tekhnicheskii redaktor

[Winter wheat; a collection of articles] Ozimaya pshenitsa; sbornik statei. Moskva, Gos.izd-vo sel'khoz. lit-ry, 1957. 575 p.
(Biblioteka po polevodstvu i lugovodstvu, no.7) (MIRA 10:9)
(Wheat)

BARANOV, M.F., red.; PEVZNER, V.I., tekhn. red.

[Cultivation and primary processing of hemp; a collection of articles] Vozdelyvanie i pervichnaia obrabotka konopli; sbornik statei. Moskva, Gos. izd-vo sel'khoz. lit-ry, 1958. 141 p.

(MIRA 11:11)

(Hemp)

BARANOV, M.F., red.

[Use of fertilizers] Primenenie udobrenii; sbornik statei. Moskva,
Gos.izd-vo sel'khoz. lit-ry, 1958. 167 p. (MIRA 11:6)
(Fertilizers and manures)

PETROV, Aleksandr Iosifovich, prof., doktor biolog.nauk; VATOLKINA, K.A., kand.sel'skokhozyaystvennykh nauk; MARKIN, A.K., kand. sel'skokhozyaystvennykh nauk; BARANOV, M.F., red.; SOKOLOVA, N.N., tekhn.red.; DRYEVA, V.M., tekhn.red.

[Protecting cotton plants from pests and diseases] Zashchita khlopchatnika ot vreditel'ei i boleznei. Moskva, 1958. 486 p.
(Cotton--Diseases and pests) (MIRA 12:1)

KLOKOV, K.P., agronom; BARANOV, M.F., red.; KOREYSHO, Ye.G., red.;
DEYEVA, V.M., tekhn.red.

[Crop rotations] Sevooboroty; sbornik statei. Moskva, Gos.izd-vo
sel'khoz.lit-ry, 1959. 285 p. (MIRA 14:2)
(Rotation of crops)

PUTKEVICH, Vladimir Vladimirovich, kand.sel'skokhoz.nauk; BARANOV, M.F.,
red.; ZUBRILINA, Z.P., tekhn.red.

[Methods and conditions for the improvement of seeds] Priemy i
usloviia uluchsheniia posevnogo materiala. Moskva, Gos.izd-vo
sel'khoz.lit-ry, 1959. 351 p. (MIRA 13:6)
(Seeds)

MAYSURIYAN, N.A., akademik, red.; SOKOLOV, N.S., red.; YELAGIN, I.N.,
kand.sel'skokhoz.nauk, red.; KARJUNIN, B.A., kand.sel'skokhoz.nauk,
red.; SHUL'GIN, A.M., doktor geograf.nauk, red.; BARANOV, M.F.,
red.; ANTONOVA, N.M., khudozh.-tekh.n.red.

[Winter hardiness of farm crops; materials of the Scientific
Conference on the Cold Hardiness of Winter Grain Crops and Perennial
Grasses, January 14-17, 1958] Zimostoikost' sel'skokhoziaistvennykh
kul'tur; materialy nauchnoi konferentsii po voprosam zimostoikosti
ozimnykh zernovykh kul'tur i mnogoletnikh trav 14-17 ianvaria 1958 g.
Moskva, Izd-vo M-va sel'.khoz.SSSR, 1960. 342 p. (MIRA 13:10)

1. Vsesoyuznaya akademiya sel'skokhozyayastvennykh nauk imeni V.I.
Lenina. 2. Vsesoyuznaya akademiya sel'skokhoz.nauk im. V.I.Lenina
(for Maysuryan). 3. Chlen-korrespondent Vsesoyuznoy akademii sel'skokhoz.
nauk im. V.I.Lenina (for Sokolov).

(Plants--Frost resistance) (Field crops)

TUROVSKIY, Boris Ivanovich; BARANOV, M.F., red.; NEMYSLOVA, L.M.,
tekhn. red.

[The KKKh-3 corn-harvesting combine] Kukuruzoborochnyi
kombain KKKh-3. Moskva, Proftekhizdat, 1963. 90 p.
(MIRA 17:3)

AVAYEV, Mikhail Grigor'yevich; GOLIKOV, A. F., nauchn. red.;
BARANOV, M. F., red.

[Fundamentals of farming with soil science] Osnovy zemle-
deliia s pochvovedeniem. Moskva, Vysshiaia shkola, 1967.
246 p. (MIRA 17:12)

BARANOV, M.I.

Subject : USSR/Engineering-Welding AID P - 5067
Card 1/1 Pub. 107-a - 7/11
Authors : Verchenko, V. R., A. V. Petrov, and M. I. Baranov
Title : Automatic welding of non-turning stationary pipes
Periodical : Svar. proizvod., 6, 22-26, Je 1956
Abstract : The authors describe the technique and equipment for automatic welding of non-turning tubing of stainless steel up to 219 mm in diameter. The ATV automatic welders with melting electrodes and with infusible tungsten electrodes were used and the test results are given. Four tables, 3 graphs, 6 photos, 6 diagrams and GOST standards.
Institution : Scientific Research Institute of Technology and Production
Submitted : No date

KARPINSKAYA, N. A.; SAROVAN, A. Ye.; SHNEYDEROV, M. B.; BARANOV, M. I.;
KOVALEV, M. K.

Reviewing standards for drive pipes and their unions. Standarti-
zatsiia 26 no.10:21-22 0 '62. (MIRA 15:10)

(Pipe, Steel--Standards)

BARANOV, M. KR

MARUSOV, A.Ya., inzhener-podpolkovnik, glavnyy red.; KUDRYAVTSEV, M.K., general-leytenant tekhnicheskikh voysk, otvetstvennyy red.; DEMIN, L.A., inzhener-kontr-admiral, red.; SHCHEZBAKOV, A.E., general-mayor, red.; NIKOLAYEV, A.S., polkovnik, red.; KOLOMIYETS, A.D., polkovnik, red.; NAZAROV, P.V., polkovnik, red.; PAROT'KIN, I.V., polkovnik, red.; PUDIKOV, M.P., polkovnik, red.; SISELIN, S.V., polkovnik, red.; BLRANOV, M.Kh., inzhener-polkovnik, red.; KOMKOV, A.M., inzhener-polkovnik, red.; SHATUNOV, S.G., inzhener-polkovnik, red.; KOROLEV, V.G., polkovnik, tekhn. red.; LUK'YANOV, B.I., polkovnik, tekhn.red.; ROMANOV, M.K., podpolkovnik, tekhn.red.; IVANOV, V.V., inzhener-podpolkovnik, tekhn.red.; LYUBKOV, A.N., inzhener-podpolkovnik, tekhn.red.; KNYSH, P.N., podpolkovnik tekhnicheskoy sluzhby, tekhn.red.; VASMUT, A.S., kapitan, tekhn. red.; KOSTIN, A.G., tekhn.red.; MAKUKHINA, G.P., tekhn.red.

[World atlas] Atlas mira. Moskva, Voen.izd-vo M-va obor. SSSR, 1958. 459 p. (MIRA 11:5)

1. Russia (1923- U.S.S.R.) Armiya. General'nyy shtab. Voenno-topograficheskoye upravleniye. 2. Tekhnicheskaya redaktsiya Voenno-topograficheskogo upravleniya General'nogo Shtaba (for Korolev, Luk'yanov, Romanov, Ivanov, Lyubkov, Knysh, Vasmut) (Atlases)

BARANOV, M. M.: Master Tech Sci (diss) -- "Investigation of the operation of exhaust pumps from industrial vats". Moscow, 1959. 17 pp (Min Higher Educ USSR, Moscow Order of Labor Red Banner Construction Engineering Inst im V. V. Kuybyshev), 150 copies (KL, No 15, 1959, 115)

BARANOV, M.M.

KVE sheet heaters. Vod. i san. tekhn. no.10:28.30 0 '61.
(Radiators) (MIRA 14:11)

BARANOV, M.N.

BARANOV, M.N.

Distribution and specific activity of labile phosphorus compounds in various layers of the cerebellum [with summary in English].
Biokhimiia 22 no.5:830-837 S-O '57. (MIRA 11:1)

1. Laboratoriya biokhimii nervnoy sistemy Instituta fiziologii imeni I.P.Pavlova Akademii nauk SSSR, Leningrad.
(PHOSPHATES, metabolism, cerebellum, distribution & specific activity in various layers (Rus))
(CEREBELLUM, metabolism, phosphates, distribution & specific activity in various layers (Rus))

FRANCOV, V.P., Uradnik JEL -- Uradnik "Nabavila se"
"Inomerni konopci in vrb" in Uradnik "Nabavila se"
let. 1977, Uradnik (Asst. Sci. 1977), Uradnik "Nabavila se"
V.P. (avtor) 1977 no. 18 (JEL, 27.02, 1977)

20-118-5-43/59

AUTHOR: Baranov, M. N.

TITLE: Exchange of Some Phosphorus Compounds in Various Layers of the Cortex of the Great Hemispheres in White Rats (Obmen nekotorykh fosfornykh soyedineniy v razlichnykh sloyakh kory bol'shikh polushariy belykh kryss)

PERIODICAL: Doklady Akademii Nauk SSSR, 1958, Vol. 118, Nr 5, pp. 1000-1003 (USSR)

ABSTRACT: The purpose of this work is the separate determination of the content and the specific activity of inorganic phosphorus and such easily decomposable compounds as phospho-creatine, adenosine-triphosphoric acid (ATPh) and phospho-lipides. Radioactive phosphorus was injected into white rats at a dose of 1,5 μ Cu per 1 g live weight. After 17 hours the animals were frozen in liquid oxygen. The method of determination of the next stages of the said substances is described (references 4-8). The results of the analysis of the acid-soluble fraction is shown in tables 2A and B. From this it can be concluded that the content of all mentioned compounds is the same on an average in all zones of the brain cortex. The motor zone,

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Exchange of Some Phosphorus Compounds in Various Layers of
the Cortex of the Great Hemispheres in White Rats

20-118-5-43/59

in which the content of ATPh is somewhat higher, is an exception. The content in energy-rich compounds (ATPh and phospho-creatine) is less by about 7 mg% (i.e. 30%) in the inner layers than in the outer layers. This difference is less pronounced in the optical zone. In its white matter the content of the said substances is relatively higher. The more one penetrates the more an increasing tendency of inorganic phosphorus can be observed. From table 2 can be seen, that the specific activities of inorganic phosphorus, phospho-creatine and ATPh are practically the same in each of the examined cortex layers. This may be explained by the fact that the three mentioned compounds are connected with one another by fast exchange reactions (references 9,10). The average level of the specific activity of the same compounds is approximately the same in all zones. In the motor zone the specific activities decrease in the inner layers. In the outer layers the specific activity is highest. The sum up it can be said that the values of the specific activity of inorganic phosphorus, phospho-creatine and ATPh decrease with the depth of the layers. The observed difference between the cortex layers as regards the value of the specific activity of all

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three substances apparently proves that phosphorus penetrates more intensively from the blood into the brain tissue of the outer than of the inner layers. The cortex layers differ also as regards the content of energy-rich compounds and phospho-lipides as well as regards the intensity of a renewal of the latter. The outer layers were richest in energy-rich compounds. In this layer there is the main mass of dendrites and their endings which exhibit a very intensive metabolism (reference 1). Those layers which contain the bodies of the pyramidal cells (fifth layer) have a bigger velocity of regeneration of phospho-lipides. Apparently this can be explained by the most energetic metabolism of the phospho-lipide fraction to be found in the cells. The myelinic (sixth) layer of all zones is marked by a relatively high content and specific activity in energy-rich compounds. This is proved by the literature (reference 1) on the intensive metabolism in these layers. There are 2 figures, 1 table, and 10 references, 2 of which are Soviet.

ASSOCIATION: Institut fiziologii im. I. F. Pavlova Akademii nauk SSSR
Card 3/4 (Institute for Physiology imeni I. P. Pavlov AS USSR)

Exchange of Some Phosphorus Compounds in Various Layers of
the Cortex of the Great Hemispheres in White Rats

20-118-5-43/59

PRESENTED: September 19, 1957, by K. M. Bykov, Member, Academy of
Sciences, USSR

SUBMITTED: September 14, 1957

Card 4/4

BARANOV, M.H.

Metabolism of phosphorus compounds in the superior cervical
sympathetic ganglion. Biokhimiia 24 no.4:751-757 J1-Ag
'59. (MIRA 12:11)

1. Laboratoriya biokhimii nervoy sistema Institutu fiziologii
imeni I.P.Pavlova Akademii nauk SSSR, Leningrad.
(GANGLIA AUTONOMIC metab)
(PHOSPHATES metab)

BARANOV, M.N.

Metabolism of certain phosphorus compounds in different layers of
the brain. Trudy Inst.fiziol. 8:501-508 '59. (MIRA 13:5)

1. Laboratoriya biokhimii nervnoy sistemy (zaveduyushchiy - G.Ye.
Vladimirov) Instituta fiziologii im. I.P. Pavlova AN SSSR.
(PHOSPHORUS METABOLISM) (BRAIN)

EARANOV, M.N.

Variations in the phosphorus metabolism of the superior cervical sympathetic and nodose ganglia during certain functional states of these structures. Biokhimiia 25 no.5:781-786 S-0 '60.

(MIRA 14:1)

1. Laboratory of Biochemistry of the Nervous System, Institute of Physiology, Academy of Sciences of the U.S.S.R., Leningrad.

(PHOSPHORUS METABOLISM)

(NERVOUS SYSTEM, AUTONOMIC)

(SPARTEINE)

BARANOV, M.N.

Effect of reserpine on the amount of nucleic acids in
different layers of the cerebral cortex. Dokl. AN SSSR
143 no.1:221-224 Mr '62. (MIRA 15:2)

1. Institut fiziologii im. I.P.Pavlova AN SSSR. Predstavleno
akademikom V.N.Chernigovskim.
(RESERPINE)
(NUCLEIC ACID METABOLISM)
(CEREBRAL CORTEX)

BARANOV, M.N., PEVZNER, L.Z.

Nucleic acid content in the superior cervical sympathetic
ganglion under normal conditons and in excitation. *Bickhimia*
28 no.6:958-963 N-D'63
(MIRA 17:1)

L. Laboratory of Functional Biochemisty of the Nervous System,
Pavlov Institute of Physiology, Academy of Sciences of the
U.S.S.R., Leningrad.

BARANOV, M.N.

Nucleic acid content in various layers of the cerebral cortex.
Biokhimiia 27 no.4:702-707 J1-Ag '62. (MIRA 15:11)

1. Laboratory of Biochemistry of the Nervous System, Institute of
Physiology, Academy of Sciences of the U.S.S.R., Leningrad.
(CEREBRAL CORTEX) (NUCLEIC ACIDS)

BARANOV, M.N. (Leningrad); PEVZNER, L. Z. (Leningrad)

Topochemistry of the cerebral cortex. Usp. sov. biol. 58
no. 2:221-241 S-O '64. (MIRA 17:12)

BARANOV, Mikhail Stepanovich, zasluzhennyy deyatel' nauki KazSSR; SHERMAN, P.N., redaktor; OTSTYAKH, V.G., tekhnicheskiiy redaktor

[Weeds in grain crops and their control] Sorniaki zernovykh kul'tur i mery bor'by s nimi. Alma-Ata, Kazakhskoe gos. izd-vo, 1956.
100 p. (MLRA 10:1)

(Weeds)

BARANOV, M. S.

Biochemical transformations of nitrogen and phosphorus fertilizers in the soils. N. Bulgakov and M. Baranov. *Izvest. Akad. Nauk Belorusskoi S. S. R., Otdeleniye Khim. Nauk* 1940, No. 1, 47-77; *Khim. Kalendar. Zhurnal*, No. 9, 76(1941). Composts contg. $Ca(NO_3)_2$ or $(NH_4)_2SO_4$ and P fertilizers were added to a psolozhed sandy soil. Under aerobic conditions the nitrate N added was unchanged; $(NH_4)_2SO_4$ underwent energetic nitrification, without loss of N. The amt. of water-sol. P_2O_5 decreased insignificantly on adding CaH_2PO_4 , simultaneously with N fertilizers. Addn. of water with $(NH_4)_2SO_4$ resulted in considerable amt. of water-sol. P_2O_5 , the amt. of water-sol. P_2O_5 increasing toward the end of the expt. in parallel with the accumulation of NO_3^- in the soil. Addn. of $(NH_4)_2SO_4$ increased the acidity of the soil. Under anaerobic conditions the addn. of $Ca(NO_3)_2$ resulted in denitrification with loss of N. Addn. of $(NH_4)_2SO_4$ increased the content of NH_4^+ in the soil. The $(NH_4)_2SO_4$ decompd. with the formation of H_2S . Addn. of $(NH_4)_2SO_4$, as well as of $Ca(NO_3)_2$, made the reaction of the soil more alk. W. R. Hrom.

ASB 33.4 METALLOGICAL LITERATURE CLASSIFICATION

LEADS EXP. 1175

LEADS EXP. 1175

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LEADS EXP. 1175

BARANOV, M. S.

Baranov, M. S. "Peculiarities of cultivating winter crops in northern regions", Trudy Vyssechnoy sessii Kazakh. Filiala Vsesoyuz. akad. n.-k. zhizn. i. Zemle, zhiv. i. voprosam razvitiya zem. khoz-va. sov. obsh. Kazakh. SSR, Alma-Ata, 1959, p. 105-10.

SO: U-411, 17 July 53, (Letopis' Zhurnal 'yssh. Statey, No. 20, 1949).

BARANOV, M. S.

The repair of used automobile parts by welding. Moskva, Izd-vo Narkomkhoza RSFSR,
1943. 126 p. (49-52148)

TL152.825

BARANOV, M.

Baranov, M. - "Repair of the housing of the semi-axle of the GAZ-AA truck," *Avtomobil'*, 1979, No. 3, p. 16-17

SO: U-1034, 29 Oct 53, *Letopis 'Churnil'nykh Stroy, No. 1, 1953*.

F

M

1507. WEAR OF CAST IRON CYLINDER LINERS CONTAINING COPPER AND TITANIUM. Baranov, M. (Avtonobil (Automobile), Oct. 1960, 13-15).

BARANOV, M.S., kandidat tekhnicheskikh nauk; TOKAREV, G.G., kandidat tekhnicheskikh nauk, redaktor.

[Testing the durability of cylinder linings made of modified and low-alloy cast irons] Issledovanie iznosostoikosti gil'z tsilindrov iz modifitsirovannogo i nizkolegirovannogo chugunov. Pod red. G.G.Tokareva. Moskva, Izd-vo Ministerstva kommunal'nogo khoziaistva RSFSR, 1953. 14 p.

(MLRA 7:4)

(Cylinders)

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BARANOV, M.S., kandidat technicheskikh nauk.

[Booklet for the electric arc welder] Pamiatka svarshchiku po elektrodugovoi svarke. 2. perer. i dop. izd. Moskva, Izd-vo Ministerstva kommunal'nogo khoziaistva RSFSR, 1953. 104 p. (MLRA 7:6)
(Electric welding)

USSR/ Engineering - Cold welding

Card 1/1 Pub. 128 - 15/26

Authors : Sineok, Ya. Ya.; Baranov, M. S.; Pankul, L. A.; Sapiro, L. S.;
Kagan, I. Z.; Glukhov, P. A.; Mikhin, V. N.; and Karpichev, A. S.

Title : The cold welding of crude iron

Periodical : Vest. mash. 2, 68-71, Feb 1954

Abstract : In order to familiarize and draw the attention of readers to the pressing problems of cold welding (soldering) of crude iron, the Editorial Office published several articles in which various methods of cold welding are discussed, and a description is given of the operations performed and the type of electrodes and equipment used for the above mentioned purpose. Table; drawings; illustrations.

Institution: :

Submitted :

BARANOV, M., kandidat tekhnicheskikh nauk; KRICHEVSKIY, Z., inzhener;
ARONOV, N., tekhnik.

Preheating for welding automobile engine cylinder blocks.
Avt.transp.33 no.1:18-21 Ja'55. (MLBA 8:3)
(Automobile--Engines)(Welding)

BARANOV, M.

Improving the utilization of automotive equipment in construction organizations. Avt.transp.33 no.6:7-9 Je '55. (MLRA 8:10)
(Transportation, Automotive) (Construction industry)

2/24/55
BARANOV, M.S., kandidat tekhnicheskikh nauk; KRICHEVSKIY, Z., inzhener

Letter to the editor. Vest.mash.35 no.7:47 J1'55. (MLRA 8:10)
(Cast iron--Welding) (Saenko, I.G.)

SARKHOSH'YAN, G.N.; ~~BARANOV, M.S.~~; ROSTOSHINSKIY, M.S.; ORLOVSKIY, V.I.;
MAL'KOVA, N.V., tekhnicheskiy redaktor.

[Repair techniques and equipment for repairing automobiles;
practices of Moscow automobile repair shops] Tekhnologiya
remonta i prisposobleniia dlia remonta avtomobilei; iz opyta
moskovskikh avtoremontnykh predpriatii. Izd.2-oe. Moskva,
Nauchno-tekhn.izd-vo avtotransp.lit-ry, 1957. 10 p.

1. Moscow. Nauchno-issledovatel'skiy institut avtomobil'nogo
transporta.

(Automobiles--Maintenance and repair)

Баранов, Михаил Семенович

BARANOV, Mikhail Semenovich, dotsent, kand.tekhn.nauk; SHELUKHIN, A.S., red.;
KOGAN, F.L., tekhnired.

[Gaswelder's handbook] Pamiatka gazosvarshchiku. Moskva, Nauchno-
tekhn.izd-vo avtotransp. lit-ry, 1957. 83 p. (MIRA 11:2)
(Gas welding and cutting)

BARANOV, Mikhail Semenovich, dotsent, kand.tekhn.nauk; POCHTAREV, N.F.,
inzhener-polkovnik, kand.tekhn.nauk, red.; MYASNIKOVA, T.F., tekhn.red.

[Reconditioning automobile and tractor parts by welding and built-up
welding] Vosstanovlenie avtomobil'nykh i traktornykh detalei svarkoi
i naplavkoi. Moskva, Voen.izd-vo M-va obor.SSSR, 1957. 382 p.
(MIRA 10:12)

(Automobiles--Maintenance and repair)

(Tractors--Maintenance and repair) (Welding)

BALABANOV, Artemiy Melent'yevich; BARANOV, M.S., red.; GARMASH, L.M., otv.
za vypusk; SUKHAREVA, R.A., tekhn.red.

[Built-up welding with a weaving arc] Vidrodugovaia naplavka.
Moskva, 1959. 31 p. (Moskovskii dom nauchno-tekhnicheskoi pro-
pagandy. Peredovoi opyt proizvodstva. Seriya: Progressivnaia
tehnologiya mashinostroeniia, vyp. 2). (MIRA 13:9)
(Electric welding)
(Machinery--Maintenance and repair)

25(1)

SOV/125-59-1-12/15

AUTHOR:

Baranov, M.S.

TITLE:

The Electric-Pulse Welding-on of Metal in a Liquid
(Elektroimpul'snaya naplavka metalla v zhidkosti)

PERIODICAL:

Avtomaticheskaya svarka, 1959, Nr 1, p 70-80 (USSR)

ABSTRACT:

This article is a critical review of the conclusions contained in the work listed as the first reference. Having substantiated the replacement of the term "Vibrocontact welding-on" with the term "Electric pulse welding-on", the author compares the advantages of the contact-spark and the contact-arc processes. The productivity of the contact-spark process, characterized by the area of coverage with metal, is 15-18 cm²/min, i.e. two-three times than that of manual welding-on, whereas that attained by the contact-arc process surpasses the productivity of manual welding-on by 1.2 - 1.5 times. The quality of metal welded-on by the contact-arc method is better than that of metal welded-on by the contact-spark method. The electro pulse welding-on method is recommended for use on cemented steels with low alloy-content and on medium-carbonic tempered steels, for treatment of cy-

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25(1)

The Electric-Pulse Welding-on of Metal in a Liquid

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lindric surfaces and inner surfaces of cylinders in mobile or stationary connections. The welding-on is done with the use of electrode wires AWS, YS, 1K, PK-1 and 650, 1.2 - 2.0 mm in diameter. Applied coolants consisted of 3 - 4 % solution of soda ash with 0.5 % of machine oil, or of mixture of 70-80 % of water with 30 - 20 % of technical glycerine. Optimal voltage used in the process was 12 v. Waste of electrode metal reached 31 % during use of combined current, 35 % at dc and 40 % at ac. An increase of voltage reduces the waste of metal. The use of capacitors lowers the waste of metal to 6 - 8 %. Reconstruction of parts subject to vibration and impact stress should not be done with the electric pulse welding-on method. Some crankshafts of auto-engines M-20, treated by electric-pulse welding-on method, broke down after only 18-25,000 km run. Comparing various data obtained by experimentations by G.P. Klekovkin, by the Chelyabinskij politekhnicheskij institut (Polytechnical Institute) and by the Laboratoriya svarki (Laboratory for Welding) of VNIIT, the author gives

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25(1)

The Electric-Pulse Welding-on of Metal in a Liquid

SO7/125-59-1-12/15

a description of typical welding processes. There are two photos, three tables, five graphs, two diagrams and two Soviet references.

ASSOCIATION: Vsesoyuznyy zaochnyy mashinostroitel'nyy institut (All-Union Correspondence Machine-Building Institute)

SUBMITTED: November 19, 1957

Card 3/3

L 03011-67 SWT(a)/FVP(m)/FVP(r)/T/FVP(t) IPT/ILT(k)/FPI(h)/FPI(l) T/P(a)
ACC NR: AP6023435 JP/HM SOURCE CODE: UR/0135/66/000/007/0001/0003

AUTHOR: Baranov, M. S. (Candidate of technical sciences); Afanas'yev, V. N. (Engineer); Voshchinskiy, M. L. (Engineer); Vaynshteyn, R. M. (Engineer); Nedel'chik, E. V. (Engineer); Taganov, Yu. I. (Engineer); Geynrikhs, I. N. (Engineer)

ORG: All-Union Extramural Machine Building Institute (Vsesoyuznyy zaochnyy mashinostroitel'nyy institut)

TITLE: Laser welding of some metals 14

SOURCE: Svarochnoye proizvodstvo, no. 7, 1966, 1-3

TOPIC TAGS: laser application, laser welding / SU-1 laser welder, 1Kh18N9T steel, KO steel

ABSTRACT: The results of laser welding of fillet joints of copper and L-62 silver coated brass with 1Kh18N9T steel, KO steel and copper are presented. The SU-1 laser welder (shown in photograph) was used to weld thin wires [$d < 0.1$ mm] attached to semiconductor and microelectronic devices. The unit power input is regulated by adjusting various object lenses with focal distances of 10, 20, 40, and 50 mm. Unit power input is calculated by the formula $g = W^2/tF$ where W^2 is the energy of radiation considering the losses in the optic system in joules; t is the pulse time in sec and F is the focal area in cm^2 . The weld penetration and width are proportional to the maximum volt-

Card 1/2

UDC: 621.791.72:535.14:669.15-194

L 03011-67.

ACC NR: AP6023435

age of the condenser battery. This relationship is shown in a table for USA steel where focal distance is 20 mm. Another test was carried out on strips of USA steel with a thickness of 2.6 mm (surface condition of the 10th class in accordance with GOST 2789-59) in order to determine the relationship between width and penetration of the welds and the defocusing. These tests showed that when $\Delta f = 0.75$, the weld penetration was $\max h = 22 \mu$. Overlap welding was carried out on copper with L-62 brass, with non-coated brass, 1Kh18N9T stainless steel, K0 low-carbon steel and finally on copper wires. Without stripping the insulation [M1] copper wire of $d = 0.05$ mm was welded to a silver-coated brass rod of $d = 0.5$ mm. Neither of these specimens showed cracks in the welds. However, microporosity was indicated in some of the specimens. Shear strength tests of the welds were carried out on two types of welds: without stripping the insulation from the copper wire and with bare wire. The first specimens had an average shear strength of 25.3 kg/mm^2 while for the second typepe, a shear strength of 26 kg/mm^2 . The small difference makes it feasible to recommend this welding process without stripping the insulation. A comparative test of the laser-welded and brassed joints was made. The latter showed an average strength 13% less than the welded joints. The authors conclude that the laser-welded joints have considerably better mechanical properties than the soldered joints. This is due to the smaller heat-affected zone. Orig. art. has: 6 figures, 1 table.

SUB CODE: 13,20/ SUBM DATE: none

Joining of dissimilar metals | 2

Card 2/2 awm

BARANOV, N.

PA 16/49+33

USSR/Engineering
Automobiles
Repair Shops

Aug 48

"Automobile Repair Workshop in Pyatigorsk," N.
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16/49T33

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nauk, red. MITARCHUK, G.A., red. izd-va; SHCHETININA, L.V.,
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ACC NO: 113009984

(A, N)

SIJ(c) JU
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ABSTRACT: Baranov, N. A.; Birman, R. S.; Bugrov, M. S.; Nozdrin, V. R.; Dneprov, A. I.; Bogdanov, G. V.; Bogdanov, L. A.

CLASS: none

REMARKS: An automatic line for continuous adjusting, cutting, and inspecting for the presence of surface defects and for the type of steel or the hardness of metallic rods. Class 49, No. 184589 [announced by Moscow Metallurgical Plant "Sickle and Hammer" of the Order of Lenin and the Order of the Workers' Red Banner (Moskovskiy ordena Lenina i ordena Trudovogo Krasnogo Znameni metallurgicheskoy zavod "Serp i molot")]

SOURCE: Izobret prom obraz tov zn, no. 15, 1966, 133-134

TOPIC TAGS: metalworking, automation, industrial automation, automatic control equipment

ABSTRACT: This Author Certificate presents an automatic line for continuous adjusting, cutting, and inspecting for the presence of surface defects and for the type of steel or hardness of metallic rods. To improve its efficiency and the quality of inspection, the line contains a combination of consecutively mounted (along the course of the technological process): an assembly for adjusting and cutting the ends of the rods; an assembly for a simultaneous inspection of the rods for the presence of surface defects and for the type of steel or for the hardness (by a defectoscopic

Card 1/3

UDC: 620.179.6-422-2