

SOV/133-59-9-8/31

An Investigation of the Operation of a 250 Ton Open Hearth Furnace  
Fired with Coke Oven Gas

increasing the velocity of the gas-air mixture from the dog house to 100 to 120 m/sec. The pressure in the gas vertical flue increased to the atmospheric pressure and at maximum thermal loads to 10 mm H<sub>2</sub>O. The temperature of the upper checkers of gas regenerators was maintained at 1200 to 1250°C. The consumption of oil remained the same as on firing with mixed gas. During the melting period, the flame was covering the bath satisfactorily but during the refining period at low thermal loads the length of the flame was insufficient. In this case, an improvement can be obtained by decreasing the coefficient of excess air to 0.9 to 1.0. Changes in the operating indices of the furnace on transfer to firing with hot coke oven gas are given in tables 1 and 2. The preliminary results obtained indicated that, in respect of productivity and fuel consumption, the furnace operation was satisfactory. Further investigation of the problem of heating open hearth furnaces with a hot low pressure gas of a high calorific value and, in

Card 2/3

SOV/133-59-9-8/31

An Investigation of the Operation of a 250 Ton Open Hearth  
Furnace Fired with Coke Oven Gas

particular, the development of an optimum furnace  
design is recommended. There are 6 figures, 2 tables  
and 10 references, 8 of which are Soviet and 2 English.

Card 3/3

18.3200

78180  
SOV/133-60-3-5/24

AUTHORS: Leykin, I. M. (Candidate of Technical Sciences),  
Sabiyev, M. P., Shidkov, V. A. (Engineers)

TITLE: Production of Low Alloy Steels 19G and 14KhGS Without  
Reduction by Silicon in the Furnace

PERIODICAL: Stal', 1960, Nr 3, pp 216-219 (USSR)

ABSTRACT: This is a report concerning test melts conducted by  
the personnel of the Central Scientific Research Institute  
of Ferrous Metallurgy (TsNIICHM) and the Alchevskiy  
Metallurgical Plant (Alchevskiy metallurgicheskiy zavod  
in Voroshilovsk). A series of test melts of 14KhGS and  
19G steels were made in the furnaces with chromium  
magnesite roof, fired by mixed gas. The furnaces worked  
on scrap-ore process with two stage drawing off of slag.  
13.5 ton ingots were produced by bottom pouring; 14.5  
ton ingots by direct pouring. The reduction took place  
in the ladle. The change of chemical content of tested  
steels in the course of test pouring was as follows:

Card 1/3

Production of Low Alloy Steels 19G and  
14KhGS Without Reduction by Silicon in  
the Furnace

78180  
SOV/133-60-3-5/24

steel 14KhGS: 0.10-0.14% C; 0.85-1.00% Mn; 0.53-0.66% Si; 0.017-0.030% P; 0.026-0.039% S; 0.44-0.54% Cr. Steel 19G: 0.16-0.20% C; 0.94-1.03% Mn; 0.27-0.34% Si; 0.021-0.034% P; 0.025-0.043% S. The authors arrived at the following conclusions: (1) The investigated method of reduction of steels 14KhGS and 19G (without introducing silicon into the furnace) permits a noticeable decrease in the consumption of manganese-silicon and a decrease of expenses for reducer. (2) With the increase of the degree of utilization of manganese and silicon (introduced with ferroalloys), the specific consumption of manganese was reduced by 8.8% and that of silicon by 37%. (3) The reduction of metal in the furnace by ferromanganese produces only steel with reduced phosphorus content (in the test melts the average phosphorus content was 30% less than in regular melts). (4) During reduction of steel in the ladle, a uniform distribution of elements over the whole volume of metal takes place, accompanied by some decrease in hydrogen content. A special feeder is recommended for

Card 2/3

Production of Low Alloy Steels 19G and  
14KhGS Without Reduction by Silicon in  
the Furnace

78180  
SOV/133-60-3-5/24

introduction of reducers into the ladle. This feeder gives means to control the amount of admixtures fed into the ladle per unit time. (5) Due to the cooling effect of sizeable admixtures of ferroalloys, the metal before tapping should have a temperature  $10^{\circ}$  C higher than usual. (6) The total content of nonmetallic inclusions in test steels proved to be lower than in regular melts. (7) The impact strength of sheets made from test melts of 14KhGS and 19G steels at room temperature and at reduced test temperatures, as well as after aging, is not lower than that of sheets made from regular melts. There are 4 tables.

ASSOCIATION: TsNIICHM and Alchevskiy Metallurgical Plant (TsNIICHM i Alchevskiy metallurgicheskiy zavod)

Card 3/3

YEFIMOV, V.A.; SABIYEV, M.P.; GREBENYUK, V.P.; OSIPOV, V.P.

Steel shrinkage and deformation of the mold during the casting  
of sheet ingots. Vop.proizv.stali no.7:135-140 '60.

(MIRA 13:8)

(Steel ingots)

(Ingot molds)

S/028/60/000/010/010/020  
B013/B063

AUTHORS: Sokolovskiy, P. I., Samaryanova, A. M., Sabiyev, M. P.,  
Timofeyev, D. I. <sup>16</sup>

TITLE: Heat Treatment of Low Carbon Steel <sup>18</sup>

PERIODICAL: Standartizatsiya, 1960, No. 10, pp. 41-44

TEXT: The experience gained in a number of metallurgical works in the heat treatment of rimming and semi-quiet steel of the type CT.3 (St.3) is described. These experiments as well as extensive scientific work were necessary for the elaboration of OCT 9458-60 (GOST 9458-60). The properties of the steel plate of type St.3 subjected to heat treatment were studied by the TsNII chernoy metallurgii (Central Scientific Research Institute of Ferrous Metallurgy), TsNII stroitel'nykh konstruktsiy (TsNII for Structures) and the GPI Proyektstal'konstruktsiya at the Novo-Tagil'skiy zavod (Novo-Tagil'skiy Works). A strongly inhomogeneous structure was observed. Positive results were obtained with the heat treatment of semi-quiet steel of type St.3 made by the TsNII for structures at the zavod im. Il'icha (Works imeni Il'ich): structure and properties were

Card 1/3

Heat Treatment of Low Carbon Steel

S/028/60/000/010/010/020

B013/B063

homogeneous at different points of the plates. At present, the semi-quiet steel of the types St.3 and St.5 is studied at the Ukrainskiy institut metallovo (Ukrainian Metal Institute) in collaboration with the TsNII for structures. Specimens of semi-quiet steel of type St.3 will be subjected to heat treatment at the Alchevskiy zavod (Alchevskiy Works). At the Novo-Tagil'skiy works Martin steel sheets produced from rimming steel of type St. 3 with 0.14 and 0.19% carbon content, and at the works imeni Il'ich, steel sheet produced from rimming and semi-quiet steel of the type St. 3 with 0.14 and 0.21% carbon content as well as H- and U-iron No. 30 produced from rimming St. 3 steel were subjected to heat treatment. Better results were obtained in the works mentioned last. On the basis of the experiments conducted at various works the main parameters for the conditions of heat treatment could be determined. The studies of mechanical properties of steel subjected to heat treatment (Table) show that on tempering carbonsteel plates of type St. 3 sufficient homogeneity is obtained. Thicker plates have more uniform mechanical properties with good plastic properties being obtained at high strength. In spite of the good results obtained heat treatment is still imperfect since the values of the relative increase in length are frequently below the standard

Card 2/3



Heat Treatment of Low Carbon Steel

S/028/60/000/010/010/020  
B013/B063

ГОСТ 9458-60 (GOST 9458-60). Hence, further experimental data are necessary. Cold brittleness and mechanical aging of carbon steel which were observed in an experimental series are lower than in low-alloy steels. In the case of thin cuts the St. 3 steel subjected to heat treatment may replace low-alloy steels with a yield point of  $30 \text{ kp/mm}^2$ . The use of carbonsteel subjected to heat treatment proved to be favorable also from the economic point of view. The experience gained at the Alchevskiy works in the heat treatment of steel boiler plates showed that the strength of carbon steel subjected to heat treatment attains the strength of some hot-rolled low-alloy steels. On the basis of a large number of experimental data collected in the works the GOST 9458-60 standards for the mechanical properties must be specified more exactly. There is 1 table. ✓

Card 3/3

SOKOLOVSKIY, P. I.; SAMARYANOVA, A.M.; SABIYEV, M.P.; TIMOFEYEV, D. I.

Heat treatment of low-carbon steel. Standartizatsiya 24 no.10:41-  
44 0 '60. (MIRA 13:10)

(Steel--Heat treatment)

SABIYEV, M. P.

PHASE I BOOK EXPLOITATION

SOV/5411

Konferentsiya po fiziko-khimicheskim osnovam proizvodstva stali. 5th,  
Moscow, 1959.

Fiziko-khimicheskiye osnovy proizvodstva stali; trudy konferentsii  
(Physicochemical Bases of Steel Making; Transactions of the  
Fifth Conference on the Physicochemical Bases of Steelmaking)  
Moscow, Metallurgizdat, 1961. 512 p. Errata slip inserted.  
3,700 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Institut metallurgii imeni  
A. A. Baykova.

Responsible Ed.: A. M. Samarin, Corresponding Member, Academy  
of Sciences USSR; Ed. of Publishing House: Ya. D. Rozentsveyg.  
Tech. Ed.: V. V. Mikhaylova.

Card 1/16

Physicochemical Bases of (Cont.)

SOV/5411

**PURPOSE:** This collection of articles is intended for engineers and technicians of metallurgical and machine-building plants, senior students of schools of higher education, staff members of design bureaus and planning institutes, and scientific research workers.

**COVERAGE:** The collection contains reports presented at the fifth annual convention devoted to the review of the physicochemical bases of the steelmaking process. These reports deal with problems of the mechanism and kinetics of reactions taking place in the molten metal in steelmaking furnaces. The following are also discussed: problems involved in the production of alloyed steel, the structure of the ingot, the mechanism of solidification, and the converter steelmaking process. The articles contain conclusions drawn from the results of experimental studies, and are accompanied by references of which most are Soviet.

Card 2/16

Physicochemical Bases of (Cont.)

SOV/5411

TABLE OF CONTENTS:

PART I. MAKING STEEL IN OPEN-HEARTH  
AND ELECTRIC FURNACES

Chelishchev, Ye. V., M. P. Sabiyev, Ye. V. Abrosimov, V. P. Grigor'yev, L. F. Fedorov, and B. N. Sukhotin. Composition of Metal at Various Levels of the Bath in the 500-Ton Open-Hearth Furnace; the Decarburization of Steel	5
Chelishchev, Ye. V. The State and Composition of the Metal and Slag Interface-Adjacent Layers, and the Steel-Decarburizing Process in Open-Hearth Refining	12
Mikhaylets, N. S. Slag [Formation] Regime in Open-Hearth Melting and the Hydrogen Content in Steel	21

Card 3/16

SABIYEV, M. P.

85

PHASE I BOOK EXPLOITATION

80V/5556

Moscow. Institut stali.

Novoye v teorii i praktike proizvodstva martenovskoy stali (New [Developments] in the Theory and Practice of Open-Hearth Steelmaking) Moscow, Metallurgizdat, 1961. 439 p. (Series: Trudy Mezhvuzovskogo nauchnogo soveshchaniya) 2,150 copies printed.

Sponsoring Agency: Ministerstvo vysshego i srednego spetsial'nogo obrazovaniya RSFSR. Moskovskiy institut stali imeni I. V. Stalina.

Eds.: M. A. Glinkov, Professor, Doctor of Technical Sciences, V. V. Kondakov, Professor, Doctor of Technical Sciences, V. A. Kudrin, Docent, Candidate of Technical Sciences, G. N. Oys, Professor, Doctor of Technical Sciences, and V. I. Yavovskiy, Professor, Doctor of Technical Sciences; Ed.: Ye. A. Borko; Ed. of Publishing House: N. D. Gromov; Tech. Ed.: A. I. Karbsev.

PURPOSE: This collection of articles is intended for members of scientific institutions, faculty members of schools of higher education, engineers concerned with metallurgical processes and physical chemistry, and students specializing in these fields.

Card 1/14

85

New [Developments] in the Theory (Cont.)

SOV/5556

COVERAGE: The collection contains papers reviewing the development of open-hearth steelmaking theory and practice. The papers, written by staff members of schools of higher education, scientific research institutes, and main laboratories of metallurgical plants, were presented and discussed at the Scientific Conference of Schools of Higher Education. The following topics are considered: the kinetics and mechanism of carbon oxidation; the process of slag formation in open-hearth furnaces using in the charge either ore-lime briquets or composite flux (the product of calcining the mixture of lime with bauxite); the behavior of hydrogen in the open-hearth bath; metal desulfurization processes; the control of the open-hearth thermal melting regime and its automation; heat-engineering problems in large-capacity furnaces; aerodynamic properties of fuel gases and their flow in the furnace combustion chamber; and the improvement of high-alloy steel quality through the utilization of vacuum and natural gases. The following persons took part in the discussion of the papers at the Conference: S.I. Filippov, V.A. Kudrin, M.A. Glinkov, B.P. Ham, V.I. Yavoyskiy, G.N. Oyks and Ye. V. Chelishchev (Moscow Steel Institute); Ye. A. Kazachkov. and A. S. Kharitonov (Zhdanov Metallurgical Institute); N.S. Mikhaylets (Institute of Chemical Metallurgy of the Siberian Branch of the Academy of Sciences USSR); A.I. Stroganov. and D. Ya. Povolotskiy (Chelyabinsk Polytechnic Institute); P.V. Umrikhin (Ural Polytechnic Institute); I.I. Fomin (the Moscow "Serp i molot" Metallurgical Plant); V.A. Fuklev (Central Asian Polytechnic Institute)

Card 2/14

31

New [Developments] in the Theory (Cont.)

SOV/5556

and M.I. Beylinov (Night School of the Dneprodzerzhinsk Metallurgical Institute).  
References follow some of the articles. There are 268 references, mostly Soviet.

TABLE OF CONTENTS:

Foreword

5

Yavovskiy, V. I. [Moskovskiy institut stali - Moscow Steel Institute].  
Principal Trends in the Development of Scientific Research in Steel  
Manufacturing

7

Filippov, S. I. [Professor, Doctor of Technical Sciences, Moscow Steel  
Institute]. Regularity Patterns of the Kinetics of Carbon Oxidation  
in Metals With Low Carbon Content  
[V. I. Antonenko participated in the experiments]

15

Levin, S. I. [Professor, Doctor of Technical Sciences, Dnepropetrovskiy  
metallurgicheskiy institut - Dnepropetrovsk Metallurgical Institute].

Card 3/14



New [Developments] in the Theory (Cont.)	80V/5556	10
Kleyn, A.L., and P.V. Umrikhin [Ural Polytechnic Institute]. Slag Formation When Using Composite Flux Produced by Calcination of Lime-Bauxite Mixture		117
Ushakov, Ye. N. [Candidate of Technical Sciences], Ye. V. Abrosimov, [Docent, Candidate of Technical Sciences], V.I. Kozlov, V.A. Shcherbakov [Engineers], A.G. Kotin [Candidate of Technical Sciences], and M.P. Sapiyev [Engineer], [Moscow Steel Institute, Ukrainskiy nauchno-issledovatel'skiy institut metallov - Ukrainian Scientific Research Institute of Metals, Alchevskiy metallurgicheskiy zavod - Alchevsk Metallurgical Plant]. Improving the Steelmaking Process in Large-Capacity Open-Hearth Furnaces		125
Voloshina, N.M. [Engineer]. Using Ore-Lime Briquets Instead of Ore and Lime in the Open-Hearth Process [D.I. Sapiro, P.I. Kovalev, S.I. Zhmak, G. Ye. Kravtsov, Engineers, and I.M. Tkachenko, A.P. Poletayev, Technicians participated in the research work]		133
Ofengenden, A.M. [Engineer]. Accelerating the Slag Formation and Desulfurization in the Open-Hearth Process		140

Card 6/14

S/137/61/000/011/018/123  
A060/A101

AUTHORS: Chelishchev, Ye.B., Sabiyev, M.P., Abrosimov, Ye.V., Grigor'yev, V.P., Fedorov, L.F., Sukhotin, B.N.

TITLE: Metal composition at various levels of the vat of a 500-ton open-hearth furnace, and the decarbonizing of steel

PERIODICAL: Referativnyy zhurnal. Metallurgiya, no. 11, 1961, 27-28, abstract 11V183 (V sb. "Fiz-khim. osnovy proiz-va stali", Moscow, Metallurg-izdat, 1961, 5 - 11)

TEXT: In order to determine the degree of stirring and homogeneity of metal composition at various points of the vat of a 500-ton open-hearth furnace, and also to determine the possibility of a further increase of the vat dimensions, a series of metal samples was taken from 11 heats. The samples were taken with the aid of a welded box-rod affixed to the pan of a charging machine. Three cha-motte molds were mounted in the box, each containing quartz crucibles with Al wire. The C content varied between the limits of 0.1 and 1.0%; O content - 0.005 to 0.03%. The altitude variation in carbon content is of no practical significance. The altitude-variation of O content is very noticeable. In the ma-

Card 1/ 2

SABIYEV, M.P.

S/137/61/000/011/024/123  
A060/A101

AUTHORS: Ushakov, Ye. N., Abrosimov, Ye. V., Kozlov, V. I., Shcherbakov, V. A., Kotin, A. G., Sabiyev, M. P.

TITLE: Improvement of steel-smelting technology in high-capacity open-hearth furnaces

PERIODICAL: Referativnyy zhurnal. Metallurgiya, no. 11, 1961, 38, abstract 11V227 (V sb.: "Novoye v teorii i praktike proizv. martenovsk. stali", Moscow, Metallurgizdat, 1961, 125 - 132. Discuss. 193 - 201)

TEXT: The authors describe the results of the investigations of the conditions of slag formation and their effect upon the productivity of high-capacity open hearth furnaces under the conditions of replacing ore and limestone in the charge by ore-limestone briquets or a premixed ore-limestone mixture. The article also describes the investigation of various variants of metal reduction. In order to exclude the influence of the thermal schedule, the experimental and ordinary smeltings were carried out at practically the same thermal loads: 35 - 38 million kcal during the charging and 25 - 27 million kcal during the finishing. The ore-limestone briquets from the Krivorozh'ye plant had the following composi-

Card 1/3

2

S/137/61/000/011/022/123  
A060/A101

Improvement of steel-smelting technology in...

tion: Fe 47 - 52%, SiO<sub>2</sub> 5.4 - 6.9%, CaO 10.1 - 14.1%; basicity 1.8 - 2.2. To raise the basicity of the slag, limestone (~1.3% of the weight of the metallic charge) was added to the charge after the melting. The main indices of the experimental and control smeltings with the use of briquets are cited, from which it follows that with practically the same composition of the metallic charge the quantity of loose materials in operating with briquets is less by 13.5 tons (2.8% by weight of the metallic charge and 12.3% of the total weight of ore and limestone). In smelting with briquets as compared with ordinary control smeltings the mean charging duration is reduced by 15 min, and that of the smelting by 1 hr 24 min. The basicity of the slag in smelting with briquets is somewhat higher than that in ordinary smeltings due to the lower SiO<sub>2</sub> content in the charge. Despite the fact that with the use of briquets the tapping duration is increased on account of the higher C content after the melting (by 0.11%), the total smelting duration is then still 1 hr 15 min less than that of ordinary heats. This corresponds to an increase of 9% in the hourly productivity of the furnace. The effectiveness of using lump materials in the charge is noted. The ore-limestone mixture was prepared earlier in the charge yard at ore to limestone weight-ratios of 2:1 to 1:1. The results of experimental heats with ore-lime-

Card 2/3

Improvement of steel-smelting technology in...

3/137/61/000/011/024/123  
K066/A1G1

stone mixture are cited. As result of reducing the smelting time the total duration of the heat was reduced by 15 min on the average. Liquid slags with floating pieces of limestone were noted during the smelting period. The mean slag basicity after the melting turned out to be considerably lower than in ordinary heats, which deteriorated the conditions of metal desulfuration. The finishing of the experimental heats, on account of the higher S content at a low C content (during smelting in the presence of high acidity slag much more C was burned out than in ordinary heats) is made more difficult and requires the addition of large quantities of limestone, and in special heats, also of Fe-Mn. The inefficiency of the use of ore-limestone mixture is noted, since a very small effect is achieved by it. The main indices of heats with the reduction in ladles and in the furnace are cited. Reduction in the furnace lowers the duration of the finishing, reduces the Mn burn-off (by 30% on the average) and the saving of about 3 kg of Fe-Mn per ton of steel is effected. Despite a somewhat greater complexity of the technological process the method of reducing the smelt in the ladle while smelting in high-capacity furnaces is recommended for large-scale production.

[Abstracter's note: Complete translation]

I. Polyak

Card 3/3

ABROSIMOV, Ye.V.; SHCHERBAKOV, V.A.; SABIYEV, M.P.; DRYAPIK, Ye.P.

Making of low-alloy steels in 500-ton open-hearth furnaces.  
Stal' 21 no.6:499-504 Je '61. (MIRA 14:5)  
(Open-hearth furnaces)  
(Steel alloys--Metallurgy)

KLAUSTING, Ye.A.; LEYKIN, I.M.; SABIYEV, M.P.; IMSHENETSKIY, V.I.;  
CHERNER, M.I.; Primali uchastiye: PIKULIN, S.A.;  
KONSTANTINOVA, T.A.; KOVAL', F.Ya.; KRYZHEPOL'SKAYA, S.P.;  
SHUL'GA, Ye.A.; NIKITIN, V.N.; DOROFYEVA, A.N.

From practices of producing 19G steel at the Kommunarskiy  
Metallurgical Plant. Stal' 22 no.2:155-159 F '62. (MIRA 15:2)

1. Tsentral'nyy nauchno-issledovatel'skiy institut chernoy  
metallurgii i Kommunarskiy metallurgicheskiy zavod.  
(Kommunarskiy--Steel alloys--Metallurgy)  
(Rolling--Metalwork)

SANDLER, N. I., kand. fiziko-matematicheskikh nauk; MONAKHOVA, L. V.,  
kand. tekhn. nauk; KURMANOV, M. I., kand. tekhn. nauk;  
ALEKSANDROV, P. A., doktor tekhn. nauk; SABIYEV, M. P., inzh.

Defects in manganese-aluminum steel slabs. Met. i gornorud.  
prom. no.1:62-66 Ja-F '63. (MIRA 16:4)

1. Ukrainskiy institut metallov.

(Steel ingots—Defects)



KOCHO, V.S.; GRANKOVSKIY, V.I.; DRYAPIK, Ye.P.; SABIYEV, M.P.;  
PLOSHCHENKO, Ye.A.

Accelerations of open-hearth furnace operations without  
oxygen. Izv. vys. ucheb. zav.; Chern. met. 6 no.4:150-155  
'63. (MIRA 16:5)

1. Kiyevskiy politekhnicheskii institut.  
(Open-hearth furnaces)  
(Compressed air)

SHCHERBAKOV, V.A.; ABROSIMOV, Ye.V.; Primalni uchastiye: USHAKOV, Ye.N.;  
KOZLOV, V.I.; KOTIN, A.G.; SABIYEV, M.P.

Slag conditions during melting in high-capacity open-hearth  
furnaces. Izv. vys. ucheb. zav.; chern. met. 6 no.7:59-64  
'63. (MIRA 16:9)

1. Moskovskiy institut stali i splavov.  
(Open-hearth process) (Slag)

KOCHO, V.S.; STREL'CHENKO, A.G.; SABIYEV, M.P.; DRYAPIK, Ye.P.

Investigating the temperature conditions of the bath during its continuous control in the finishing period. Izv. vys. ucheb. zav.; chern. met. 6 no.8:169-174 '63. (MIRA 16:11)

1. Kiyevskiy politekhnicheskiy institut, Institut avtomatiki Gosplana UkrSSR i Kommunarskiy metallurgicheskiy zavod.

GOROKHOV, L.S., inzh.; ABROSIMOV, Ye.V., kand.tekhn.nauk; SHCHERBAKOV, V.A.,  
inzh.; STUL'PIN, Ye.A., inzh.; SABIYEV, M.P., inzh.;  
PLOSHCHENKO, Ye.A., inzh.

Interrelation of the conditions of carbon oxidation and the  
introduction of additives with the thermal parameters of the  
ore boil during smelting in large furnaces. Stal' 23 no.5:  
404-408 My '63. (MIRA 16:5)

(Open-hearth process)

TIMOFEYEV, D.I.; CHERNER, M.I.; SABIYEV, M.P.

Effect of defects in side and end edges of slabs on the  
quality of the sheet. Met. 1 gornorud. prom. no. 336-  
37 My-Je '64. (MIRA 17:10)

TERZIYAN, P.G.; ABROSIMOV, Ye.V.; SABIYEV, M.P.

Carbon oxidation in a steel smelting bath. Izv. vys. ucheb.  
zav.; Chern. met 7 no. 7:63-68 '64 (MIRA 17:8)

1. Moskovskiy institut stali i splavov.

GOROKHOV, L.S. inzh.; TERZIYAN, P.G., inzh.; ABROSIMOV, Ye.V., kand.tekhn.  
nauk; SABIYEV, M.P., inzh.

Hydrodynamics of open-hearth furnace baths. Stal' 24 no.7:604-606  
Jl '64. (MIRA 18:1)

TERZIYAN, P.G.; ABROSIMOV, Ye.V.; SABIYEV, M.P.

Carbon oxidation and metal heating in the finishing period of  
open-hearth smelting. Izv. vys. ucheb. zav.; chem. met. 8 no.1:  
32-36 '65 (MIRA 1831)

1. Moskovskiy institut stali i splavov.



SABJAN, Ivan

Ass. at Vet. Faculty, Sarajevo University

Dr. Safet Begovic - ass. prof. of Pathologic Physiology at Vet. Faculty U. of Sarajevo

"The Influence of Therapeutical Doses of CEVOMOR on the Length of Prothrombin Reaction and Reaction of Erythrocyte Sedimentation in Horses"

Source: Vet Svezak 2, p.340, 1953

SABJAN, Ivan

Assistant at Delivery Clinic of Vet. Faculty, Sarajevo

Josip Bielen - Vet. maj., chief of Surgical Dept. Mil. Vet. Hospital, Sarajevo

"Investigation of the Isohaemagglutininic Titre in the Blood Serum of Healthy Horses."

Source: Vet. Svezak 4, p.635, 1953

SABL, V.

SURNAME, Given Names

Country: Czechoslovakia

(1)

Academic Degrees:

Affiliation: Director of the Magazine Department, SZdN /Statni zdravotnicke nakladatelstvi; State Medical Publishing House/(Oddeleni casopisu

~~Source:~~ SZdN), Prague.

Source: Prague, Prakticky Lekar, Vol 41, No13, 1961, p 578.

Data: "Farewell to Karel Sedlacek."

186

SABLATURA, Pavol, inz.

Contribution to the discussion on unified methods of dust  
measurement in ore mines. Rudy 12 no.4:132-133. Ap '64.

1. Rudne bane National Enterprise, Kremnica.

SABLEV, P.

Improve the bonus system for creating new machinery. Sots.  
trud 8 no.12:74-77 D '63. (MIRA 17:2)

1. Direktor Khar'kovskogo traktornogo zavoda.

SABLEV, Pavel Yefimovich; LUPANDIN, I.V., red.

[On the road of technological progress] Na puti tekhnicheskogo progressa. Kiev, Gostekhizdat, 1962. 24 p.  
(MIRA 18:6)

SABLEV, P.Ye., Lzh.

Increasing the durability and reliability of tractors.

Mashinostroenie no.4:30-32 J1=8g '64.

(MIRA 17:10)

SABLEV, P. YE.

SABLEV, P. Ye.

Kharkov Tractor Plant during the past 26 years. Avt.1 trakt.prom.  
no.11:6-8 N '57. (MIRA 10:12)

1. Khar'kovskiy traktorny zavod.  
(Kharkov--Tractor industry)



SABLEV, P.Ye., inzh.

Machinery for healthful labor. Zdorov'ie 4 no.12:3-4 D' 58

(MIRA 11:12)

1. Direktor Khar'kovskogo traktornogo zavoda imeni S. Ordzhonikidze.  
(INDUSTRIAL HYGIENE)

*SABLIEV, P. Yu.*

SABLEV, P.Yu. [Sabl'ev, P.Yu.].

Plans of workers of the Kharkov Tractor Plant. Mekh. sil'. hosp. 9  
no.1:6 Ja '58. (MIRA 11:2)

1. Direktor Kharkivs'kogo traktornogo zavodu im. Odzhonikidze.  
(Kharkov--Tractor industry)

*65 100  
32.5*

SABLEV, P. V.

Bonus awards for reducing production costs. Sots.trud 4 no.7:  
115-120 J1 '59. (MIRA 13:4)  
(Kharkov--Tractor industry--Costs)

SABLEV, P.Yu. [Sabl'ev, P.IU.]

Made by the Kharkov Tractor Plant. Mekh.sil'.hosp. 11  
no.3:3-4 Mr '60. (MIRA 13:6)

1. Direktor Khar'kovskogo traktornogo zavoda im. Ordzhonikidze.  
(Tractors)

SABLIC, L.

In memoriam Prof. Dr. Dragomir Karajovic (1889-1964). Arh. hig. rada  
15 no.2:137-139 '64.

S.B.I.C., Stjepan, ina. (Zagreb)

Reconstruction of the clinker hall of the Prvoborac Cement Plant  
near Split. Gradovinar 15 no. J2:441-452 D '63.

SABLIC, Stjepan, inž. (Zagreb)

Study on the shaping of foundations for storehouse halls  
with high supporting walls. Gradevinar 16 no.11:391-399  
N '64.

S. BLICI, D.

"Supplementary rotation of reels on the Flyer fly frame caused by the movement of the bench, with concealed lamination as its result."

Industria Textile, Bucaresti, Vol 5, No 5, May 1954, p. 177

SO: Eastern European Accessions List, Vol 3, No 10, Oct 1954, Lib. of Congress



SABLICI, D.

The textile industry in the USSR in the Seven-Year Plan, 1959-1965. p. 41.

INDUSTRIA TEXTILA. (Asociatia Stiintifica a Inginerilor si Technicienilor din Rominia si Ministerul Industriei Udostrè) Bucuresti, Rumania. Vol. 10, no. 2, Feb. 1959.

Monthly List of East European Accessions (EEAI) LC, Vol. 8, no. 8, Aug. 1959.

Uncl.

SABJCT, B., ing.

Continuous and automatic spinning of cotton yarns. Ind. text  
Run 15 no. 63221-326 Jc'64

1. Director general, D.G.I.B., Ministry of Light Industry.

GREJCI, P., Ing.

The cotton industry during the twenty years since the liberation  
of Romania. Ind text Rom 15 no.8:399-406 2g 64

L. Director General, S.G.I.R., Ministry of Light Industry.

SABLIK, J.

Intrafactory accounting and its organization in the furniture industry.

P. 52, (Przemysl Drzewny. Vol. 7, no. 2, Warszawa, Poland Feb. 1956)

MONTHLY index of East European Accessions (FEAI) LC. Vol. 7, no. 2,  
February 1958

SABLIK, J.; SURMACEWICZ, M.

SABLIK, J.; SURMACEWICZ, M. Problem of economical management in the furniture factories. p. 77.

Vol. 7, no. 3, Mar. 1956

PRZEMYSŁ DRZEWNY

TECHNOLOGY

Warszawa, Poland

So: East European Accession Vol. 6, no. 2, 1957

SABLIK, J.

Control and accounting during the course of production in the furniture industry.

p. 214, (Przemysl Drzewny. Vol. 7, no. 7, July 1956, Warszawa, Poland)

Monthly Index of East European Accessions (EEAI) LC. Vol. 7, no. 2,  
February 1958

STRYCEK, R.; SABLİK, J.

Pathologic modification in plasma proteins caused by turbidimetric reaction with picric acid. Gas.lek.cesk. 90 no.6:173-178 9 Feb 51.  
(CJML 20:6)

1. Of the Children's Department of the State Regional Hospital in Uh, Hradiste (Head--A.Palacky,M.D.) and of the Radiological Institute of the State Regional Hospital in Ceske Budejovice (Head--Fr. Vadura,M.D.).

STRYCEK, R.; SABLİK, J.

Certain physico-chemical properties of blood serum in malignant tumors. Gas. lek. cesk. 90 no.41:1216-1220 12 Oct 1951. (CML 21:2)

1. Of the Children's Department (Head--R. Strycek, M.D.) of the State District Hospital in Jindrichuv Hradec and of the Radiological Department (Head--F. Vadura, M.D.) of the State District Hospital in Ceske Budejovice.



SABLIK, J.

**Excerpta Medica Sec 16 Cancer Vcl. 2/2 Feb 54**

615. SABLIK J., STRYCEK R. and VTELENSKY J. Onkolog. pracov. skup. st. obl. nem. v Ces. Budejovicich. Zakalová reakce sera s kyselinou pikrovou u malignich procesů *Picric acid turbidity reaction of sera in malignancy* Cas. lek. ces. 1952, 91/2 (55-58) Graphs 2 Tables 2

In 10 tubes, increasing amounts of serum from 0.05 ml. to 0.5 ml. are measured and 3 ml. of picric acid solution (1 g. picric acid and 9 g. NaCl made up to 1,000 ml. with distilled water) are added to each tube. Resulting turbidities are measured by means of a photometer and plotted against the amount of serum used. In pathological cases there are differences in the curve when compared with normals. In malignancy some changes in the curve were obtained after actinotherapy as compared with the curve of the same patient before treatment. The possibility of using this reaction for early diagnosis of malignant tumours is discussed.

Heyrovsky - Prague

SABLİK, Jaromir, MUDr

Present state of serodiagnostic test of malignancy. Cas.lek.cesk.  
91 no.48:1441-1445 28 Nov 52.

1. Z Onkologickeho ustavu, pracoviste Praha VIII (prednosta: doc.  
dr. Fr. Behounek) a ze St. radiocebného ustavu, Praha VIII-Bulovka  
(Prednosta: dr. Fr. Vad'ura).  
(NEOPLASMS, diagnosis,  
serol. test of malignancy)

SABLIK, Jaromir, MUDr

Universal serologic reaction. Cas.lek.cesk. 91 no.48:1445-1446 28  
Nov 52.

1. Z Onkologickeho ustavu, pracoviste Praha VIII, prednosta: doc.  
Fr.Behounek.

(SERODIAGNOSIS,  
universal serol. reaction)

SABIR, J

Med

4

Study of the metabolism of proteins by the aid of radioactive isotopes. I. The incorporation of 3,5-diodo-1-tyrosine into tissue and blood proteins in comparison with the metabolism of inorganic iodine. J. Hradec, J. Sablik, J. Klumpar, and P. Jirousek (Oncological Inst., Prague). *Physiol. Bohemoslov.* 3, 198-205(1954)(in English).—Normal and thyroidectomized rats were given radioactive diiodotyrosine and NaI parenterally. Groups of animals were killed after 24 hrs. and the specific activity of the protein and non-protein fractions of the liver, spleen, kidneys, thyroid gland, muscle, and blood plasma detd. In normal animals inorg. I is rapidly excreted. The greatest specific activity is found in the nonprotein fractions of the thyroid gland and kidneys and in the kidney protein. Diiodotyrosine is less rapidly excreted after administration to normal animals, and is fairly evenly distributed among all the organs. It is rapidly and intensively incorporated into the protein of the blood and organs.

T. M. Widom

SABLIK, Jaromir, MUDr; HRADEC, Jan, MUDr

Functional typing of the complex test of malignancy. Cas. lek.  
cesk. 94 no.1-2:22-28 7 Jan 55.

1. Onkologicky ustav, pracoviste Praha (prednosta doc. Dr.  
F.Behounek, clen-korespondent CSAV)  
(NEOPLASMS, diagnosis  
malignancy test, complex)

SABLIK, Jaromir; ZELENKOVA, Vlasta

A simplified malignancy test for onkologic diagnostic practice.  
Cas. lek. cesk. 94 no.1-2:28-30 7 Jan 55.

1. Onkologicky ustav, pracoviste Praha (prednosta doc. Dr.  
F. Behounek, clen korespondent CSAV)  
(NEOPLASMS, diagnosis  
malignancy test, cimplied)

SABLIK, Jaromir; SCFM, Frantisek

Antitumorous action of 6-azauracil on some transplantable experimental tumours. Neoplasma, Bratisl. 4 no.2:113-118 1957.

I. Pathophysiological Department, Oncological Institute, Praha,  
Biochemical Department, Chemical Institute, Czechoslovak Academy of  
Science, Praha. Address: Akademik P. Sorn, Praha 19, Na cvicisti 2.

(NEOPLASMS, exper.

eff. of 6-azauridine on transplantable neoplasms)

(NUCLEOTIDES, eff.

6-azauridine on transplantable exper. neoplasms)

4 21352-66 EWP(t) JD

ACC NR: AP6010894

SOURCE CODE: CZ/0034/65/000/008/0583/0588

AUTHOR: Sablik, Slavomir (Engineer)

ORG: Mechanical Engineering Faculty, CVUT, Prague (Strojní fakulta CVUT)

TITLE: Use of concrete spraying machinery designed for the building industry for refractory repair work in metallurgical furnaces

SOURCE: Hutnicke listy, no. 8, 1965, 583-588

TOPIC TAGS: metallurgic furnace, concrete, refractory product, spray nozzle

ABSTRACT: The best method of applying the refractory powder is in a form of a water suspension; this avoids dust release in the furnace, and at the same time protects the equipment from the effects of high temperatures when repairs are being made while the furnace is in operation. The amount of water required to supply the needed cooling can be calculated easily. The problem of optimum spraying velocity is discussed; the spraying nozzles must be designed specifically for the given application, while the rest of the equipment can be standard concrete spraying machinery. Orig. art. has: 10 figures and 10 formulas. [JPRS]

SUB CODE: 11, 13 / SUBM DATE: none / ORIG REF: 004 / OTH REF: 005

SOV REF: 004

Card 1/1



SABLIK, V.

Heat supply of the City of Prague. p. 138.

(Energetika. Vol. 7, no. 3, Mar. 1957. Praha, Czechoslovakia)

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, no. 10, October 1957. Uncl.

SABLIKOV, Mikhail Vladimirovich

"Investigations of the Spindle Apparatus of Cotton-Picking Machines,"  
dissertation for the Academic Degree of Doctor of Technical Sciences, based on his  
defense, 2 June 1954, in the Council of the Inst. of Machine Science, Acad. Sci. USSR

Tashkent Inst. of Engineers of Irrigation and Mechanization of Agriculture.

M- 3,054,778, 2 Oct 57.

SABLIKOV, Mikhail Vladimirovich; BERESHCHUK, N., red.; MEL'NIKOV, A.,  
tekhn.red.

[Investigating spindles of cotton harvesters] Issledovanie  
shpindel'nykh apparatov khlopkouborochnykh mashin. Tashkent,  
Gos.izd-vo UzSSR, 1959. 182 p. (MIRA 13:2)  
(Cotton-picking machinery)

SABLIKOV, M.V., akademik

So that we have an abundance of grain. Znan. ta pratsia no.4:6-7  
Ap '59. (MIRA 12:10)

1.Vsesoyuznaya akademiya sel'skokhozyaystvennykh nauk im. Lenina.  
(Agricultural machinery)

SABLIKOV, M.V., akademik; BUDZKO, I.A., akademik; BAKHAREV, A.P.

The most important tasks of science. Mekh. i elek. sots. sel'khoz.  
17 no.1:4-8 '59. (MIRA 12:1)

1.Vsesoyuznaya akademiya sel'skokhozyaystvennykh nauk im. Lenina  
(for Sablikev, Budzko). 2.Direktor Vsesoyuznogo nauchno-issledovatel'-  
skogo instituta mekhanizatsii sel'skogo khozyaystva (for Sablikev).  
3.Direktor Vsesoyuznogo nauchno-issledovatel'skogo instituta  
elektrifikatsii sel'skogo khozyaystva (for Budzko). 4.Direktor  
Gosudarstvennogo soyuznogo nauchno-issledovatel'skogo tekhnologicheskogo  
instituta (for Bakharev).

(Research)

SABLIKOV, M.V., akademik; GEL'FENBEYN, S.A., inzh.

Automatic tractors in the fields. Nauka i zhizn' 27 no.8:  
17-21 avg '60. (MIRA 13:9)

1. Vsesoyuznaya akademiya sel'skokhozyaystvennykh nauk imeni  
V.L.Lenina (for Sablikov). (Automatic control)  
(Tractors)

SABLIKOV, M.V., akademik

Science achievements as the basis for the development of  
agricultural machinery. Mekh.i elek.sots.sel'khoz. 19 no.5:1-2  
'61. (MIRA 14:10)

1. Vsesoyuznaya akademiya sel'skokhozyaystvennykh nauk imeni  
Lenina.  
(Agricultural machinery--Technological innovation)

SABLIKOV, M.V., akademik

"Agricultural machinery designer's handbook." Edited by  
A.V. Krasnichenko. Reviewed by M.V. Sablikov. Mekh. i  
elek. sots. sel'khoz. 20 no.3:59-61 '62. (MIRA 15:7)

1. Vsesoyuznaya Akademiya sel'skokhozyaystvennykh nauk imeni  
Lenina.

(Agricultural machinery—Handbooks, manuals, etc.)  
(Krasnichenko, A.V.)



SABLIKOV, N.V., inzhener.

Cutting resistance in straw and silage cutters. Sel'khoz mashina  
no.3:1-3 Mr '57. (MLRA 10:5)  
(Agricultural machinery)

SARLIKOV, N.V., Cand Tech Sci -- (diss) "Study of the process  
of cutting stalks with knives of straw-silo cutters." Tashkent,  
1958, 14 pp (Min of Agr USSR. Tashkent Inst of Engineers of  
Irrigation and Mechanization of Agr) 150 copies (KL, 27-58, 112)

SABLIKOV, N.V.

Resistance of cotton stalks (guza-pai) to cutting. Trudy TIIIMSKH  
no.19:61-65 '62. (MIRA 17:1)

S/109/62/007/008/013/015  
D409/D301

9.4310

AUTHORS:

Avak'yants, G.M., Pavlinov, A.B., Sablikov, V.A.,  
Sinyukov, M.P. and Yurovskiy, A.V.

TITLE:

Study of thermal effects in germanium power transis-  
tors

PERIODICAL:

Radiotekhnika i elektronika, v. 7, no. 8, 1962,  
1421-1426

TEXT:

The dependence of the triode parameters on the heat, released at the collector junction, is studied theoretically and experimentally. The condition for the appearance of falling characteristics in the non-stationary regime, is obtained. Formulas are derived for the emitter and collector currents, the current gain  $\alpha$ , the feedback coefficient  $\mu$ , the collector conductivity  $g_c$ , and the emitter conductivity  $g_e$ . As a result of the heat release, falling characteristics appear in both the emitter and collector circuits. The experimental setup for the study of the non-isothermic current-voltage characteristics is described. The transistors П209 (P209)

Card 1/2

Study of thermal effects ...

S/109/62/007/008/013/015  
D409/D301

and П210А (P210A) were used in the experiments. It was experimentally confirmed that the cooling of the transistors follows Newton's law. It was found that the current gain  $\alpha$  depends weakly on temperature and that  $\mu$  changes by almost one order of magnitude as a result of the heating. (The temperature increase amounted to 20 - 30°K). The experimental and theoretical curves for  $g_c$  were in good agreement. The conditions for the appearance of falling characteristics in the non-stationary regime; are analyzed by means of the graph  $W_c$  versus  $\Delta t$  ( $W_c$  denoting the power dissipated by the collector at the critical point). Conclusions: Formulas are derived for the dependence of the transistor parameters on the heat, released at the collector; these formulas can be simplified in actual conditions. The heat release at the collector junction and in the collector and emitter circuits, is accompanied by the appearance of falling characteristics. There are 7 figures.

SUBMITTED: November 4, 1961

Card 2/2

L 12816-63

EWT(1)/EWG(k)/EWP(q)/EWT(m)/BDS/T-2/EEC(b)-2/ES(t)-2

AFFTC/ASD/ESD=3 Pz=4/Em=4 JD/IJP(G)

ACCESSION NR: AT3003012

S/2927/62/000/000/0243/0248

AUTHOR: Pavlinov, A. B.; Sablikov, V. A.; Sinyukov, M. P.; Yurovskiy, A. V. 78TITLE: Investigation of thermal effects in high-power germanium transistors 25  
[Report at the All-Union Conference on Semiconductor Devices, Tashkent, 2-7 October, 1961]

SOURCE: Elektronno-dy\*rochny\*ye perekhody\*v poluprovodnikakh. Tashkent, Izd-vo AN UzSSR, 1962, 243-248

TOPIC TAGS: Ge transistor heating, high-power Ge transistor, P209 transistor, P210A transistor

ABSTRACT: Nonisothermic current-voltage characteristics of junction transistors, under static conditions and for a common-base circuit, were theoretically studied by G. M. Avakants (Phenomenological theory of semiconductors, Tashkent, AN UzSSR, 1960). The present article reports results of experimental verification of the above theory and results of investigation of the origin of drooping characteristics under transient conditions. Extended experimentation with the P209 and P210A transistors brought the authors to the following conclusions: (1) the current gain

Card 1/2

L 12816-63

ACCESSION NR: AT30030122

depends but little on temperature; (2) the feedback factor largely depends on temperature; (3) the input-output characteristics show that the collector conductance at a certain critical point rises to infinity and then changes sign; (4) the emitter circuit has a drooping characteristic. The following characteristics were measured: (1) collector voltage vs. emitter voltage at  $I_{em} = 6$  ma const.; (2) emitter voltage at  $E_{coll} = 7$  v. const; (3) collector current vs. collector voltage at  $E_{em} = 50$  mv const. Orig. art. has: 8 figures and 7 formulas.

ASSOCIATION: none

SUBMITTED: 00

DATE ACQ: 15May63

ENCL: 00

SUB CODE: PH, GE

NO REF SOV: 001

OTHER: 003

Card 2/2

L 8110-66 EWT(1)/EWT(m)/EEG(k)-2/T/EWP(t)/EWP(b)/EWA(h) IJP(c) JD/GG/AT  
ACG NR: AP5026908 SOURCE CODE: UR/0109/65/010/010/1887/1892

AUTHOR: Pavlinov, A. B.; Sablikov, V. A.

ORG: Tashkent State University (Tashkentskiy gosudarstvennyy universitet)

TITLE: Some electrical characteristics of germanium and silicon "thread" diodes

SOURCE: Radiotekhnika i elektronika, v. 10, no. 10, 1965, 1887-1892

TOPIC TAGS: semiconductor diode, silicon diode, germanium diode

ABSTRACT: The results of an experimental investigation of Ge and Si "thread" diodes are reported. By applying a  $10^5$ - $10^6$  v/cm field in the reverse direction to a p-n junction, an avalanche breakdown was caused; as a result, a thin (2-6  $\mu$ ) breakdown path -- the "thread" -- was formed in the junction. The diodes prepared in this way had an S-type I-V characteristic symmetrical with respect to the origin of coordinates; the bend-point parameters are: V = 20 - 50 v, I = 30 - 60 ma for Si and V = 5-15 v, I = 10 - 50 ma for Ge; curves of L and  $\rho'$  as functions of frequency, for various control currents, and the effect of temperature (-150 +150C) on the diode parameters are also given. The "thread" diode was also tested as an inductance in a parallel resonant circuit. In order to reduce the required control power,

Card 1/2

UDC: 621.382.29:537



L 8110-66

ACC NR: AP5026908

the base of such a diode has to be very thin (a few microns); however, the problem of formation and properties of the "thread" under such conditions remains unsolved. "In conclusion, the authors wish to thank G. M. Avakyants and A. V. Yurovskiy for discussing the fundamental results." Orig. art. has: 7 figures and 10 formulas. [03]

SUB CODE: 09/ SUBM DATE: 28May64/ ORIG REF: 001/ ATD PRESS: 4/46

Card 2/2. *pu*

L 07932-67 EWT(1)/EWT(m)/EWP(t)/ETI IJP(e) JD/AT

ACC NR: AP6030668

SOURCE CODE: UR/0166/66/000/004/0053/0056

AUTHOR: Pavlinov, A. B.; Sablikov, V. A. 67

ORG: Tashkent State University im. V. I. Lenin (Tashkentskiy gosuniversitet)

TITLE: Breakdown of germanium<sup>1</sup> and silicon<sup>1</sup> crystals in a strong electric field

SOURCE: AN UzSSR. Izvestiya. Seriya fiziko-matematicheskikh nauk, no. 4, 1966, 53-56

TOPIC TAGS: dielectric breakdown, germanium semiconductor, silicon semiconductor, pn junction, space charge, semiconductor carrier, volt ampere characteristic

ABSTRACT: The authors consider irreversible breakdown of a semiconductor under the influence of a strong stationary electric field, such as is produced by a p<sup>+</sup>-n junction at large inverse bias under space-charge limitation conditions. In the experiments, the role of the p<sup>+</sup>-n junction was played by extraction of mobile carriers, thus eliminating the strong heating resulting from application of a strong stationary field. The changes in volume of this semiconductor resulting from the breakdown were observed by transmission of infrared light. Examination shows that the breakdown is followed by the production between the electrodes in the crystal of a thin strongly absorbing channel, whose diameter is equal to several microns, depending on the breakdown current. The experiments were made with silicon and germanium. The infrared observations disclosed also that the region around this channel is overheated, thus indicating that the current is concentrated in the channel. It is concluded from the results that the breakdown is localized, that the breakdown current increases first

Card 1/2

L 07932-67

ACC NR: AP6030668

slowly (up to 500 - 600 v - exponentially), and then rises very rapidly during the breakdown. The average field intensity producing the breakdown is  $10^5 - 10^6$  v/cm. From the dependence of the photocurrent on the field, from the magnitude of the field, and from the dependence of the current on the field, it is concluded that the most probable mechanism causing loss of the dielectric strength is thermoelectric. The carrier density in the breakdown channel is estimated at  $\approx 10^{15} - 10^{16}$  cm<sup>-3</sup>. From a comparison with the conclusions of the thermal theory presented by the authors earlier (Radiotekhnika i elektronika v. 10, no. 10, 1965, p. 1887-1892) it is concluded that this theory describes the behavior of the channel well in the negative sections of the volt-ampere characteristics. Orig. art. has: 3 figures and 2 formulas.

SUB CODE: 20/    SUBM DATE: 02Nov64/    ORIG REF: 003/    OTH REF: 003

Card

2/2 eqh

L 07932-67 EWT(1)/EWT(m)/EWP(t)/ETI IJP(c) JD/AT

ACC NR: AF6030668

SOURCE CODE: UR/0166/66/000/004/0053/0056

AUTHOR: Pavlinov, A. B.; Sablikov, V. A. 67

ORG: Tashkent State University im. V. I. Lenin (Tashkentskiy gosuniversitet) B

TITLE: Breakdown of germanium and silicon crystals in a strong electric field

SOURCE: AN UzSSR. Izvestiya. Seriya fiziko-matematicheskikh nauk, no. 4, 1966, 53-56

TOPIC TAGS: dielectric breakdown, germanium semiconductor, silicon semiconductor, pn junction, space charge, semiconductor carrier, volt ampere characteristic

ABSTRACT: The authors consider irreversible breakdown of a semiconductor under the influence of a strong stationary electric field, such as is produced by a p<sup>+</sup>-n junction at large inverse bias under space-charge limitation conditions. In the experiments, the role of the p<sup>+</sup>-n junction was played by extraction of mobile carriers, thus eliminating the strong heating resulting from application of a strong stationary field. The changes in volume of this semiconductor resulting from the breakdown were observed by transmission of infrared light. Examination shows that the breakdown is followed by the production between the electrodes in the crystal of a thin strongly absorbing channel, whose diameter is equal to several microns, depending on the breakdown current. The experiments were made with silicon and germanium. The infrared observations disclosed also that the region around this channel is overheated, thus indicating that the current is concentrated in the channel. It is concluded from the results that the breakdown is localized, that the breakdown current increases first

Card 1/2

L 07932-67

ACC NR: AF6030668

slowly (up to 500 - 600 v - exponentially), and then rises very rapidly during the breakdown. The average field intensity producing the breakdown is  $10^5 - 10^6$  v/cm. From the dependence of the photocurrent on the field, from the magnitude of the field, and from the dependence of the current on the field, it is concluded that the most probable mechanism causing loss of the dielectric strength is thermoelectric. The carrier density in the breakdown channel is estimated at  $\approx 10^{15} - 10^{16}$  cm<sup>-3</sup>. From a comparison with the conclusions of the thermal theory presented by the authors earlier (Radiotekhnika i elektronika v. 10, no. 10, 1965, p. 1887-1892) it is concluded that this theory describes the behavior of the channel well in the negative sections of the volt-ampere characteristics. Orig. art. has: 3 figures and 2 formulas.

SUB CODE: 20/    SUBM DATE: 02Nov64/    ORIG REF: 003/    OTH REF: 003

Card

2/2 *egh*

SABLIN, A., inzh.; ROGOZHNIKIN, A., inzh.

Obsolete instruction. Nauka i pered. op. v sel'khoz 9 no.10:  
69 0 '59 (MIRA 13:3)

1. Stalingradskaya proyektno-isyskatel'skaya kontora.  
(Electricity in agriculture)

SABLIN, A.I.; KNYAZHIYSKIY, A.I.

Automatic machine for reducing continuous self-locking  
nuts. Biul.tekh.-ekon.inform.Gos.nauch.-issl.inst.nauch.i  
tekh.inform. no.8:49 Ag '65.

(MIRA 18:12)

BAYKOV, N.M.; SABLIN, I.V.

Basic trends in the complete automation and remote control  
of a petroleum production enterprise. Neft. khoz. 38  
no.9:12-14 S '60. (MIRA 13:9)  
(Oil fields--Production methods) (Automation)



MAVLYUTOVA, M.Z.; SABLIN, I.V.; SIDURIN, Yu.V.

Results of testing the performance of a preliminary oil refining unit having spherical and horizontal settlers in fields of the Petroleum Production Administration of the Association of the Bavlly Petroleum Indus.ry. Nefteprom. delo no.10:34-39 '65. (MIRA 19:1)

1. Neftepromyslovoye upravleniye "Bavlyneft'" i Ufimskiy neftyanoy nauchno-issledovatel'skiy institut.

SOV/137-59-2-2348

Translation from: Referativnyy zhurnal. Metallurgiya, 1959, Nr 2, p 17 (USSR)

AUTHORS: Kozheurov, V. A., Sablin, N. I.

TITLE: On the Thermodynamics of Solutions of Manganese and Silicon in Liquid Iron (K termodinamike rastvorov margantsa i kremniya v zhidkom zheleze)

PERIODICAL: Tr. Sibirsk. metallurg. in-ta, 1957, Nr 4, pp 45-57

ABSTRACT: On the basis of the theory of regular solutions and assuming that the coalescence energy of Fe with Mn equals zero while the coalescence energies of Fe with Si and of Mn with Si are identical, the following formulae for the activities of Fe, Si, and Mn in the Fe-Si-Mn system were developed:

$$a_1 = x_1 \exp(x_3^2 Q/RT); \quad a_2 = x_2 \exp(x_3^2 Q/RT); \quad a_3 = x_3 \exp[(1-x_3)^2 Q/RT]$$

where  $x_1$ ,  $x_2$ , and  $x_3$  are the atomic portions of Fe, Mn, and Si, respectively, and  $Q$  is the coalescence energy of Fe and Mn with Si. The equation  $\log_{10} x_3/x_2^2 = a + b[1 - x_3(2 + x_3)]$  was obtained for the  $\text{Si} + 2\text{MnO} = \text{SiO}_2 + 2\text{Mn}$  reaction with a constant composition of the slag. The values  $a$  and  $b$  were obtained on the premise that the coalescence energy

Card 1/2

On the Thermodynamics of Solutions of Manganese and Silicon in Liquid Iron  
SOV/137-59-2-2348  
of Fe and Si equals 40,000 cal; for 1703, 1738, and 1813°K they are -3.757, -3.010,  
and -2.419 for a and 5.135, 5.031, and 4.823 for b, respectively.

J. T.

Card 2/2

L 41182-65 EWT(d)/EWP(c)/EWP(v)/T/EWP(k)/EWP(l) Pf-4

50 c

ACCESSION NR: AP5004677

S/0115/64/000/009/0058/0059

70  
18  
B

AUTHOR: none

TITLE: Fourth scientific and technical conference on "Cybernetics for the improvement of measurement and inspection methods"

SOURCE: Izmeritel'naya tekhnika, no. 9, 1964, 58-59

TOPIC TAGS: cybernetics, electric measurement, electric quantity instrument, digital computer, electronic equipment, electric engineering conference

ABSTRACT: The conference was held 1-4 July at the All-Union Scientific Research Institute of Metrology by the Section of Electrical Measurements of the Council on the Problem of "Scientific Instrument Making" of the State Committee on Coordination of Scientific Research Work in the USSR together with the All-Union Scientific Research Institute of Electrical Measurement Instruments and the Leningrad Regional Administration of the Scientific and Technical Division of the Instrument Making Industry. More than 400 delegates from 29 cities of the country participated. Fifty-seven reports were heard and discussed. Reports were given by: P. V. NOVITSKIY (Leningrad)--"Definition of the Concept of Informational Error in Measurement and its Importance in Practical Use" and "On the Problem of the Average Informational Criterion of Accuracy Throughout the Entire Scale of an Instrument"; Ya. A.

Card 1/4

I 41182-65

ACCESSION NR: AP5004677

17

KUPERSHMIOT (Moscow)--"On Determination of the Criteria of Accuracy for Measurement Devices"; S. M. MANDEL'SHTAM (Leningrad)--report on a new criterion of accuracy of measurement instruments; P. F. PARSHIN (Leningrad)--report on optimization when using Fourier transforms on electronic digital computers; S. P. DMITRIYEV, G. Ya. DOLGINTSEVA and A. A. IGNATOV (Leningrad)--proposal of a new method for solving problems of optimum filtering for non-stationary random signals and interference; I. B. CHELPANOV--"Calculation of the Dynamic Characteristics of an Optimum Complex Two-Channel System which Uses Signals from a Position Meter and from a Speed Meter"; R. A. POLUEKTOV (Leningrad)--"Optimum Periodic Correction in the Measurement of Continuous Signals"; S. P. ADAMOVICH (Moscow)--"Analysis and Construction of Devices for Correction of Non-linearity and Scaling for Unitary Codes; G. V. GORELOVA (Taganrog)--"A Method for Statistical Optimization in Graduating the Scales of Electrical Measuring Instruments"; M. A. ZEMEL'MAN (Moscow)--"Analog-Digital Voltage Converter with Automatic Error Correction"; B. N. MALINOVSKIY, V. S. KALENCHUK and I. A. YANOVICH (Kiev)--"Automatic Monitoring of the Parameters of the Electrical Signals of Complex Radio and Electronic Equipment"; V. P. PEROV (Moscow)--"Operational Cybernetics as an Independent Scientific Specialization"; Ye. N. GIL'BO (Leningrad)--"On the Problem of Effective Non-linear Scales"; A. I. MARKELOV (Moscow)--"Devices for Preliminary Processing of the Results of Measurements Presented in the Form of

Card 2/4

L 41182-65

ACCESSION No: AP5004677

20

Graphic Recordings For Subsequent Introduction of the Information into Universal Digital Computers"; O. M. MOGILSEVER and S. S. SOKOLOV (Leningrad)--"On a Method for Reducing Excess Information"; T. V. NIKOLAYEVA (Leningrad)--"A Device for Temporal Discretization of Continuous Signals"; A. A. LYOVIN and M. L. BULIS (Moscow)--"Optimization of the Transmission of Telemetric Information as a Means for Raising the Efficiency and Eliminating Interference"; D. E. GUKOVSKIY (Moscow)--"On a Statistical Approach to the Detection of Events in Automatic Inspection"; M. I. LANIN (Leningrad)--"Method for Calculating the Holding Time of Communications in a Centralized Inspection System or Constant Servicing Time"; O. N. BRONSHTEYN, A. L. RAYKIN and V. V. RYKOV (Moscow)--"On a Single-Line Mass Service System with Losses"; V. M. SHLYANDIN (Penza)--report on circuit designs for direct compensation electrical digital measuring instruments; A. N. KOMOV (Novocherkassk)--report on a new method for compensation of digital bridges; M. N. GLAZOV (Leningrad)--report on the problem of voltage-to-angular rotation conversion; V. S. GUTNIKOV (Leningrad)--"Methods for Construction of Frequency Capacitance Pickups with a Linear Scale"; R. Ya. SYROPYATOVA and R. R. KHARCHENKO (Moscow)--report on the determination of the amplitude-frequency and phase characteristics of PFM and PWM modulators; Ye. I. TENYAKOV (Novocherkassk)--"The Phototransistor as a Switch for Electrical Measurement Purposes"; N. V. MALYGINA (Leningrad)--a report on ways for making universal equipment for measurement of current, voltage and power; P. P. ORNATSKIY and V. I. ZOZULYA (Kiev)--reports on the construction of static voltmeters, wattmeters and

Card 3/4

L 41182-65

ACCESSION NR: AP5004677

15

phase meters; A. V. TRIKHANOV, I. G. SMYSHLYAYEV, N. I. SABLIN, V. M. RAZIN and V. A. GORBUNOV (Tomsk)--report on a device for automatic processing of the measurements of vibration amplitude of pneumatic hammers; L. K. RUKINA and V. G. KNORRING (Leningrad)--report on the development of a digital compensator for measuring pressure, force, etc.; N. B. DADUKINA (Leningrad)--report on a method for constructing frequency pickups for gas analysis; Yo. M. KARPOV, V. A. BRAZHNIKOV and B. Ya. LIKHTSINDER (Kuybyshev)--reports on analysis and recording of boring speeds; Yu. V. PSHENICHNIKOV (Kuybyshev)--"A High Speed Voltage-to-Digital Code Converter for ac Pickups"; G. P. VIKHROV and V. K. ISAYEV (Vilna)--"A Highly Accurate Digital Peak-to-Peak Voltmeter"; and S. M. PERSIN (Leningrad)--"A Low Level Analog-Digital Voltage Converter."

ASSOCIATION: none

SUBMITTED: 00

ENCL: 00

SUB CODE: EE, EC

NO REF SOV: 000

OTHER: 000

JPRS

*ml*  
Card 4/4

PESTOV, S.S.; SABLIN, P.M.

Improving the process of obtaining sodium selenide from  
selenium-containing soda. *TSvet.net.* 38 no.10:88-89 0  
'65. (MIRA 18:12)



MIKHIREV, P.A., inzh.; MOGILEVSKIY, V.N., inzh.; SABLIN, R.F., inzh.;  
KANAYEV, M.G., inzh.

Automatic control of the scooping process of a single-bucket  
loader. Izv. vys. ucheb. zav.; gor. zhur. 6 no.6:154-158 '63.  
(MIRA 16:8)

1. Institut gornogo dela Sibirskogo otdeleniya AN SSSR.  
(Mining machinery—Electric driving)  
(Automatic control)

SABLIN, V.

Rivers of words and trickles of action. Okhr.truda i sots.  
strakh. 3 no.6:35-37 Je '60. (MIRA 13:7)

1. Spetsial'nyy korrespondent zhurnala "Okhrana truda i  
sotsial'noye strakhovaniye, g.Rudnyy, Kazakhskoy SSR.  
(Rudnyy--Iron mines and mining--Safety measures)

SABLIN, V.

The main measure. Okhr. truda i sots. strakh. 3 no.8:58-60 Ag '60.  
(MIRA 13#9)

1. Spetsial'nyy korrespondent zhurnala "Okhrana truda i spetsial'-noye strakhovaniye," Kustanayskaya oblast'.  
(Komsomolets (Kustanay Province)--Agricultural machinery industry)  
(Gun'ko, Ivan Dmitrievich)

124-57-1-990

Translation from: Referativnyy zhurnal, Mekhanika, 1957, Nr 1, p 137 (USSR)

AUTHOR: Sablin, V. I.

TITLE: On the Vibrations of Frames Along Their Principal Directions  
(K voprosu o kolebaniyakh ferm po glavnym napravleniyam)

PERIODICAL: Tr. Novosibir. in-ta inzh. zh. -d. transp., 1955, Nr 11, pp 217-232

ABSTRACT: A system of linear algebraic equations is written for the amplitude of the inertia forces of concentrated masses attached to an elastic system and subjected to forced vibrations. An example is adduced, wherein a frame carries three masses attached to its joints; the question of the "orthogonalization" of this system is examined, that is, a transformation of such a character that each equation retains only one unknown (all secondary displacement quantities having been reduced to zero). This operation is equivalent to a selection of grouped unknowns, wherein each of the grouped force actions will evoke vibrations of only one of the principal types (i. e., only along one of the principal directions). The method for the determination of the principal directions for static calculations of statically indeterminate systems was given by

Card 1/2

A.F. Smirnov [Sticheseskaya i dinamicheskaya ustoychivost']