GUTMAN, E.M.; KABLENKO, I.V.; TKACHENKO, N.N.

Effect of the scale factor on the strength of metals in anodic dissolution, and the similarity condition. Fiz.-khim. mekh. mat. 1 no.1:85-89 '65. (MIRA 19:1)

1. Fiziko-mekhanicheskiy institut AN UkrSSR, L'vov. Submitted September 15, 1964.

ACC NR: AM6027007

Monograph

UR/

Karpenko, Georgiy Vladimirovich (Honored scientist UkrSSR; Professor); Babey, Yuliy Ivanovich; Karpenko, Illirik Vital'yevich; Gutman, Emmanuil Markovich

Strengthening of steel by machining (Uprochneniye stali mekhanicheskoy obrabotki) Kiev, Naukova dumka, 1966. 201 p. illus., biblio. (At head of title: Akademiya nauk Ukrainskoy SSR. Fiziko-mekhanicheskiy institut) 2700 copies printed.

TOPIC TAGS: fatigue strength, metal cutting, ~~metal hardening~~, metal machining, metal stress, ~~surface hardening~~, ~~mechanical metal cutting~~, fatigue test, corrosion resistance, corrosion resistant steel, mechanical heat treatment, rupture strength, steel property

PURPOSE AND COVERAGE: This book is intended for scientific and engineering personnel working on the strength of machine part. The authors discuss the effect of several methods of machining on the physicomechanical and electrochemical properties of steel. They show that a particular combination of thermal and mechanical treatment, which results in a solid white layer in the surface layers of steel parts, effectively increases the fatigue strength, particularly the corrosion-fatigue strength (10—15 times), of machine parts, as well as their stress-rupture strength in operation under neutrally corrosive conditions. The findings presented are based on

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ACC NR: AM6027007

studies made at the Physico-Mechanical Institute of the Academy of Sciences, Ukrainian SSR at L'vov during the last several years. Several methods developed at the Institute during the study are described in detail. The results of the study are summarized at the end of the book. There are 111 references of which 92 are Russian.

TABLE OF CONTENTS [abridged]:

SUB CODE: 11/ SUBM DATE: 12Feb66/ ORIG REF: 092/ OTH REF: 019

Card 2/2

ACC NR: AP6029685 (A) SOURCE CODE: UR/0369/66/002/004/0441/0449

AUTHOR: Mindyuk, A. K.; Gutman, E. M.; Karpenko, G. V.

ORG: Physics-Engineering Institute, AN UkrSSR, L'vov (Fiziko-mekhanicheskiy institut AN UkrSSR)

TITLE: The role of organic inhibitors in selective inhibition of the processes of corrosion and hydrogen absorption of steel in sulfuric acid

SOURCE: Fiziko-khimicheskaya mekhanika materialov, v. 2, no. 4, 1966, 441-449

TOPIC TAGS: organic inhibitor, steel corrosion, corrosion inhibitor, corrosion protection

ABSTRACT: The following acid corrosion inhibitors were tested: thiourea, KPI-2 (monomethylol-thiourea), KKh-2, N-phenyl-3-oxypyridine chloride, PB-8/2, BA-6, KPI-1 (N-decyl-3-oxypyridine chloride), APB (alkyl-pyridine bromide), ChM (R), PB-5, AGMIB (alkyl-hexamethylene-imine bromide), I-1-A, N-decyl-pyridine chloride, cetyl-pyridine chloride, katapin A, katapin K, gelatin, urotropin and formaldehyde. The concentration of inhibitors in 6N H_2SO_4 was 1.5 g/l. The experiments were performed at 30± 0.5C. Construction steel type 30 Kh was tested after quenching from 850C in oil with subsequent low temperature tempering (150C, 2 hours). The experimental results showed that all the inhibitors have protective properties, which may change with time. Anion and molecular adsorption were found to play a determining role in the effectiveness of the inhibitors. The mechanism of corrosion is discussed at length, and the

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ACC NR: AP6029685

protective action of the organic inhibitors is explained primarily by retardation of the anode reaction by screening anode sectors from the action of the corrosion-active SO_4^{2-} ion and polar water molecules. The various inhibitors were found to have different effects as to retarding the penetration of hydrogen. The least retardation was found for gelatin, the greatest for KPI-1. The inhibitor KPI-2 was least effective in resisting hydrogen absorption, BA-6 most effective. The opposite is true of these two inhibitors with regard to corrosion resistance. Engineer Ye. I. Svist and Junior Scientific Worker O. P. Savitskaya took part in the experiments. Orig. art. has: 2 tables and 3 figures.

SUB CODE: 11/ SUBM DATE: 20Feb66/ ORIG REF: 025/ OTH REF: 006

Card 2/2

MYASNIKOV, I.A.; BOL'SHUN, Ye.V.; GUTMAN, E.Ye.

Mechanism of radical adsorption on semiconductors and the desorption of radicals from hot walls. Kin. i kat. 4 no.6: 867-877 N-D '63. (MIRA 17:1)

1. Fiziko-khimicheskiy institut imeni L.Ya. Karpova.

TREKALO, S.K.; YAKUBTSINER, N.M.; ANDRONOV, V.N.; GRIGOR'YEVYKH, G.F.; KAYLOV, V.D.; SHUR, A.B.; v rabote prinimali uchastiye: NEVMERZHITSKIY, Ye.V.; SHOLENINOV, V.M.; VITOVSKIY, V.M.; GRINBERG, D.L.; GUTMAN, E.Ye.; YEGOROV, N.D.

Open-hearth furnace operations with classified sinter. Stal' 20 no. 12:1063-1070 D '60. (MIRA 13:12)

1. TSentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii i Cherepovetskiy metallurgicheskiy zavod.
(Blast furnaces) (Sintering)

ACCESSION NR: AP4008168 S/0195/63/004/006/0867/0877

AUTHOR: Myasnikov, I. A.; Bol'shun, Ye. V.; Gutman, E. Ye.

TITLE: Mechanism of radical adsorption on semiconductors and desorption of radicals from a hot wall.

SOURCE: Kinetika i kataliz, v. 4, no. 6, 1963, 867-877

TOPIC TAGS: zinc oxide, zinc oxide film, zinc oxide electric conductivity, electric conductivity kinetics, alkyl radical, radical adsorption, radical chemisorption, radical desorption, hot wall emission, ketones photolysis, ketones pyrolysis, free radical, free radical reaction mechanism, free radical reaction kinetics

ABSTRACT: The electric conductivity of ZnO films under stationary conditions and the kinetics of electric conductivity for chemisorption and desorption of alkyl radicals were investigated. The relationship of the disappearance of free

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ACCESSION NR: AP4008168

radicals in a given volume, the adsorption of radicals on the surface and the conductivity (sigma) of the film, based on the light intensity I and the pressure of the gas forming the radicals (concentration of molecules M) is shown: At low intensity and high film temperature (low radical concentration on the surface), the relationship is first order in the volume and on the surface (1) $a \sim I \cdot [M]$ where a is $\frac{\Delta\sigma \cdot \sigma_0}{\sigma^2}$. At higher concentrations or intensities, relationships (2) $a \sim \sqrt{I[M]}$ or (3) $a \sim \sqrt[4]{I[M]}$ obtain, i.e., it is first order in the volume and 2nd order on the surface, or vice versa (2), or it is second order in both locations (3). The kinetics of the conductivities of the film during adsorption and desorption of radicals, as derived from experimental data obtained by photolysis and pyrolysis of ketones, compare with these principles. A new variant of the method for determining relative concentration of radicals is proposed. This is based on measuring the starting rate of change of the electric conductivity (at the instant of radical appearance or at a change in their concentration). This determination can be conducted automatically in 1-10 seconds. A new phenomenon was observed - the desorption of radicals,

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ACCESSION NR: AP4008168

on heating, from walls of a glass or quartz vessel in which the radicals were first found. "The authors thank Sr. laboratory worker A. P. Sy*soyeva who participated in the experimental part of the work." Orig. art. has: 8 figures and 20 equations.

ASSOCIATION: Fiziko-khimicheskoy institut. im. L. Ya. Karpova (Physical-Chemical Institute)

SUBMITTED: 29May62 DATE ACQ: 09Jan64 ENCL: 00

SUB CODE: PH, CH NO REF SOV: 006 OTHER: 005

Card 3/3

GUTMAN, E.Ye.; MYASNIKOV, I.A.

Effect of the adsorption of free radicals on the contact potential of n-semiconductors. Dokl. AN SSSR 152 no.3:647-650 S '63. (MIRA 16:12)

1. Fiziko-khimicheskiy institut im. L.Ya.Karpova. Predstavleno akademikom V.A.Karginym.

[illegible], [illegible].

"Studies Concerning the Adjustment of Variation in Length of Fabrics in the Field of Wire-Sawing Beginning, with Raw Material and Ending with Finished Articles", [illegible], (Institutul Politehnic, Vol. 5, No. [illegible], October [illegible], Bucharest, Romania)

SO: Monthly List of East European Accessions (EEAL), LC, Vol. [illegible], No. [illegible], March 1965, Incl.

[illegible], T.

"[illegible] of the Conference on "Basic Technical Problems in the Clothing and Textile Industry", p. 374, (In [illegible], Vol. 5, No. 10, October 1957, Bucharest, Rumania)

SO: Monthly List of East European Accessions (EEAL), LC, Vol. 4, No. 3, March 1955, Uncl.

[illegible], F.F.

Making more precise the [illegible]
of agrometeorological conditions [illegible]
of soil waterlogging ([illegible]
177 165.

GUTMAN, G.A., kandidat meditsinskikh nauk

Effectiveness of activities of rural obstetric centers and their distribution. Sov. zdrav. 13 no.4:37-41 Jl-Ag '54. (MLRA 7:9)

1. Iz Kuybyshevskogo oblastnogo nauchno-issledovatel'skogo instituta okhrany materinstva i detstva (dir. prof. V.A.Lositskaya)
(OBSTETRICS,
in Russia, obst. rural centers)
(RURAL CONDITIONS,
in Russia, obst. rural centers)
(PUBLIC HEALTH,
in Russia, obst. aid to rural population)

GUTMAN, G.A., kandidat meditsinskikh nauk.

Some data on ovary function in pulmonary tuberculosis. Akush. i gin. no.6:36-38 N-D '55 (MLRA 9:6)

1. Iz Kuybyshevskogo instituta okhrany materinstva i detstva (i.o. direktora Ye.K. Ovchinnikova, nauchnyy rukovoditel' prof. I.T. Mil'chenko)

(OVARIES, physiol.
in pulm. tuberc., pulm.)
(TUBERCULOSIS, PULMONARY, manifestations
ovaries, funct.)

GUTMAN, G.A., kandidat meditsinskikh nauk

Some data on disorders of the ovarian-menstrual cycle and their therapy in pulmonary tuberculosis. Probl.tub. 34 no.6 supplement:21 N-D '56. (MLRA 10:2)

1. Iz Kuybyshevskogo instituta okhrany materinstva i detstva (dir. Ye.K.Ovchinnikova, nauchnyy rukovoditel' - prof. I.T.Mil'chenko)
(TUBERCULOSIS) (MENSTRUATION)

GUTMAN, G.A., kand.med.nauk

Cesarean section and ruptures of the uterus. Vop.okh.mat. i det. 3 no.5:63-65 S-O '58 (MIRA 11:11)

1. Iz kafedry akusherstva i ginekologii (zav. - prof. I.T. Mil'chenko) Kuybyshevskogo meditsinskogo instituta i Kuybyshevskoy klinicheskoy bol'nitsy (glavnyy vrach Ye.K. Ovchinnikova).
(CESAREAN SECTION)

GUTMAN, G.A., kand.med.nauk.

Problems in the prevention, diagnosis and therapy of rupture of the uterus. Sov.med. 22 no.4:117-120 Ap '58 (MIRA 11:7)

1. Iz kafedry akusherstva i ginekologii (zav. - prof. I.T. Mil'chenko) Kuybyshevskogo meditsinskogo instituta i iz Kuybyshevskoy oblastnoy klinicheskoy bol'nitsy (glavnyy vrach Ye.K. Ovchinnikova).
(UTERUS, rupt.
prev., diag. & ther. (Rus))

GUTMAN, G.A., kand.med.nauk (Kuybyshev)

Role of midwives in preventing uterine ruptures. Fel'd. i akush. 24 no.12:18-22 D '59. (MIRA 13:2)

(UTERUS--RUPTURE)

GUTMAN, G.A., kand.med.nauk

Spontaneous labor in spontaneous ruptures of the uterus. Kaz.med. zhur. 40 no.4:48-51 Jl-Ag '59. (MIRA 13:2)

1. Iz akushersko-ginekologicheskoy kliniki (direktor - prof. I.T. Mil'chenko) Kuybyshevskogo meditsinskogo instituta i Kuybyshevskoy oblastnoy klinicheskoy bol'nitsy (glavvrach - Ye.K. Ovchinnikova).
(LABOR, COMPLICATED) (UTERUS--RUPTURE)

GUTMAN, G.A., kand.med.nauk

Material on the study of preventive methods and clinical aspects of rupture of the cicatrized uterus. Akush.i gin. 36 no.5:45-48 S-O '60. (MIRA 13:11)

1. Iz kafedry akusherstva i ginekologii (zav. - prof. I.T. Mil'chenko) Kuybyshevskogo meditsinskogo instituta i oblastnoy klinicheskoy bol'nitsy (glavnyy vrach Ye.K. Ovchinnikova).
(UTERUS—RUPTURE) (PREGNANCY, COMPLICATIONS OF)

GUTMAN, G.I., inzh.; KOZLOV, V.Sh., inzh.; SYTNIK, V.I., inzh.

Open standard crane trestles. Prom.stroi. 38 no.1:25-27 '60. (MIRA 13:5)

(Cranes, derricks, etc.)
(Trestles)

GUTMAN, G.M.; KEL'ZON, A.S.

New spindle with a rigid drive. Khim. volok. no.4:60-62 '63. (MIRA 16:8)

1. Leningradskoye spetsial'noye konstruktorsko-tekhnologicheskoye byuro mashin khimicheskikh volokon (for Gutman).
2. Leningradskoye vyssheye inzhenernoye morskoye uchilishche im. S.O. Makarova (for Kel'zon).

GUTMAN, G.M.

The PN-180-I machine for continuous production of high-strength cord. Biul.tekh.-ekon.inform. no.1:48-50 '61. (MIRA 14:2)
(Textile machinery)

SERKOV, A.T.; BOGOMOLOVA, N.A.; KOTOMINA, I.N.; IVANOVA, Ye.P.; GUTMAN, G.M.

Machines manufacturing extrastrong viscose cord. Khim.volok. no.6:2-8 '61. (MIRA 14:12)

1. Goskomitet Soveta Ministrov SSSR po khimii (for Serkov). 2. Gosplan SSSR (for Bogomolova). 3. Vsesoyuznyy nauchno-issledovatel'skiy institut iskusstvennogo volokna (for Kotomina, Ivanova). 4. Spetsial'noye konstruktorsko-tekhnologicheskoye byuro Lensovnarkhoza (for Gutman).

(Rayon spinning)

GUTMAN, G.M.

The PA-240-I acetate-rayon spinning machine. Biul.tekh.-ekon. inform. no.10:58-60 '61. (MIRA 14:10)
(Spinning machinery)

GUTMAN, G.M.

The PTS-250-15 centrifugal spinning machine. Biul. tekh.-ekon. inform. no.1:56-57 '62. (MIRA 15:2)
(Spinning machinery)

FORER, V. L.; GUTMAN, G. M.

ShAK-15-I unit for the production of capron staple fiber.
Khim. volok. no.6:37-38 '62. (MIRA 16:1)

(Nylon) (Textile machinery)

GUTMAN, G.M.

The PTS-250-17 centrifuge spinning machine for viscose silk. Biul.tekh.-ekon.inform.Gos.nauch.-issl.inst.nauch.i tekh. inform no.9:50-52 '62. (MIRA 15:9)
(Rayon spinning--Equiment and supplies)

GUTMAN, G.M.

Unit for continuous production of high-strength viscose cord fiber. Biul.tekh.-ekon.inform.Gos.nauch.-issl.inst.nauch.i tekh. inform. no.1:52-56 '63. (MIRA 16:2)
(Rayon spinning)

GUTMAN, G.S.

27

Oxidation bath for magnesium alloys. A. F. Kiseva, G. S. Gutman, M. A. Tymanova, and B. H. Hata. U.S.S.R. 105,218, Mar. 25, 1957. A bath contg. $K_2Cr_2O_7$, NaOH, and alum is used for the oxidation of Mg alloys. A suitable compn. is made of $K_2Cr_2O_7$ 30-40, $KAl(SO_4)_2 \cdot 12H_2O$ 10-13 g./l., and AcOH 5-8 mg./l. M. Hosch

Hate-1

In a patent notice "Bath for Oxide Coating Magnesium Alloys", A. F. Kireyeva, G. S. Gutman, M. A. Timonova, and E. B. Kats, describe a new bath for oxide coating of magnesium alloys containing potassium bichromate and acetic acid, which differs in that, for obtaining an oxide film at room temperature and for making a more economical bath, potash alum is put into the mixture.

Included in the composition of the bath are: 30-50 grams per liter of $K_2Cr_2O_7$, 10-12 grams per liter of $KAl(SO_4)_2 \cdot 12H_2O$, and 5-8 milligrams per liter of CH_3COOH.

A patent was granted under Class 48, Chemical Treatment of Metals-48d, 402, No 105248 on 8 June 1956 to the Committee on Inventions and Discoveries Under the Council of Ministers USSR. (Byulleten' Izobreteniy, No 1, Jan 57, p 48) (U)

16.8300

76979
SOV/56-37-6-19/55

AUTHOR: Gutman, I. I.

TITLE: General Covariant Method of Successive Approximations in the General Theory of Relativity

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1959, Vol 37, Nr 6, pp 1639-1645 (USSR)

ABSTRACT: A new approach to the mathematical problem of gravitational theory was proposed, which would always insure the uniqueness of the solution without the necessity of invoking auxiliary coordinate conditions. The main equations of the general theory of relativity are ten Einstein equations:

$$G^{\mu\nu} = -\varkappa T^{\mu\nu} \qquad (\mu, \nu = 0, 1, 2, 3)$$

where

$$G^{\mu\nu} = R^{\mu\nu} - \frac{1}{2} g^{\mu\nu} R$$

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General Covariant Method of Successive Approximations in the General Theory of Relativity

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The number of motion equations was determined with the aid of a general expression for mass tensor:

$$T^{\mu\nu} = \rho u^{\mu} u^{\nu} + p^{\mu\nu} + H^{\mu\nu}$$

where ρ is density of the mass at rest; u^{μ} is 4-vector of velocity; $p^{\mu\nu}$, pressure tensor which reduces in the isotropic case to $pg^{\mu\nu}$; $H^{\mu\nu}$, energy momentum tensor of electromagnetic field divided by c^2. The term $H^{\mu\nu}$ was determined from the Maxwell equations, and the term $p^{\mu\nu}$ was expressed as the function of ρ with the aid of the equations describing the state of the substance. A general covariant method of successive approximations was developed, in which the quantity γ/c^2 (where γ is Newton's constant) is taken as the small parameter of the expansion. It was shown

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General Covariant Method of Successive Approximations in the General Theory of Relativity

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that in all approximations the equations of successive approximations have the same form as the general covariant D'Alambert equation with a right hand side and the relation $\nabla_\nu T^{\mu\nu} = 0$. Furthermore, an energy-momentum tensor of the gravitational field (which is separated from the field of internal force) was introduced, this tensor being satisfying according to the law of conservation in inertial systems. In distinction from the methods of Einstein-Infeld-Hoffman (cf. Ann. Math., 39, 65, 1938) and Fock (cf. Theory of Space, Time and Gravity, State Tech. Publ., Moscow, 1955), the proposed method is applicable to any rapidly varying fields and to arbitrary velocities including those approaching the velocity of light. The difference of the derived equations from the Einstein-Infeld-Hoffman equation is as follows: In their

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method the space in zero approximation is considered to be of the Galileo type with the metric of the following form:

$$\eta_{\mu\nu} = \begin{pmatrix} 1 & & & \\ & -1 & & \\ & & -1 & \\ & & & -1 \end{pmatrix}$$

The system of coordinates is not fixed, but the class of possible coordinates is limited by the requirement that the metric must be of the quasi-Galileo type, i.e., it should not differ practically from $\eta_{\mu\nu}$. According to the author's method, the space is in zero approximation, although assumed to be of the Galileo type, and the metric tensor $\varepsilon_{\mu\nu}$ does not have the form as shown in the above equation. The system of coordinates is selected directly without

General Covariant Method of Successive Approximations in the General Theory of Relativity

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making the selection more specific from approximation to approximation. The selection of one or another system of coordinates for the tensor $g_{\mu\nu}$ is obtained by expressing the term $\varepsilon_{\mu\nu}$ in the corresponding system. This work was performed under the guidance of M. G. Kreyn and V. V. Malyarov. There are 33 equations; and 4 references, 2 Soviet, 2 German.

SUBMITTED: May 5, 1959

Card 5/5

27144
S/166/61/000/004/003/007
B112/B102

24 4600

AUTHOR: Gutman, I. I.

TITLE: Application of a completely covariant method for the solution of certain problems of general relativity

PERIODICAL: Akademiya nauk Uzbekskoy SSR. Izvestiya. Seriya fiziko - matematicheskikh nauk, no. 4, 1961, 39 - 44

TEXT: The author uses a "completely-covariant" method (I. I. Gutman, ZhETF, 1959, 37, 1639) for the quantization of the Einstein field of gravitation. The completely covariant notation directly indicates the covariance of an expression. It replaces Christoffel symbols by differences of Christoffel symbols (Pugachev symbols) (I. Ya. Pugachev, Aftoreferat kand. diss., M., Izd-vo MGU, 1956). By the example of the gravitational field the author shows the possibility of overcoming the typical difficulties arising in the quantization of nonlinear fields. Instead of the Einstein gravitational potentials $g_{\alpha\beta}$, $g^{\alpha\beta}$ he considers the quantities:

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$f_{\mu\nu} = \sqrt{\varepsilon/g}\, g_{\mu\nu}$, $f^{\mu\nu} = \sqrt{g/\varepsilon}\, g^{\mu\nu}$.

$1/\varepsilon$ is the determinant of a Galilean metric $\varepsilon^{\mu\nu} = \varepsilon^{AB} e^{\mu}_{A} e^{\nu}_{B}$.

The Roman characters indicate invariant indices. The commutation rules for the quantities $f^{\mu\nu}$ are obtained by expanding them, by a completely covariant method of successive approximations, into a power series:

$$f^{\mu\nu} = \varepsilon^{\mu\nu} + \sum_{n=1}^{\infty} \lambda^n f^{\mu\nu}_n ;$$

$\lambda = \gamma/c^2$ (γ = Newton's gravitational constant, c - light velocity). The first term of this approximation is

$$\lambda f^{\mu\nu}_1 = \sqrt{\frac{32\pi\gamma\hbar}{c^4}} \frac{1}{(2\pi)^{3/2}} \int \frac{1}{\sqrt{2k}} \left\{ c^{AB}(\vec{k}) e^{ipx} + \right.$$

$$\left. + \overset{+}{c}{}^{AB}(\vec{k}) e^{-ipx} \right\} d^3\vec{k}\, e^{\mu}_{A} e^{\nu}_{B}, \qquad (31)$$

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c^{AB} and $\overset{+}{c}{}^{AB}$ are operators of particle absorption and particle emission, h stands for $\hbar$. The commutation rules for $f^{\mu\nu}$ in first approximation are

$$\left[f^{\mu\nu}(x), f^{\alpha\beta}(x')\right] = -\frac{16\pi\gamma\hbar}{c^4} iD(\xi - \xi')(\varepsilon^{MA}\varepsilon^{NB} + \varepsilon^{MB}\varepsilon^{NA})\, e^{\mu}_{M}(x)\, e^{\nu}_{N}(x)\, e^{\alpha}_{A}(x')\, e^{\beta}_{B}(x'). \quad (32)$$

The author mentions L. D. Landau and Ye. M. Lifshits. (Teoriya polya - Field Theory, M., Fizmatgiz, 1960). There are 7 references: 4 Soviet and 3 non-Soviet. The reference to English-language publications reads as follows: C. Moller Ann. of Phys., 1958, 4, 347.

ASSOCIATION: Akademiya nauk UzSSR (Academy of Sciences Uzbekskaya SSR)

SUBMITTED: March 14, 1961

Card 3/3

2905β
S/166/61/000/005/004/004
B112/B102

9.9867

AUTHOR: Gutman, I. I.

TITLE: Emission of gravitational waves

PERIODICAL: Akademiya nauk Uzbekskoy SSR. Izvestiya. Seriya fiziko-matematicheskikh nauk, no. 5, 1961, 90 - 91

TEXT: The author derives the equation

$$I = \frac{c^5}{16\pi\gamma} \oint (2\varepsilon_{\mu\nu}\varepsilon_{\alpha\beta} - \varepsilon_{\mu\alpha}\varepsilon_{\nu\beta}) B^{\mu\alpha}B^{\nu\beta}dw \qquad (7)$$

for the gravitational energy flux. Here,

$$B^{\mu\nu} = \frac{\gamma}{c^2}\left\{\dddot{I}^{\mu\nu} - (u^\mu F^\nu + u^\nu F^\mu) - (\xi^\nu \dot{F}^\mu + \xi^\mu \dot{F}^\nu) - 2\frac{d}{ds}\left[\sum_a m_a u_a^\mu u_a^\nu (u_{a\alpha} - u_{o\beta})n^\alpha\right]\right\};$$

$$I^{\mu\nu} = \sum_a m_a \xi_a^\mu \xi_a^\nu, \quad F^\mu = \sum_a m_a \dot{u}_a^\mu, \quad \xi^\mu = (F_\nu \sum_a m_a \xi_a^\mu \dot{u}_a^\nu)/F_\alpha F^\alpha,$$

$u^\mu = \dot{\xi}^\mu$. The point (·) denotes differentiation with respect to the proper

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ACCESSION NR: AP4036574 S/0139/64/000/002/0166/0167

AUTHOR: Gutman, I. I.

TITLE: On the article "Bimetric formalism in the general theory of relativity" by Yu. G. Sby*tov

SOURCE: IVUZ. Fizika, no. 2, 1964, 166-167

TOPIC TAGS: general theory of relativity, conservation law, bimetric formalism

ABSTRACT: It is pointed out that all the results in the article by Sby*tov (Izv. vuzov SSSR, Fizika No. 4, 48, 1963) were previously obtained and published in a series of articles by the author. The only difference between the article of Sby*tov and those of the author is that Sby*tov used the coordinate transformation

$$x'^{\alpha} = x^{\alpha} + \delta x^{\alpha},$$

as well as the point (parametric) transformation in deriving the conservation laws. The author cites several occasions during which Sby*tov must have heard of the existence of the author's articles. He regrets that Sby*tov was not

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ACCESSION NR: AP4036574

acquainted with his articles, otherwise the similarity of the results would have been discovered. Orig. art. has: 4 equations.

ASSOCIATION: none

SUBMITTED: 01Oct63 DATE ACQ: 05Jun64 ENCL: 00

SUB CODE: GP NO REF SOV: 013 OTHER: 002

Card 2/2

ARIFOV, I.Ya.; [illegible], E.I.

Inertial frames of reference. Part 2. Izv. AN Uz SSR. Ser. fiz.-mat. nauk 9 no.1:93-97 '65. (MIRA 18:6)

1. Institut yadernoy fiziki AN UzSSR.

L 04284-67 EWT(1) GW

ACC NR: AR6004678 SOURCE CODE: UR/0269/65/000/010/0061/0061

16
B

AUTHORS: Arifov, L. Ya.; Gutman, I. I.

TITLE: Weil space and cosmological models

SOURCE: Ref. zh. Astronomiya, Abs. 10.51.455

REF SOURCE: Dokl. AN UzSSR, no. 3, 1965, 14-17

TOPIC TAGS: cosmology, general relativity theory

ABSTRACT: To obtain cosmological models without singularities and with a sufficiently great age, the Weil manifold is considered instead of the space-time of the general theory of relativity and instead of the Einstien equations--a more general system of 14 equations relating the metric tensor and vector A_μ (μ = 0, 1, 2, 3) with the experimentally determined variable quantity χ and four-dimensionally symmetric space metric

$$ds^2 = H^2(\tau)\{dx^{0^2} - dx^{1^2} - dx^{2^2} - dx^{3^2}\},$$

($\tau = 1/c(x^{0^2} - x^{1^2} - x^{2^2} - x^{3^2})^{1/2}$ and c is the velocity of light). The field equations applied to a uniform medium without pressure lead to two relations for the density ρ, H, and χ. In the case of χ = const they lead to the ordinary Friedman equations and the obtained exact relations for the Hubble constant and red shift lead to the Friedman cosmology equations. The red shift is again explained by the effect of the change in frequency of radiation from atoms at rest in Weil space. Possible non-Friedman models of the universe are analyzed under various assumptions relating H and $\chi \neq$ const. Two of the models lose the defects of isotropic models of the general theory of relativity. V. Zakharov [Translation of abstract]

Card 1/1 SUB CODE: 03, 20 UDC: 523.11

PEDOSENKO, A.G.; GUTMAN, I.L.

Alcohol, liqueur, and vodka industry of the Vladimir Economic Council. Spirt. prom. 24 no.5:19-20 '58. (MIRA 11:9)
(Vladimir Province--Distilling industries)

UL'MAN, I.Ye., kand. tekhn. nauk; GUTMAN, I.M., inzh., retsenzent; YEGOROV, N.M., inzh., re[redacted], tekhn. red.

[Tractor repairing] Remont traktorov. Izd.2., rasshirennoe i perer. Moskva, Mashgiz, 1952. 495 p. (MIRA 16:8)
(Tractors--Maintenance and repair)

VASIL'YEV, Nikolay Alekseyevich; ABRAMOV, Georgiy Aleksandrovich; SERGEYEV, M.P., prof., red.; ALEKSEYEV, G.P., inzh., red.; BUSHUYEV, N.M., kand.tekhn.nauk, red.; GUTMAN, I.M., inzh., red.; KUZ'MOV, N.T., inzh., red.; IGNAT'YEV, M.G., agronom, red.; PICHAK, F.I., kand.tekhn.nauk, red.; POLKANOV, I.P., kand.tekhn. nauk, red.; DUGINA, N.A., tekhn.red.

[Repair of machinery according to a yearly chart] Remont mashin po kruglogodovomu grafiku. Pod red. M.P.Sergeeva. Moskva, Gos. nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1959. 66 p. (MIRA 14:2)

(Agricultural machinery--Maintenance and repair)

KURATOV, Aleksey Ivanovich; ALEKSEYEV, G.P., inzh., red.; BUSHUYEV, N.M., kand.tekhn.nauk, red.; GUTMAN, I.M., inzh., red.; KUZ'MOV, N.T., inzh., red.; PICHAK, F.I., kand.tekhn.nauk, red.; POLKANOV, I.P., kand.tekhn.nauk, red.; SOBOLEV, L.A., inzh., red.

[Running-in and testing of motor-vehicle engines after repair] Obkatka i ispytanie avtotraktornykh dvigatelei posle remonta. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1959. 75 p. (MIRA 13:5)
(Motor-vehicles--Engines--Maintenance and repair)

KUZ'MOV, Nikolay Terent'yevich, inzh.; ALEKSEYEV, G.P., inzh., red.; BUSHUYEV, N.M., kand.tekhn.nauk, red.; GUTMAN, I.M., inzh., red.; KALENICHENKO, P.T., inzh., red.; IGNAT'YEV, M.G., agronom, red.; PICHAK, F.I., kand.tekhn.nauk, red.; POLKANOV, I.P., kand.tekhn. nauk, red.; DUGINA, N.A., tekhn.red.

[Efficient use of machinery in harvesting by separate stages] Ratsional'noe ispol'zovanie mashin na razdel'noi uborke. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1959. 101 p. (MIRA 13:5)

(Harvesting machinery)

PYATETSKIY, Boris Grigor'yevich; POLUYANOV, V.T., red.vypuska; ALEKSEYEV, G.P., inzh., red.; BUSHUYEV, N.M., kand.tekhn.nauk, red.; GUTMAN, I.M., inzh., red.; PICHAK, F.I., kand.tekhn.nauk, red.; POLKANOV, I.P., kand.tekhn. nauk, red.; DUGINA, N.A., tekhn.red.

[Grinding and lapping of motor vehicle parts] Pritirka i dovodka avtotraktornykh detalei. Izd.2. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1959. 109 p. (MIRA 12:12)
(Grinding and polishing) (Motorvehicles--Maintenance and repair)

BELOUSOV, Semen Nikolayevich; ALEKSEYEV, G.P., inzh., red.; GUTMAN, I.M., inzh., red.; KUZ'MOV, N.T., inzh., red.; FEDOROV, N.G., kand.tekhn. nauk, red.; IGNAT'YEV, M.G., agronom, red.; PICHAK, F.I., kand. tekhn.nauk, red.; POLKANOV, I.P., kand.tekhn.nauk, red.; MARCHENKOV, I.A., tekhn.red.

[Machines for the reclamation of new lands] Mashiny dlia razrabotki novykh zemel'. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit. lit-ry, 1960. 69 p. (MIRA 13:7)
(Reclamation of land)

PYATETSKIY, Boris Grigor'yevich; ALEKSEYEV, G.P., inzh., red.; BUSHUYEV, N.M., kand.tekhn.nauk, red.; GUTMAN, I.M., inzh., red.; KUZ'MOV, N.T., inzh., red.; IGNAT'YEV, M.G., agronom, red.; PICHAK, F.I., kand.tekhn.nauk, red.; POLKANOV, I.P., kand.tekhn.nauk, red.; DUGINA, N.A., tekhn.red.

[Recent developments in the repair of agricultural machinery] Novoe v remonte sel'skokhoziaistvennoi tekhniki. Moskva, Gos. nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1960. 99 p. (MIRA 13:9)

(Agricultural machinery--Maintenance and repair)

DUNAYEV, Petr Aleksandrovich; RAYTSES, Veniamin Borisovich; ALEKSEYEV, G.P., red.; BUSHUYEV, N.M., kand.tekhn.nauk, red.; GUTMAN, I.M., inzh., red.; KUZ'MOV, N.T., inzh., red.; IGNAT'YEV, M.G., agronom, red.; PICHAK, F.I., kand.tekhn.nauk, red.; POLKANOV, I.P., kand.tekhn. nauk, red.; MARCHENKOV, I.A., tekhn.red.

[Forging in the repair of agricultural machinery] Kuznechnoe delo v remonte sel'skokhozyaistvennoi tekhniki. Izd.2. Moskva, Gos. nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1960. 158 p. (MIRA 14:1)

(Forging) (Agricultural machinery--Maintenance and repair)

GUTMAN, Iosif Moiseyevich; PICHAK, Fedor Ivanovich; RABOVSKIY, A.V., inzh., retsenzent; SOBOLEV, L.A., inzh., retsenzent; BUSHUYEV, N.M., kand.tekhn.nauk, red.; DUGINA, N.A., tekhn.red.

[Tractors and motor vehicles; manual for workers of collective farms] Traktory i avtomobili; spravochnik kolkhoznogo rabotnika. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1960. 163 p. (MIRA 13:9)

(Motor vehicles)

ZGIRSKIY, Cheslav Iosifovich; ALEKSEYEV, G.P., inzh., red.; GUTMAN, I.M., inzh., red.; KUZ'MOV, N.T., inzh., red.; FEDOROV, N.G., kand.tekhn. nauk, red.; IGNAT'YEV, M.G., agronom, red.; PICHAK, F.I., kand. tekhn. nauk, red.; POLKANOV, I.P., kand.tekhn.nauk, red.; MARCHENKOV, I.A., tekhn. red.

[Reconditioning of tractor parts] Vosstanovlenie detalei traktorov. Izd.2., ispr. i dop. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit. lit-ry, 1960. 141 p. (MIRA 14:12)
(Tractor--Maintenance and repair)

FRIDRIKHSBERG, D.A.; GUTMAN, K.M.

Electrophoresis through collodion membranes. Koll.zhur. 15 no.4:299-307 '53. (MLRA 6:8)

1. Leningradskiy gosudarstvennyy universitet imeni A.A.Zhdanova. Kafedra kolloidnoy khimii. (Cataphoresis) (Collodion)

GUTMAN, K. M.

Comments on "Electrophoresis through collodion membranes" by D. A. Fridrikhsberg and K. M. Gutman. Miroslav Toman (Inst. Agrochem. Technol., Prague, Czech.). *Kolloid. Zhur.* 16, 152(1954).—The results of F. and G. (*C.A.* 47, 11880a) probably are due to the inhomogeneity of the membrane; the liquid moves from right to left through some, and from left to right through other pores. **Reply to Toman.** D. A. Fridrikhsberg and K. M. Gutman (A. A. Zhdan v State Univ., Leningrad). *Ibid.* 16, 153.—The effect described by T. probably accounts for 10% of the total effect. J. J. Bikerman

GUTMAN, K. M.

USSR.

Microphoresis through collodion membranes. V. N. Feldsikhberg and K. M. Gutman. Colloid J. U.S.S.R. 10, 159(1948)(Engl. translation). See C.A. 46, 8021h, Reply to Tomsen. Ibid. 161.

H. L. H.

Gutman, K.M.

Electrophoresis through membranes. B. A. Dudchenko, Zh. Fiz. Khim. 41, 1, 40-63(1967).—Electrokinetic characteristics (ζ-potential, transport no., surface cond.) of colloidal membranes in aq. solns. of complex org. ions (congo red, methylene blue), high-mol.-wt. compds. (albumin), and in colloidal solns. (Au sol) are described. The dyes studied are dissocd. into ions in dil. aq. soln. The theoretical assumption that electrophoresis of complex org. ions and sols through a membrane is suppressed by the electroosmotic current of liquid until a complete closing occurs is proved experimentally. Current yield is increased 10-15 times in an app. without transport as compared to one with transport. Exptl. study of "electroosmotic component" of the variation of transport no. in membranes proves the theory. Complex org. ions (dyes, etc.) and colloid particles through membranes should be electrodialyzed in a semipermeable closed dialyzer. This gives a better current yield.

A. Lilienthal

SOV/84-58-4-34/48

AUTHOR: Gutman, L., Engineer (Kiyev)

TITLE: Technical Maintenance Regulations Need Systematization (Uporyadochit' reglamenty tekhnicheskogo obsluzhivaniya)

PERIODICAL: Grazhdanskaya aviatsiya, 1958, Nr 4, p 35 (USSR)

ABSTRACT: In this letter to the editor, the author presents a number of examples of inconsistencies in the maintenance regulations for engines, propellers, fuel and oil systems, etc. of similar or comparable aircraft. He makes his own proposals and urges the State Scientific Research Institute (GosNII) of the GVF to work out a systematized set of regulations.

1. Aircraft--Maintenance 2. Control systems

Card 1/1

AUTHOR: Gutman, L., Engineer SOV/84-58-8-13/59

TITLE: Studying New Flying Equipment (Izuchayut novuyu tekhniku)

PERIODICAL: Grazhdanskaya aviatsiya, 1958, Nr 8, p 10 (USSR)

ABSTRACT: The article reports on a special course organized at the Advanced Flying School for technical staff members of operational units of the Aeroflot to study the maintenance of the Il-18 airliner. Teaching aids include: mock-up cockpit of the plane, a central control panel with signal lights, model of the AV-68 propeller with the speed regulator, landing gear, etc. On the otherhand, such aids as handbooks on the plane and its engines (NK 4 and An-20) are not yet published. The time assigned to radio and lighting equipment, as well as instruments, is said to be too short.

Card 1/1

GUTMAN, L., inzh. (Kiyev)

Device for towing airplanes into hangars. Grazhd.av 17 no.3:32 Mr '60. (MIRA 13:6)
(Airports--Equipment and supplies)

ASNIS, A.; GUTMAN, L.; VENERAKI, B.

Electric arc-welding of trolley-bus steering knuckles. Zhil.-kom. khoz. 6 no.1:27 '56. (MLRA 9:5)
(Trolley buses)(Electric welding)

CA GUTMAN, L.

12

Rendering fat according to the method of Kuznetsova L. Gutman (Moscow Meat Combine). *Myasnaya Ind S.S.S.R.* **23**, No. 1, 23(1952).—Rendering under vacuum is rapid and produces a better-quality lard. M. M. P

GUTMAN, L., inzhener.

Mechanization of technological processes at small meat packing combines. Mias. ind. SSSR 24 no.5:32 '53. (MLRA 6:12)
(Packing houses)

GUTMAN, L.

New kinds of meat and milk products. Sov. torg. no.7:28-29 Jl '56. (MLRA 9:10)

(Meat, Canned) (Milk)

GUTMAN, L., inzh.

Useful book. Mias.ind. SSSR 31 no.6:49 '60. (MIRA 13:12)
(Packing house products)

GUTMAN, L.

Intermediate products in the restaurants of the Russian Federation. Obshchestv. pit., no.6:22-25 Je '62. (MIRA 15:9)

1. Nachal'nik otdela polufabrikatov Upravleniya obshchestvennogo pitaniya Ministerstva torgovli RSFSR.
(Restaurants, lunchrooms, etc.)

GUTMAN, L.; ALEKSANDROVA, T.

Preparation of cattle for mass processing. Mias. ind. SSSR 34 no.4:4-5 '63. (MIRA 16:10)

1. Sovet narodnogo khozyaystva SSR.

1. FRIDMAN, I. B., Docent; GUTMAN, L. B.

2. USSR (600)

4. Influenza

7. Functional state of the liver in grippe, Medych. zhur., 22, no. 1, 1952.

9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

GUTMAN, L.B., kand. med. nauk

Some characteristics of the ballistocardiogram of pregnant women. Ped. Akush. i gin. 24 no.6:52-55 '62. (MIRA 17:4)

1. Ukrainskiy nauchno-issledovatel'skiy institut okhrany materinstva i detstva im. Geroya Sovetskogo Soyuza prof. P.M. Buyka (direktor - kand. med. nauk O.G. Pap [Pap, O.H.]).

STAL'NENKO, Ye.S., Doktor med.nauk; GUTMAN, L.B., kand.med.nauk

Simple method of phonocardiography of intra-uterine fetus. Akush. i gin. no.2:15-18'63. (MIRA 16:10)

1. Iz Ukrainskogo nauchno-issledovatel'skogo instituta okhrany materinstva i detstva imeni prof. P.M.Buyko (dir. - kand. med. nauk A.G.Pap)
(FETUS) (HEART SOUNDS)

GUTMAN, L.B.

Diagnostic significance of ballistocardiography in rheumatic disorders of the heart in pregnant women. Ped. akush. i gin. 25 no.1:37-40 '63. (MIRA 16:5)

1. Ukrains'kiy naukovo-doslidniy institut okhoroni materinstva i ditinstva (direktor-dotsent O.G.Pap [O.H.Pap]), naukoviy kerivnik - prof.A.P.Nikolayev).
(PREGNANCY, COMPLICATIONS OF) (RHEUMATIC HEART DISEASE)
(BALLISTOCARDIOGRAPHY)

GUTMAN, L.B., kand. med. nauk

Ballistocardiography in pregnant women with rheumatic heart defects. Sov. med. 27 no.11:62-67 N '63 (MIRA 18:1)

1. Iz Ukrainskogo nauchno-issledovatel'skogo instituta okhrany materinstva i detstva (direktor - dotsent A.G. Pap).

BIRKOVSKIY, Yu.Ye., red.; GRIGORASHCHENKO, A.Ye., red.; [illegible], I.I., red.; GUTMAN, L.B., red.; KOROVITSKIY, L.K., red.; MEL'NIK, M.N., red.; PAVLOV, A.V., red.; PAP, A.G., red.; CHIRKOVA, L.A., red.

[Toxoplasmosis; transactions of the scientific conferences in Kiev, December 21 - 23, 1962, and in Odessa, April 25 - 27, 1963] Toksoplazmoz; trudy nauchnykh konferentsii, sostoiavshikhsia v g. Kieve 21-23 dekabria 1962 g. i v g. Odesse 25-27 aprelia 1963 g. Pod red. M.N.Mel'nika i A.G.Pap. Kiev, (MIRA 18:2)

1. Ukrainskiy nauchno-issledovatel'skiy institut okhrany materinstva i detstva im. P.M.Maryko.

GUTMAN, L.L.

Work of teachers of the organization and methods office. Zdrav. Bel. 7 no. 2:41-42 F '61. (MIRA 14:2)

1. Iz orgmetodkabineta Vitebskoy oblastnoy klinicheskoy bol'nitsy (zaveduyushchiy kabinetom N.P. Belyy).
(CHILDREN—CARE AND HYGIENE)

GUTMAN, L. M.

Gutman, L. M. - "Automatic welding of high carbon tractor plow shares," Trudy po avtomat. svarke pod flyusom (In-t elektrosvarki im. Patona), Symposium 4, 1949, p. 63-68

SO: U-4355, 14 August 53, (Letopis 'Zhurnal 'nykh Statey, No. 15, 1949)

USSR/Metals - Steel, Properties, Cold-Brittleness 1951

"Effect of Manganese on Cold-Brittle Tendency of Low-Carbon Steel," A. Ye. Asnis, Cand Tech Sci, L. M. Gutman, Sci Worker

"Avtomat Svarka" No 1 (16), pp 66-68

Impact tests conducted by Inst of Elec Welding imeni Ye. O. Paton for steels with Mn-C ratios in 2.2-5 range revealed that increased content of Mn, at same contents of C and Si, lowers tendency of steel to cold-brittleness. Threshold of steel cold-brittleness is below -60° C

202T82

USSR/Metals - Steel, Properties, Cold-Brittleness (Contd) 1951

at Mn/C ratio = 4.8; it is 40° C at Mn/C ratio = 2.8; and -20° C at Mn/C ration = 2.2.

202T82

GUCLAN, I. M.

Dissertation: "Reconditioning of Railroad Wheel Rims with Surfacing by Submerged Arc Welding." Cand Tech Sci, Moscow Order of Labor Red Banner Technical School imeni Bauman, 19 Apr 54. (Vechernyaya Moskva, Moscow, 8 Apr 54)

SO: SUM 243, 19 Oct 1954

GUTMAN, L. M.

GUTMAN, L.M.; BEL'FOR, M.G.

Automatic welding of casing pipes under flux. Avtom.svar. 7 no.1: 3-14 Ja-F '54. (MLRA 7:7)

1. Institut elektrosvarki im. Ye.O.Patona Akademii nauk USSR. (Electric welding) (Pipe, Steel)

ASNIS, A.Ye., kandidat tekhnicheskikh nauk (Kiyev); GUTMAN, L.M., nauchnyy sotrudnik. (Kiyev).

Building up under flux in local rolling of wheel bands. Zhel.dor. transp. 37 no.12:77-78 D '55. (MLRA 9:5)
(Wheels--Welking)

[illegible], I. N.

[illegible], I. N.

"The development of methods for providing high wear resistance to railroad tires." Acad Sci Ukrainian SSR. Inst of Structural Mechanics. Kiev, 1956. (Dissertation For the Degree of Candidate in Technical Sciences).

Knizhnaya letopis'
No 34, 1956. Moscow.

ASNIS, A.Ye.; GUTMAN, L.M.

Alloying the deposited metal through flux for the control of porosities. Avtom.svar. 10 no.6:62-70 N-D '57. (MIRA 11:1)

1.Ordena Trudovogo Krasnogo Znameni Institut elektrosvarki im. Ye.O. Patona AN USSR.
(Electric welding)

ASNIS, Arkadiy Yefimovich, kand.tekhn.nauk; GUTMAN, Liya Mironovna, kand. tekhn.nauk; STEPENKO, Vasiliy Petrovich, kand.tekhn.nauk; CHUMACHENKO, Vasiliy Afinogenovich; GALANOVA, M.S., red.; VERINA, G.P., tekhn.red.

[Welding and hard facing under flux in the repair of locomotives] Svarka i naplavka pod fliusom pri remonte lokomotivov. Moskva, Gos. transp. zhel. -dor. izd-vo, 1958. 130 p. (MIRA 11:4)

(Welding)
(Locomotives--Maintenance and repair)
(Hard facing)

SOV/68-58-11-9/25

AUTHORS: Boldyrev I.K., Gutman L.M. and Khurin S.M.

TITLE: Experience in Replacing Gas-Air Valves and Increasing the Travel of the Reversing Equipment (Opyt zameny gazovozdushnykh klapanov i udlineniya khoda kantovki)

PERIODICAL: Koks i Khimiya, 1958, Nr 11, pp 24-26 (USSR)

ABSTRACT: The method adopted for exchanging gas and air valves of an old design for new ones of a standard design and increasing the pitch of reversing equipment is described and illustrated.
There are 4 figures.

ASSOCIATION: Stalinskiy Koksokhimicheskiy zavod (Stalino Coke By-Product Plant)

Card 1/1

ASNIS, A.E., kand. tekhn. nauk; GUTMAN, L.M., kand. tekhn. nauk. (g. Kiyev).

New welding methods used in repairing rolling stock. Zhel. dor. transp. 40 no.12:74-75 D '58. (MIRA 12:3)
(Railroads--Rolling stock--Welding)

S/125/60/000/008/002/012
A161/A029

AUTHORS: Asnis, A.Ye.; Gutman, L.M.

TITLE: Welding St. 5, 45 and 40Kh Steel Joints Without Heat Treatment

PERIODICAL: Avtomaticheskaya svarka, 1960, No. 8, pp. 14 - 25

TEXT: It has been proven in experiments with the high-strength steel grades "Ст. 5" (St. 5), "45" and "40X" (40Kh) that joints welded with preheat up to 300°C, without subsequent heat treatment, have practically the same metal structure, mechanical properties an hardness as after annealing at 630°C. With St. 5, having a lower carbon content, preheat to 150 - 200°C was sufficient. The chemical composition of the three steel grades and "Св-08" (Sv-08) welding wire used is given (Table 1):

Steel	Thickness in mm	Element Content in %					
		C	Mn	Si	S	P	Cr
St. 5	40 and 20	0.31	0.62	0.16	0.026	0.034	-
45	40	0.47	0.72	0.28	0.019	0.025	-
45	20	0.51	0.65	0.28	0.027	0.028	-
45	12	0.47	0.71	0.28	0.038	0.020	-

Card 1/2

S/125/60/000/008/002/012
A161/A029

Welding St.5, 45 and 40Kh Steel Joints Without Heat Treatment

40Kh	40, 20 and 12	0.40	0.62	0.28	0.035	0.017	0.94
Sv-08 wire	ø 5	0.11	0.48	0.01	0.052	0.017	-
Sv-08 wire	ø 2	0.06	0.52	0.02	0.037	0.019	-

Microphotographs of weld metal obtained are included. Shafts of internal combustion engines and steam engines resurfaced with preheat only are in operation since several years without a single case of breakdown. Several heavy hydraulic press frames of steel with higher C content have been successfully repaired. A railroad car building plant is using the new simplified technology. A photo (Fig. 11) shows a railroad car chassis prepared for welding, with induction heaters installed for local preheat by commercial frequency current. It is concluded that welding with local preheat is to be preferred to welding with subsequent annealing, for local preheat considerably raises the resistance to cracking in weld metal and in the heat-affected zone. There are 11 figures, 3 tables and 10 references: 8 Soviet, 1 French and 1 English.

ASSOCIATION: Ordena Trudovogo Krasnogo Znameni Institut elektrosvarki im. Ye.O.Patona AN UkrSSR (Electric Welding Institute "Order of the Red Banner of Labor" im. Ye.O. Paton of the Academy of Sciences of the UkrSSR)

SUBMITTED: March 10, 1960

Card 2/2

GUTMAN, L.M.

Welding of drill pipes. Avtom.svar. 13 no.2:75-78 F '60. (MIRA 13:5)

1. Ordena Trudovogo Krasnogo Znameni Institut elektrosvarki im. Ye.O.Patona AN USSR.
(Pipe, Steel--Welding)

ASNIS, A.Ye., GUTMAN, L.M.

Making weld joints in St.5, 45 and 40Kh steels without subsequent heat treatment. Avtom. svar. 13 no.8:14-25 Ag '60. (MIRA 13:8)

1. Ordena Trudovogo Krasnogo Znameni Institut elektrosvarki im. Ye.O. Patona AN USSR.
(Steel--Welding)

GUTMAN, L.M.

New processes for reconditioning C-80 tractor parts. Avtom. svar. 14 no.3:75-80 Mr '61. (MIRA 14:2)

1. Ordena Trudovogo Krasnogo Znameni Institut elektrosvarki im. Ye.O.Patona AN USSR.
(Tractors--Maintenance and repair) (Hard facing)

SVIRSKIY, Ya.I.; SKLYAROV, L.A.; GUTMAN, L.M.

Improved performance of the BG-100 automatic batcher; 1955 model.
Koks i khim. no.11:19-21 '61. (MIRA 15:1)

1. Stalinskiy koksokhimicheskiy zavod.
(Coal preparation plants--Equipment and supplies)

GUTMAN, L. M.

PHASE I BOOK EXPLOITATION SOV/5975

International Institute of Welding

XII kongress Mezhdunarodnogo instituta svarki, 29 iyunya - 5 iyulya 1959 v g. Opatii (Twelfth Annual Assembly of the International Institute of Welding, Opatija, June 29 - July 5, 1959) Moscow, Mashgiz, 1961. 359 p. 3000 copies printed.

Sponsoring Agency: Natsional'nyy komitet SSSR po svarke.

Ed. (Title page): G. A. Maslov, Docent; Translated from English, French, and Serbo-Croatian by N. S. Aborenkova, K. N. Belyayev, E. P. Bogacheva, L. A. Borisova, K. V. Zvegintseva, V. S. Minavichev, and M. M. Shelechnik; Managing Ed. for Literature on the Hot-Working of Metals: S. Ya. Golovin, Engineer.

PURPOSE: This collection of articles is intended for welding specialists and the technical personnel of various production and repair shops.

Card 1/[redacted]

COVERAGE: The collection contains abridged reports presented and discussed at the Twelfth Annual Assembly of the International Institute of Welding. Reports deal with problems of welding and related processes used in repair work, repair techniques, and the problems arising in connection with the nature of the base and filler materials. Examples of repairing various parts are given, and the organization of repair operations in workshops and under field conditions is discussed. Economic aspects of welding and related processes as used in repair work are analyzed. No personalities are mentioned. There are no references.

TABLE OF CONTENTS: [Only Soviet and Soviet-bloc reports are given here]

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GUTMAN, L.M., inzh.

Automatic coal charger. Met. i gornorud. prom. no.2:72-73 Mr-Ap '62. (MIRA 15:11)

1. Donetskiy koksokhimicheskiy zavod.
(Coke ovens)

ASNIS, A.Ye.; GUTMAN, L.M.

Reconditioning track lugs with one-sided wear. Avtom. svar. 15 no.12:9-15 D '62. (MIRA 16:2)

1. Ordena Trudovogo Krasnogo Znameni institut elektrosvarki imeni Ye.O. Patona AN UkrSSR.
(Crawler tractors—Maintenance and repair)

MIROSHNICHENKO, A.M.; SHTROMBERG, B.I.; KRIVOKON', Yu.G.; SHINKAREVA, T.V.; DRUY, G.N.; DVUZHIL'NAYA, N.M.; GUTMAN, L.M.; KUL'MAN, R.K.; KOVALEVSKAYA, M.M.

Coking of a charge containing 40% gas coals and blast-furnace smelting with coke obtained by this method. Koks i khim. no.2:20-24 '63. (MIRA 16:2)

1. Ukrainskiy uglekhimicheskiy institut (for Miroshnichenko, Shtromberg, Krivokon', Shinkareva, Druy). 2. Donetskiy nauchno-issledovatel'skiy ugol'nyy institut (for Dvuzhil'naya). 3. Donetskiy koksokhimicheskiy zavod (for Gutman, Kul'man, Kovalevskaya).
(Coke) (Metallurgical furnaces)