"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101410016-7

ACCESSION NR: AP4013506

rotation with the principal axes of rotation along the [111] axes remains valid in highly doped specimens. Computations were made on the effective parameter of anisotropy K ($= K_m/K_\tau$, where $K_m = m_{\parallel}/m_{\perp}$, and $K_\tau = \tau_{\parallel}/\tau_{\perp}$) on the assumption that K does not depend on energy. The value of K was found to decline with increase in impurity concentration to some value and then to increase again. "The authors thank V. P. Kasatkina for her careful determination of the crystallographic directions of the investigated samples." Orig. art. has: 9 figures and 5 formulas.

ASSOCIATION: Gosudarstvenny*y nauchno-issledovatel'skiy i proyektny*y institut redkometallicheskoy promy*shlennosti (State Scientific Research and Planning Institute for the Rare-Metal Industry)

SUBMITTED: 10Aug63 DATE ACQ: 03Mar64 ENCL: 00

SUB CODE: PH NO REF SOV: 003 OTHER: 007

Card 2/2

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101410016-7"

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L 2229-65 EWT(1)/EWT(m)/EWP(t)/EWP(b) IJP(c) JD

ACCESSION NR: AP5006884 S/0181/65/007/003/0796/0801

AUTHOR: Andrianov, D. G.; Fistul', V. I.

TITLE: Planar Hall effect in strongly doped germanium

SOURCE: Fizika tverdogo tela, v. 7, no. 3, 1965, 796-801

TOPIC TAGS: Hall effect, planar Hall effect, n type germanium, doping, semiconductor band, galvanomagnetic effect

ABSTRACT: Theoretical expressions are presented for the kinetic coefficients of the planar Hall effect with account of the anisotropy of the effective masses of the carriers and the relaxation time. The planar Hall effect consists in the production of an electric field perpendicular to the current flowing through a crystal placed in a magnetic field, with all three vectors (magnetic field, electric field, current) lying in a single plane. The calculation is based on a model in which it is assumed that the surface representing the carrier energy in quasi-momentum space has a certain number of minima and on the assumption that the energy surface of the electrons in germanium can be described by a system of four crystallographically equivalent energy surfaces. In addition, the planar Hall

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ACCESSION NR: AP5006884

effect was measured in n-Ge with electron density 10^{16}--8×10^{18} cm^{-3}. The measurements were made at 77 and 300K in samples oriented in the directions [100] and [110]. A standard dc compensation method was used in the measurements. The dependence of the planar Hall effect signal on the magnetic field intensity was quadratic in all samples. The results demonstrate that an investigation of the planar Hall effect yields the same information concerring the structure of the band and the character of scattering as an investigation of magnetoresistance. Orig. art. has: 7 figures and 9 formulas.

ASSOCIATION: Gosudarstvennyy nauchno-issledovatel'skiy i proektnyy institut redkometallicheskoy promyshlennosti, Moscow (State Scientific Research and Desig Institute for the Rare Metal Industry)

SUBMITTED: 05Sep64 ENCL: 00 SUB CODE: SS,EM

NR REF SOV: 005 OTHER: 005

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APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101410016-7"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101410016-7

ACC NR: AP7004579 SOURCE CODE: UR/0413/66/000/018/0111/0111

INVENTOR: Andrianov, D. G.; Fistul', V. I.

ORG: none

TITLE: Method for determining orientation of a magnetic field and angles of rotation. Class 42, No. 186154

SOURCE: Izobreteniya, promyshlennye obraztsy, tovarnyye znaki, no. 18, 1966, 111

TOPIC TAGS: magnetic field, magnetic field measurement

ABSTRACT: Author's Certificate No. 186154, dated 11 August 1964, has been issued to D. G. Andrianov and V. I. Fistul' for a method described as follows: "A method for determining the orientation of the magnetic field and the angles of rotation, using a Hall emf semiconductor sensor. It differs in that for the purpose of increasing the response the sensor is situated in the magnetic field in such a way that the vectors of current density, the magnetic field and the measured transverse emf lie in a single plane. [JPRS: 38,937]

SUB CODE: 20 / SUBM DATE: none

Card 1/1 UDC: 621.317.444.013.24:538.632

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APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101410016-7"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101410016-7

ANDRIANOV, D. M.

32489. Sushka elektricheskikh mashin odnovitkovym metodom. Elektr. stantsii, 1949, No. 10, s. 37-38.

SO: Letopis' Zhurnal'nykh Statey, Vol. 50, Moskva, 1949

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101410016-7"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101410016-7

ANDRIANOV, D.M.

1. ANDRYANOV, D. M., Eng.

2. USSR (600)

4. Electric Transformers

7. Organizing the installation of powerful transformer groups. Rab. energ. 2 No. 10, 1952.

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

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101410016-7"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101410016-7

ANDRIANOV, D.M.

1. ANDRYANOV, D. M.

2. USSR (600)

4. Electric Transformers

7. Installing manholes in transformer tanis for inspecting the core. Rab. energ. 2 no. 11, 1952.

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

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101410016-7"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101410016-7

ANDRIANOV, D.M., inzh.

Reinforced foundation bolts for metal piles. Biul. stroi. tekh. 12 no.7:20 Jl '55. (MIRA 11:12)
(Bolts and nuts)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101410016-7"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101410016-7

ANDRIANOV, D.M., inzhener.

Evaluating industrial methods of electrical installation work. (MIRA 10:5)
Prom. energ. 12 no.4:24-26 Ap '57.
(Electric engineering)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101410016-7"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101410016-7

ANDRIANOV, D.M., inzh.

Cost of electric installation work. Prom. energ. 13 no.5:23-26 My '58. (MIRA 11:8)
(Electric engineering--Estimates and costs)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101410016-7"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101410016-7

ANDRIANOV, D. P.

3-2-11/32

AUTHOR: Andrianov, D.P., Doctor of Economics,
Shershov, S.F., Dotsent, Candidate of Technical Sciences

TITLE: In Search of Means to Improve the Economic Training of Future Engineers (V poiskakh putey uluchsheniya ekonomicheskoy podgotovki budushchikh inzhenerov)

PERIODICAL: Vestnik vysshey shkoly, Feb 1957, " 2, p 41-47 (USSR)

ABSTRACT: In general the article deals with deficiencies in the teaching of economics at the Ural Polytechnical Institute and with the measures adopted to eliminate them. This institute, the biggest in the Ural region, trains metallurgical engineers, building engineers, chemists, mechanics, electrical engineers, radiotechnicians, economists and other specialists. The article tells of the liaison between the Chair of Economics and Soviet Industry, and on the inadequacy of the means of instruction. In developing measures to improve the training in economics the Administration of the Institute was guided by the directives of the 20th Congress of the Soviet Communist Party. Some of the measures are: In all faculties, except two, the physico-technical and power engineering, instruction courses in "Economics of the Individual Branches" and "Organization and Planning of Production" were introduced. Attention was also

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101410016-7

3-2-11/32

In Search of Means to Improve the Economic Training of Future Engineers

Some teachers of the Chair of Economics and Production Organization, for instance Professor A.S. Osintsev, Dotsents V.I. Ganshtak, P.A. Zhukov, I.A. Rozenberg, A.M. Vershinin and others, regularly publish their works on these subjects. In Nov/Dec 1956, practical training for the students of the metallurgical, mechanical and radio-technical faculties in Sverdlovsk was provided for at the Uralmashzavod, the Ural Turbo-Motor Works (Ural'skiy turbomotornyy zavod), the Verkh-Isetskiy [Sverdlovsk] Metallurgical Works (Verkh-Isetskiy metallurgicheskiy zavod), and in the Verkhnaya Pyshma Works. This article is based on the results of a study by the Commission of the Chief Administration for Polytechnical and Machine Construction Educational Institutions of the Ural Polytechnical Institute, on the economic training of students.

ASSOCIATION: Ural Polytechnical Institute (Ural'skiy politekhnicheskiy institut)

AVAILABLE: Library of Congress

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APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101410016-7"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101410016-7

ANDRIANOV, D.P.

SOV-3-58-9-24/36

AUTHOR: Sarkisyan, S.A., Candidate of Economics, Moscow Aviation Institute imeni S. Ordzhonikidze

TITLE: To Improve the Economical Training of Engineers for the Aircraft Industry (Uluchshit' ekonomicheskuyu podgotovku inzhenerov dlya aviatsionnoy promyshlennosti)

PERIODICAL: Vestnik vysshey shkoly, 1958, Nr 9, pp 70-72 (USSR)

ABSTRACT: On the initiative of the Engineering-Economic Faculty of the Moskovskiy aviatsionnyy institut imeni Ordzhonikidze (Moscow Aviation Institute imeni Ordzhonikidze) (MAI) an inter-vuz scientific-methodical conference of instructors of the chairs of economics and of production organization from aviation institutes took place in the summer of 1958. Representatives of the Kazan', Kuybyshev, Moscow, Ufa and Khar'kov aviation institutes, of the Moskovskiy aviatsionnyy tekhnologicheskiy institut (Moscow Aviation and Technological Institute), workers of the USSR Gosplan, the Gor'kiy and Moscow City Sovnarkhozes, the Gosudarstvennyy komitet po aviatsionnoy tekhnike (State Committee on Aeronautical Engineering), the Nauchno-issledovatel'skiy institut tekhnologii i organizatsii

Card 1/3

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SOV-3-58-9-24/36

To Improve the Economical Training of Engineers for the Aircraft Industry

proizvodstva aviatsionnoy promyshlennosti (NIAT) (Scientific-Research Institute of Technology and Organization of Production in the Aviation Industry) and the workers of aircraft enterprises participated in the conference works. The following persons delivered reports: Professor N.A. Orlov - Chief of the Upravleniye spetsializatsii i kooperirovaniya promyshlennosti Gosplana SSSR (Administration for the Specialization and Cooperation of the USSR Gosplan Industry and Head of the MAI Chair for the Organization of Aircraft Production) on "The Fundamental Problems of Developing Specialization and Cooperation in Soviet Industry"; V.P. Sovetov - Chief of the Upravleniye aviatsionnoy promyshlennosti Gor'kovskogo sovnarkhoza (Administration of the Aircraft Industry of the Gor'kiy Sovnarkhoz) on "Questions of Improving Planning in the Aircraft Industry"; Professor D.P. Andrianov - Head of the MAI Chair of Economics of Aircraft Industry, on "The Effectiveness of New Capital Investments"; N.P. Ternov - Chief of NIAT Laboratory, on the prospective plan of the scientific-research works in the field of economics and organization of aircraft production, Docent S.I. Didenko (MAI) and the instructor of the Kazan' Aviation Institute Yu.T.

Card 2/3

Card 3/3

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101410016-7"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101410016-7

ANDRIANOV, Dmitriy Prokof'yevich, prof.; BROYDE, I., red.; TELEGINA, T., tekhn. red.

[Methodology for analyzing the efficiency of expenditures for new machinery]Effektivnost' zatrat na vovuiu tekhniku; metokika analiza. Moskva, Gosfinizdat, 1961. 91 p. (MIRA 14:7)
(Machinery in industry)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101410016-7"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101410016-7

ANDRIANOV, D.P., doktor ekonomicheskikh nauk, prof.

Some initial conditions for preliminary determination of the cost of automatic pilots. Trudy MAI no.151:8-22 '62. (MIRA 15:12)

(Automatic pilot (Airplanes)--Cost)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101410016-7"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101410016-7

PHASE I BOOK EXPLOITATION SOV/6558

Andrianov, D. P., M. Z. Gendel'man, A. V. Glichev, S. I. Didenko, A. N. Zhuravlev, K. D. Zakharov, S. V. Moiseyev, L. M. Ol'shevets, N. A. Orlov, P. G. Popov, S. A. Sarkisyan, D. E. Starik, A. N. Ter-Markaryan, V. I. Tikhomirov, V. V. Chesnokov, Ye. I. Sherman, and L. M. El'bert.

Organizatsiya, planirovaniye i ekonomika aviatsionnogo proizvodstva (Organization, Planning, and Economics of the Aircraft Industry) Moscow, Oborongiz, 1963. 694 p. Errata slip inserted. 5000 copies printed.

Ed. (Title page): L. M. Ol'shevets, Candidate of Technical Sciences, Docent and N. A. Orlov, Professor; Reviewer: A. A. Lapshin, Docent; Ed.: V. F. Novatskiy, Candidate of Economical Sciences; Ed. of Publishing House: F. G. Tubyanskaya; Tech. Ed.: I. I. Karpov; Managing Ed.: L. A. Gil'berg.

PURPOSE: This textbook is intended for students of aircraft engineering schools of higher education. It may also be useful to engineering personnel of aircraft industry.

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APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101410016-7"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101410016-7

COVERAGE: The book presents a comprehensive review of problems connected with economics of the aircraft industry and with the organization and planning of aircraft production. Concrete problems of organization of work at aircraft enterprises are analyzed as they apply to various types of aircraft plants, e.g., aircraft construction plants, engine manufacturing plants, instrument-making plants. Specific features of the organization and planning of production in industrial and experimental plants are outlined. The Introduction and Ch. I, II, and XI were written by Professor N. A. Orlov; Ch. III by Docent S. V. Moiseyev, Cand. of Techn. Sciences; Ch. IV and XIX by Docent S. A. Sarkisyan, Cand. of Econ. Sciences; Ch. V and X by Docent D. E. Starik, Cand. of Techn. Sciences; Ch. VI by Docent P. G. Popov; Ch. VII by Docents Ye. I. Sherman, Cand. of Econ. Sciences, and K. D. Zakharov, Cand. of Techn. Sciences; Ch. VIII by Docent M. Z. Gendel'man, Cand. of Techn. Sciences, Docent A. V. Glichev, Cand. of Economic Sciences, and Professor A. N. Ter-Markaryan, Cand. of Techn. Sciences; Ch. IX by Professor A. N. Zhuravlev, Cand. of Tech. Sciences; Ch. XII and XIII by Professor D. P. Andrianov, Doctor of Econ. Sciences; Ch. XIV by Professor V. I. Tikhomirov, Cand. of

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101410016-7

Techn. Sciences; Ch. XV, XVI, XVII, XXII by Docent L. M. Ol'shevets, Cand. of Techn. Sciences; Ch. XVIII and XXI by Docent S. I. Didenko, Cand. of Econ. Sciences; Ch. XX and XXIV by Docent L. M. El'bert, Cand. of Econ. Sciences; Ch. XXIII by Docent V. V. Chesnokov, Cand. of Econ. Sciences. L. A. Ol'shevets and N. A. Orlov supervised the group of authors and completed the scientific editing. Each part of the book is accompanied by references, all Soviet, and in addition there are 9 Soviet references relating to the whole book.

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101410016-7

ANDRIANOV, D.P.; TILLES, S.A., kand. tekhn. nauk, retsenzent [deceased]; BROYDE, I.M., kand. ekon. nauk, red.; SALYANSKIY, A.A., red.izd-va; SMIRNOVA, G.V., tekhn. red.

[Economic efficiency of capital investments in machinery manufacturing] Ekonomicheskaia effektivnost' kapital'nykh vlozhenii v mashinostroenii. Moskva, Mashgiz, 1963. 190 p. (MIRA 17:3)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101410016-7"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101410016-7

ACCESSION: AT4031060 S/2535/63/000/154/0003/0019

AUTHOR: Andrianov, D.P. (Doctor of Economics Science)

TITLE: Some general positions for determining the economic efficiency of aeronautical engineering

SOURCE: Moscow. Aviatsionnyy institut. Trudy*, no.154, 1963. Ekonomicheskaya effektivnost'aviatsionnoy tekhniki (economic efficiency in aeronautical engineering), 3-19

TOPIC TAGS: capital investment, expenditure, earning capacity, economic efficiency, net cost

ABSTRACT: The economic evaluation of military aircraft represents a complex problem requiring independent investigation. The author discussed the comparative and absolute efficiency of capital investments and new technology, determining the comparative efficiency of new aircraft. He presented a method for obtaining the least total of expenditures, the characteristics and the value of earning capacity in determining the efficiency of aeronautical engineering, and showed the principle difference in methods of computing the efficiency of the new technology (new aircraft) in the Soviet Union and in capitalist countries. The capitalist, in calculating

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ACCESSION NR: AT4031060

the efficiency of the new technology, operates by real values of income and outgo, computing its earning capacity from the viewpoint of what degree it contributes to the increase of the profit norm per capital engaged; in the socialist countries the efficiency of introducing new technology must contribute to the earning capacity of production and the production fund engaged in it. Orig. art. has: 11 formulas.

ASSOCIATION: Moscow Aviatsionnyy institut (Moscow Institute of Aviation)

SUBMITTED: 00 DATE ACQ: 16Apr64 ENCL: 00

SUB CODE: AD NO REF SOV: 005 OTHER: 000

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101410016-7

GYANDZHUNTSEV, Yervand Tatevosovich, kand. ekon. nauk, dots.; NEDUMOV, Boris Ivanovich, inzh.; SHTRUK, G.G.; POMORNATSKIY, N.N.; ANDRIANOV, D.P., doktor ekon. nauk, prof., retsenzent; KUL'BERG, L.M., dots., kand. tekhn. nauk, retsenzent; GORDON, A.L., red.

[Economics and organization of radio production] Ekonomika i organizatsiia radiotekhnicheskogo proizvodstva. Moskva, Energiia, 1964. 359 p. (MIRA 17:10)

1. Zaveduyushchiy kafedroy ekonomiki promyshlennosti Moskovskogo aviatsionnogo instituta (for Andrianov).
2. Kafedra ekonomiki promyshlennosti Moskovskogo aviatsionnogo instituta (for Kul'berg).

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101410016-7

L 8510-66

ACC NR: AT5027524

SOURCE CODE: UR/2690/65/008/000/0137/0142

AUTHOR: Andrianov, E.M.

ORG: Institute of Electronics and Computer Technology AN LatSSR, Riga (Institut elektroniki i vychislitel'noy tekhniki AN LatSSR)

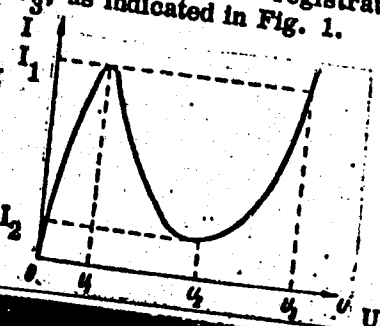
TITLE: Some methods for the automatic recording of tunnel diode parameters

SOURCE: AN LatSSR. Institut elektroniki i vychislitel'noy tekhniki. Trudy, v. 8, 1965. Avtomatika i vychislitel'naya tekhnika, 137-142

TOPIC TAGS: tunnel diode, semiconductor device, auto recorder, data recording, circuit theory

ABSTRACT: The author studies methods for the automatic registration of tunnel diode currents I_1 and I_2, and of voltages U_1, U_2, and U_3, as indicated in Fig. 1.

Fig. 1



The five basic parameters determining the important points of the tunnel diode volt ampere characteristics.

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ACC NR: AT5027524

The two basic solutions are shown in Figs. 2 and 3.

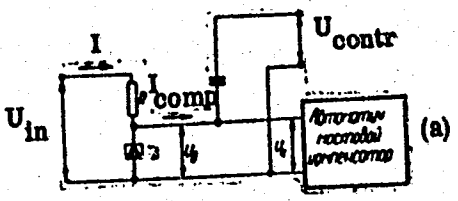

Fig. 2 Basic circuit for the measurement of the five semiconductor diode parameters using DC conversion (for I_1 and I_2) and differential compensation (for U_1, U_2, and U_3).

(a) - automatic bridge compensator.

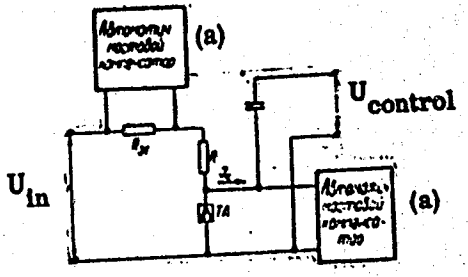

Fig. 3 Basic scheme for the measurement of the five semiconductor diode parameters using the differential compensation method for all the quantities.

(a) - automatic bridge compensator.

The article also presents theoretical error estimates for the two cases. Orig. art. has: 5 formulas and 4 tables.

SUB CODE: EC, IE / SUBM DATE: none / ORIG REF: 002

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101410016-7

KHOL'NOVA, V.I.; KOVRIZHNYKH, V.G.; YELAGINA, Z.A.; Prinimali uchastiye: VINOKUROV, N.D.; ANDRIANOV, F.F.; ZAL'TSMAN, I.Ya.; VOLKOV, Ye.S.; VASILEVSKAYA, M.A.; KOMAROVA, N.K.

Investigating large-size forgings made of the B93 alloy.
Alium. splavy no.3:136-144 '64. (MIRA 17:6)

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L 58800-65 EWT(d)/EEC(k)-2/EEC-4 Po-4/Pq-4/Pg-4/Pk-4/Pl-4

ACCESSION NR: AP5017816 UR/0286/65/000/011/0044/0044
621.317.757

AUTHOR: Andrianov, E. M.; Klyavin'sh, I. Ya.

TITLE: A device for automatically measuring the parameters of tunnel diodes. Class 21, No. 171449

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 11, 1965, 44

TOPIC TAGS: measuring device, tunnel diode, parameter measurement

ABSTRACT: This Author Certificate introduces a device which automatically measures the parameters of tunnel diodes. The instrument contains a unit which converts the measured values of maximum and minimum current to a dc voltage. A digital printout attachment for recording the converter parameters and a unit which measures diode voltages which correspond to the values of maximum and minimum current are connected through commutators to the conversion unit. The device also contains a control unit and a power supply. Accuracy during automatic measurement of diode parameters is improved by using an automatic compensator in the voltage measurement unit. The compensator is connected to the control unit. The conversion

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ACCESSION NR: AP5017816

unit has a variable voltage supply connected to its input and a pulse shaper connected to its output. The pulse shaper generates signals which control switching of the measurement and recording instruments. Orig. art. has: 1 figure. [14]

ASSOCIATION: Institut elektroniki i vychislitel'noy tekhniki AN Latviyskoy SSR (Institute of Electronics and Computing Technology, AN Latvian SSR)

SUBMITTED: 03May63 ENCL: 01 SUB CODE: EC, IE

NO REF SOV: 000 OTHER: 000 ATD PRESS: 4054

Card 2/3

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L 58800-65

ENCLOSURE: 01

ACCESSION NR: AP5017816

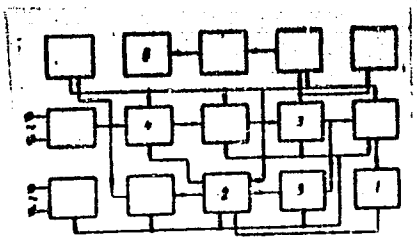

Fig. 1. Device for measuring TD parameters

1 - Voltage measurement unit with automatic compensator; 2 - control unit; 3 - conversion unit; 4 - source of linear variable voltage; 5 - pulse shaper; 6 - printout attachment.

dm

Card 3/3

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ANDRIANOV, G.; BUKHACHARSKIY, P.

Application of mathematical methods and electronic calculating machines to machinery manufacturing planning. Vop. ekon. no.6: 114-120 Je '63. (MIRA 16:6)

(Machinery industry--Management)
(Electronic data processing)
(Economics, Mathematical)

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101410016-7

ANDRIANOV, G. Ya.; VOZNESENSKIY, V. A.; KAMISHAN, A. N.; KOMISSAROV, L. A.; KUZMICHEVA, V. A.; LUNIN, G. L.; SEMENOV, V. N.; KHALIZEV, V. I.

"Study of the Physical Properties of the Core of the Voronezh Atomic Power Station Using Critical Assemblies."

Report presented at the IAEA Symposium on Exponential and Critical Experiments, Amsterdam, Netherlands, 2-6 Sep 63.

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L 22453-66 EWT(d)/EWT(m)/EWP(w)/EWP(v)/T/EWP(t)/EWP(k) IJP(c)

ACC NR: AP6006334 SOURCE CODE: UR/0413/66/000/002/0057/0057

AUTHOR: Paton, B. Ye.; Dudko, D. A.; Medovar, B. I.; Lutsyuk-Khudin, V. A.; Sayenko, V. Ya.; Kumysh, I. I.; Andrianov, G. G.; Karpov, V. F.; Dovzhenko, N. F.; Antonets, D. P.; Kuzema, I. D.

ORG: none

TITLE: Method of producing composite rolled stock. Class 21, No. 177985 [announced by Electric Welding Institute im. Ye. O. Paton (Institut Elektrosvarki)].

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 2, 1966, 57

TOPIC TAGS: welding, metal rolling, sandwich rolling

ABSTRACT: An Author Certificate has been issued for a method of producing composite rolled metal by using a billet consisting of ingots or plates welded together by electroslag welding. To save on stainless steel, lower the thickness of the clad layer, and simplify the welding procedure, it is suggested that the process be begun with a heterogeneous plate made from prewelded and prerolled smaller billets having been a carbon steel and clad layer, and then adding additional ingots or plates to produce sandwich rolled stock. [LD]

SUB CODE: 13/ SUBM DATE: 11Apr63 ORIG: none/ OTH REF: none/

Card 1/1 UDC: 621.791.793:621.771.2-419.5

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ANDRIANOV, I.

The third shift is for preparation. Sots.trud.no.3:93-95 Mr '56. (MLRA 9:7)

1.Zamestitel' nachal'nika otdela organizatsii truda i zarabotnoy platy Moskovskogo avtozavoda.
(Moscow--Automobile industry) (Shift systems)

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101410016-7

ANDRIANOV, I.

Seven-hour day in a foundry section. Sots. trud no.4:95-103 Ap '57. (MIRA 10:6)

1. Zamestitel' nachal'nika otdela truda i zarabotnoy platy Moskovskogo avtomobil'nogo zavoda imeni I.A. Likhacheva.
(Moscow--Foundries) (Hours of labor)

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101410016-7

ANDRIANOV, I.; DOLITSKIY, B.

Competition to decrease the labor cost of each article. Sots. trud no.5:97-107 My '58. (MIRA 11:6)

1. Zamestitel' nachal'nika otdela truda i zarabotnoy platy Moskovskogo avtomobil'nogo zavoda im. Likhacheva (for Andrianov).
2. Nachal'nik otdela truda i zarabotnoy platy Moskovskogo elektrolampovogo zavoda (for Dolitskiy).
(Efficiency, Industrial)

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ANDRIANOV, I.

Brigades and shock workers of communist labor in the Moscow automobile factory. Sots.trud 4 no.7:99-105 Jl '59. (MIRA 13:4)

1. Zamestitel' nachal'nika otdela truda i zarabotnoy platy Moskovskogo avtomobil'nogo zavoda im. I.A.Likhacheva. (Moscow--Automobile industry) (Socialist competition)

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ANDRIANOV, I.

In the pressing shops of the Moscow Automotive Plant. Sots.trud 4 no.7:111-119 Jl '60. (MIRA 13:8)

1. Zamestitel' nachal'nika otdela truda i zarabotnoy platy Moskovskogo avtozavoda im. Likhacheva.
(Moscow--Automobile industry)

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ANDRIANOV, I.

Paying bonuses to workers for reducing costs in the Moscow Automobile Plant. Sots. trud 6 no.6:103-110 Je '61. (MIRA 16:8)

1. Zamestitel' nachal'nika otdela truda i zarabotnoy platy Moskovskogo avtozavoda im. I.A. Likhacheva.

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ANDRIANOV, I., inzh. (Moskva)

Elevator car stop piece. Zhil.-kom. khoz. 12 no.10:11 O '62. (MIRA 16:2)

(Elevators—Equipment and supplies)

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101410016-7

ANDRIANOV, I.

Electric system for elevator control. Sov. torg. 36 no.4:48-49 Ap '63. (MIRA 16:5)

1. Nachal'nik elektrobyuro Karacharovskogo mekhanicheskogo zavoda. (Elevators)

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101410016-7

ANDRIANOV, I.

An hourly-bonus wage system in experimental production. Sots. trud 8 no.9:39-46 S '63. (MIRA 16:10)

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101410016-7

ANDRIANOV, I. I.

Socialist competition for the reduction of the cost of power at the Central Heat and Power Station. Rab. energ. 2 No. 5 (1952)

SO: MLRA, August, 1952

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101410016-7

AID P - 3322

Subject : USSR/Power Engineering

Card 1/1 Pub. 26 - 8/28

Author : Andrianov, I. I., Eng.

Title : Some problems of operating electrical equipment at steam power plants

Periodical : Elek, sta., 8, 28-30, Ag 1955

Abstract : The system of fuel supply to generating units by means of five conveyors and three crushing installations equipped with various devices is described. The processing of coal is described. The use of certain types of wires and their protection is discussed. The maintenance of electric filters is described.

Institution : None

Submitted : No date

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101410016-7

MALYSHEV, Anatoliy Ivanovich; NIKOLAYEV, Grigoriy Nikolayevich; SHUVALOV, Yuliy Avramovich; ANDRIANOV, I.I., inzhener, retsenzent; KUNYAVSKIY, M.N., kandidat tekhnicheskiy nauk, redaktor [deceased]; RZHAVINSKIY, V.V., inzhener, redaktor; SHEMSHURINA, Ye.A., redaktor izdatel'stva; SOKOLOVA, T.F., tekhnicheskiy redaktor; UVAROVA, A.F., tekhnicheskiy redaktor

[Technology of metals] Tekhnologiia metallov. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit.lit-ry, 1957. 371 p.
(Metals) (Metalwork) (MIRA 10:11)
(Metallurgy)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101410016-7"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101410016-7

LEYKIN, Vladimir Semenovich; ANDRIANOV, I.I., nauchnyy red.; ZHELTOUKHOVA, N.S., red.; FRUMKIN, P.S., tekhn. red.

[Methods of computing voltage changes in synchronous marine generators] Metody raschetov izmeneniia napriazheniia sudovykh sinkhronnykh generatorov. Leningrad, Gos. soiuznoe izd-vo sudostroit. promyshl., 1958. 123 p. (MIRA 11:12)

(Electric generators)
(Electricity on ships)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101410016-7"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101410016-7

MIL'NER, Bentsion Zakharovich; ANDRIANOV, I.I., inzh., retsenzent; VLASOV, B.V., kand. ekonom.nauk, red.; SEMENOVA, M.M., red. izd-va; CHERNOVA, Z.I., tekhn. red.

[Saving of labor in auxiliary work in the machinery industry; practice of machine shops] Ekonomiia truda na vspomogatel'nykh rabotakh v mashinostroenii; na primere mekhanicheskikh tsekhov. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1961. 173 p. (MIRA 14:12)

(Machine-shop practice)

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101410016-7

CHINA/Medicine - Veterinary, Organizational Sep 53

"Development of Veterinary Work in New China," I. M. Andrianov

Veterinariya, Vol 30, No 9, pp 9-10

Chinese veterinary workers are studying USSR methods. The Second Animal Husbandry Conference of northeastern provinces, held in Apr 50, has adopted a plan for increasing the number of cattle and for reduction of epizootic infections among them. During

270T67

the period between 1949 and 1951 close to 10 million inoculations against anthrax and more than 2 million inoculations against other diseases were performed in the northeastern part of China. An all-out effort against mange, in 1950 and 1951, resulted in almost complete eradication of that disease. Chinese veterinarians have been sent to Tibet to assist in controlling cattle epizootics. In 1949, 7600 kg of antiepizootic sera and vaccines were used in China; in 1950, 6519 kg; and in the first half of 1951, 6015 kg.

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101410016-7

ANDRIANOV, I.M., inzh.; VASIL'YEV, Yu.N., inzh.

Changing the load limit of the BKSM-5-5A tower crane.
Mekh. stroi. 19 no.10:18-19 O '62. (MIRA 15:12)
(Cranes, derricks, etc.)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101410016-7"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101410016-7

ANDRYANOV, I. O.

MASLENNIKOV, A. P. ; ANDRYANOV, I. O.

Sugar - Manufacture and Refining

Control of sugar losses in arometric water. Sakh. prom. 26 No. 5 1952.

Monthly List of Russian Accessions, Library of Congress, October 1952. UNCLASSIFIED.

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101410016-7"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101410016-7

ANDRIANOV, Illarion Onufriyevich; KUZ'MINA, V.S., redaktor; CHEBYSHEVA, Ye.A., tekhnicheskiy redaktor

[Repair and installation of equipment in sugar beet factories] Remont i montazh oborudovaniia sveklosakharnykh zavodov. Moskva, Pishchepromizdat, 1957. 414 p. (MLRA 10:9)
(Sugar industry--Equipment and supplies)

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EARLIER PUBLICATIONS FOR THIS AUTHOR ARE AVAILABLE IN THE INACTIVE FILE -- WE WILL PULL THEM UPON REQUEST.

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PROCESSES AND PROPERTIES

Use of "benzamylonic" resins for the production of varnishes and plastics. B. V. Makarov and K. A. Andrianov. *Plasticheskii Massui* 1933, No. 6, 1-12; *Chimie & industrie* 32, 404-5.—Starch esters can be considered as semi-synthetic resins, which can be subdivided into: (1) oriented mol. resins (higher cellulose esters); (2) semi-oriented mol. resins (lower cellulose esters, higher starch esters); (3) non-oriented mol. resins (lower starch esters). Benzylation products of starch having a mol. wt. of 500 000 belong to (3). The benzylation products of pure starch must not be confused with those of potatoes, flour, bran and other starchy products which contain benzylation products not only of carbohydrates but also of proteins, polypeptides, amino acids, etc.; they should be classified in a special group under the generic name of "benzylamylonic resins." These products possess all the characteristics of true resins, have high dielec. consts. and considerable chem. stability and, when mixed with suitable plastifiers, possess high plasticity and a certain amt. of elasticity. A. Parmeau-Couture

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Leather substitutes. B. V. Maksorov and K. A. Andrianov. Russ. 35,163, March 31, 1934. Wood waste, such as sawdust, is treated with benzyl chloride in the presence of alkali. The dried product is homogenized in rollers with solid aromatic hydrocarbons, camphor, synthetic resins, etc.

Resins from starch-containing substances. B. V. Maksorov and K. A. Andrianov. Russ. 36,000, April 30, 1934. The resins are prepd. by benzylating the entire raw material containing starch, such as flour, flour waste, husks and potatoes.

Insoluble and infusible product from the benzyl ether of starch. B. V. Maksorov and K. A. Andrianov. Russ. 39,098, Oct. 31, 1934. Starch benzyl ether is treated at elevated temp. with formaldehyde, glyoxal, acrolein, crotonaldehyde or their polymers.

Artificial resins. B. V. Maksorov and K. A. Andrianov. Russ. 39,292, Oct. 31, 1934. Cellulosic material, such as sawdust, is chlorinated, dissolved in alkali and benzylated.

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1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

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CA

Resins. K. A. Andrianov and M. L. Katerinina Russ. 40,070, Jan. 31, 1935. Diphenylmethane is treated with Cl in the presence of catalysts so as to direct Cl toward the benzene nucleus before the appearance of a noncrystallizing product.

Divinylacetylene varnish. B. V. Makunov and K. A. Andrianov. Russ. 43,082, August 31, 1935. To a soln. of stabilized and polymerized divinylacetylene in org. solvents are added chlorinated polycyclic hydrocarbon plasticizers.

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13

Condensation rate of phthalic acid with polyhydric alcohols. G. S. Petrov, K. Andrianov and P. Mulyar. *Org. Chem. Ind.* (U. S. S. R.) 1, 265-71(1936).—$C_6H_4(CO)_2H)_2$ was heated with equiv. amts. of glycerol, polyglycerol (I) and pentaerythritol (II) at 150-60° for 6 hrs. and then at 175-80° for 3 hrs. The sublimed anhydride was returned to the reaction mixt. I was prepd. by heating redistd. glycerol at 270-5° for 36 hrs. The rate of condensation was measured at intervals of 1 hr. by detg. the acid, sapon. and Ac nos., mol. wts., viscosities (Ostwald) and the temps. of drop falling (Ubbelohde). The rate of Glyptal formation decreases in the following order: II, I, glycerol. The gelation stage is attained in 5-6 hrs. for II, 7-8 hrs. for I and 10-11 hrs. for glycerol. All the Glyptals are sol. in Me_2CO, ak.-C_6H_6 (1:1), ak., 10% NaOH, and nearly insol. in $CHCl_3$ and CCl_4.
Chas. Blanc

Production of molded transparent resins from urea and formaldehyde. G. Petrov, K. Andrianov and T. Fabrikant. *Org. Chem. Ind.* (U. S. S. R.) 1, 596-603(1936).—Expts. in the production of transparent condensation products of urea and CH_2O and the effects of various factors on the phys. properties of the resulting resins are described. Twenty references.
Chas. Blanc

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1ST AND 2ND ORDERS

3RD AND 4TH ORDERS

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BC

a-3

[illegible] phenols with [illegible] phosphorus pent- [illegible] (J. Gen. Chem. Russ., [illegible]) [illegible] and P_2O_5 in [illegible] (130—[illegible]) [illegible] and p-benzyl- and dibenzyl-phenol. Under [illegible] conditions o-[illegible] affords [illegible]-benzyl- and [illegible]-dibenzyl-o-cresol, [illegible]-cresol gives [illegible], m.p. [illegible], and dibenzyl-m-cresol, m.p. 130—134°, and p-cresol yields benzyl-, b.p. [illegible]/17 mm., and dibenzyl-p-cresol, b.p. 250—[illegible]/20 mm. R. T.

COMMON ELEMENTS

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2ND LETTER

1ST AND 2ND LETTER

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Co

13

The use of the polymerization products of turpentine as plasticizers. B. N. Rutkovskii, K. Andrianov and A. Lebedev. *Org. Chem. Ind.* (U. S. S. R.) 4, 104–9(1937). —The treatment of steam-redistd. turpentine with activated clays by the method of Tishchenko and Rudakov (*C. A.* 28, 4052[9]) gave 52–60% of terpene polymerization products, consisting chiefly of a nonvolatile product, b. 150–60°, and analyzing approx. for C_8H_{16}. The use of this product as plasticizer in the production of urea-CH_2O laminated and molded products resulted in greater elasticity, 40% increase in resistance to water and 68% to NH_4OH and 60% decrease in hygroscopicity. The work is being continued.

Chas. Blanc

METALLURGICAL LITERATURE CLASSIFICATION

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1ST AND 2ND ORDERS

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3RD AND 4TH ORDERS

Commercial production of biphenyl by pyrolysis of benzene. K. Andrianov, F. Kvitner and V. Titova. *Org. Chem. Ind.* (U. S. S. R.) 4, 161-4(1937).—In the production of Ph_2 by a modified method of the Federal Phosphorus Co. (French pat. 667,846), by passing C_6H_6 vapors at 650° through 3 columns with 500 mm. of Pb at a rate of 100-200 g./hr., 10% Ph_2 was formed in the first run at 750° and atm. pressure and 15% at 7 atm. Alternate recirculations of the reaction mixt. produced 81.85% Ph_2 and 18.05% loss of C_6H_6 through carbonization and waste. The reaction is accompanied by excessive destruction of the steel chambers and clogging of the tubes by the carbonization products at 720-50°. In the 2nd series of expts. in the pyrolysis of C_6H_6, porcelain and quartz tubes (100 cm. long and 20 cm. in diam.) were charged with about 150 cc. of contact mass, such as crushed grog, porcelain, sand and a mixt. of porcelain, grog and clay. The tubes were heated electrically to 600-800° and C_6H_6 was passed at a rate of 150 g./hr. A max. yield of 30% of crude Ph_2 (25.5% pure Ph_2) was obtained in the 1st run in the porcelain tube at 750°, and 82% by alternate pyrolysis of the distillates b. below 150°, with 18% loss of C_6H_6. The distn. residue (5%) contained resinous matter and 1,4-diphenylbenzene, m. 214°, b. 385°; 1,3-isomer, m. 85°, b. 364°; and 1,2-isomer, m. 174°, b. 372°. Approx. 20 references.

Chas. Blanc

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1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

CA

13

Products of polymerization of terpenes and their application. II. Utilization of the polymerization products obtained by isomerization of turpentine by the method of Tishchenko and Rudakov. B. N. Rutovskii, K. A. Andrianov and T. P. Sedina. *Org. Chem. Ind.* (U. S. S. R.) 4, 555-8(1937); cf. C. *A.* 32, 1807[8].—The properties of bakelite- or galalith-type plastics are unaffected by incorporation of not more than 10% of the polymerides, while those of urea-aldehyde resins are improved. **III. Preparation of resins from polyterpenes.** B. N. Rutovskii, K. A. Andrianov and K. M. Zabrodina. *Ibid.* 558-63.—Good-quality insulating lacquers are obtained by condensation of the polymerides with CH_2O and NH_3, using Sovol as plasticizer and $C_2H_4Cl_2$ as solvent. Low-m. p. resins are obtained analogously when MeCHO is used in place of CH_2O. B. C. P. A.

COMMON ELEMENTS

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101410016-7

The condensation of 4,4'-dihydroxydiphenylmethane with formaldehyde. I. P. Losev, K. A. Andrianov and O. Ya. Fedotova. *J. Gen. Chem.* (U. S. S. R.) 7, 1828-34 (1937).—Dihydroxydiphenylmethane, the 1st product from the acid condensation of CH_2O and PhOH, does not polymerize at 100° either alone or in the presence of acids or alkalies. It does not react with CH_2O in the cold, but at 100° in the presence of HCl and CH_2O it gives a compd. in which 2 of its mols. are joined by 1 CH_2 group. This material cannot be purified by fractional pptn. Resite prepd. from this substance still contains OH groups, since it can be acetylated. H. M. Leicester

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1ST AND 2ND ORDERS

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3RD AND 4TH ORDERS

10

CA

Alkyl or aryl esters of orthosilicic acid. K. A. Andrianov, O. I. Gribanova and M. A. Kamenskaya. Russ. 53,544, July 31, 1938. Methyl orthosilicate is treated with Mg and an alkyl or an aryl halide in the presence of I as a catalyst.

COMMON ELEMENTS

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Accelerated rate of Glyptal hardening. G. S. Petrov, K. A. Andrianov and S. I. Dzhenchel'skaya. *Org. Chem. Ind.* (U. S. S. R.) 3, 21-5(1938); cf. *C. A.* 30, 5325[1]; Petrov and Sokolinskii, Russ. pat. 46,701 (1936). To study the effect of excess glycerol (I) and phthalic anhydride (II) on the polymerization (hardening) rate of Glyptal, mixts. of I and II in the mol. ratios of 1:1, 1:2 and 2:3 were heated at 180° for 4 hrs. under a reflux condenser. The polymerization rate was studied by testing the samples at intervals of 0.5-1 hr. and compared with the products obtained after the removal of excess I and II. The excess I was removed by treating 2-3 g. of powd. resin with 200-300 ml. of cold water for 18-20 hrs. and 4-5 washings of the filtered residue. I in the united filtrate was detd. by the dichromate method. To remove the excess II, the residue in 100 ml. H_2O was gently boiled for 2-5 min., the product was washed with hot H_2O by decantation and then dried in a vacuum desiccator to a const. wt. It was shown that under these conditions no sapon. of Glyptal takes place. The removal of free I and II increases the polymerization rate of Glyptal prepd. with excess of either I or II. The condensation product with excess I shows a lower rate of polymerization, before and after washing, than that with excess II. After the removal of excess I and II, the viscosity and mol. wt. are increased, the acid and Ac are decreased and the sapon. and ester no. are almost const. Further evidence of the retarding effect of unaltered I and II on the hardening rate of prepd. Glyptal was demonstrated by heating a 1.2-g. sample at 180° for 2 hrs. and then extg. with Me_2CO for 1 hr. With Glyptal, prepd. from an equiv. mixt. of I and II, the content of insol. matter was before washing 1.5% and after washing 65.25%. Chas. Blanc

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1.3

Novolak resins. G. S. Petrov, K. A. Andrianov and H. L. Kronoshch. *Org. Chem. Ind.* (U. S. S. R.) 5, 119-22(1938).—High-melting sol. and fusible resols can be obtained from the novolaks prepd. by condensation of 2 mols. PhOH and 1 mol. CH_2O with HCl, $(CO_2H)_2$ and NH_4OH catalysts (cf. Barkeland and Bender, C. A. 19, 1332) and heating at 180-200° and atm. pressure. The excess PhOH can also be removed by washing the novolaks with dil. NH_4OH and Na_2CO_3. **Purification of phenol formaldehyde resins by washing with water.** G. S. Petrov, K. A. Andrianov and R. G. Ragozina. *Ibid.* 122-5. See C. A. 29, 3058[9]. Chas. Blanc

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C1

10

Production of benzoyl chloride. K. Andrianov and V. Dolgopolov. *Org. Chem. Ind.* (U. S. S. R.) 5, 533-5 (1938).—It is shown that BzCl is formed from BzOH and $SiCl_4$ by the reaction: $4\ BzOH + SiCl_4 \rightarrow Si(OBz)_4 + 4\ HCl$; $Si(OBz)_4 + SiCl_4 \rightarrow 4\ BzCl + 2\ SiO_2$, and not by the reaction: $4\ BzOH + SiCl_4 \rightarrow Si(OH)_4 + 4\ BzCl$. $SiCl_4$, b. 54°, d. 1.527, was prepd. from ferrosilicon with Cl at 450°. Conn. BzCl, b. 192-5°, was obtained in 95% yield by refluxing, with stirring, 1 mol. BzOH with 2 mols. $SiCl_4$ until the entire BzOH is dissolved (4-5 hrs.). The yield of BzCl decreases with decreasing excess of $SiCl_4$ and in the presence of a solvent (xylene). C. R.

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Condensation of sebacic acid with glycerol and pentaerythritol. G. S. Petrov, K. A. Andrianov and S. I. Ozhenchel'skaya. *Org. Chem. Ind.* (U. S. S. R.) 5, 619-22(1938).—The condensation is studied by heating in an oil bath equimol. sebacic acid (I) and glycerol (II) and pentaerythritol (III) at 160° and removing samples at definite intervals for testing. The process of gelation begins with II in 12 hrs. and with III in 3 hrs. The 2 resins are elastic products. The final product prepd. from II is white and that prepd. from III is pale yellow. They are sol. in alc., alc. + C_6H_6, Me_2CO and 100% AcOH and practically insol. in CCl_4. The absence of double bonds (unsatd. compds.) (tested by titration with Br) and the recovery of 99.6% I and 98% II and III by sapon. of the alkyd resins show that the condensation in the absence of a catalyst proceeds by esterification without the accompanying process of polymerization.

Chas Blanc

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PROCESSES AND PROPERTIES INDEX

Alkyl- and aryl substituted orthoesters of silicic acid. I. Preparation of organomagnesium compounds without ether in the presence of tetraethoxysilicane. K. Andrianov and O. Gribanova. *J. Gen. Chem.* (U. S. S. R.) 8, 552-6 (in French 557) (1938).—Alkyl and aryl halides react with Mg in the presence of a little $(EtO)_4Si$ (I) catalyst, giving good yields of RMgX (X = halogen). The exothermic reaction proceeds in the absence of Et_2O and is completed without external heating or by digesting at 40-50° on a water bath for 1.5 hrs. Equally good results can be obtained when to 12 g. Mg and a few drops of I 0.5 of the alkyl (aryl) halide is introduced dropwise directly and another half dissolved in 4-5 parts of PhMe or xylene. In this way were obtained 96% *EtMgBr*, 51% *iso-BuMgCl*, 58.5% *iso-AmMgBr*, 60% $C_6H_{13}MgBr$ (II) (from hexyl bromide), 35% $C_6H_{13}MgBr$ (from octyl bromide) and 23-5% *PhMgBr*. A mixt. of 7 g. II, 42 g. $SiCl_4$ and 50 ml. of dry PhMe was digested on a water bath for 3 hrs., giving 42% $C_6H_{13}SiCl_3$ and MgClBr. II. **Synthesis of alkyl-substituted orthoesters of silicic acid.** *Ibid.* 558-62 (in French 562).—Alkyltriethoxysilicanes can be prepd. in the absence of Et_2O by (1) prepg. first RMgX as above and, after adding 104 g. $(EtO)_4Si$ (I) to the reaction mixt., digesting the whole on a water bath for 3 hrs. and distg. at atm. pressure: RBr + Mg = RMgBr; RMgBr + I = $RSi(OEt)_3$ + EtOMgBr; (2) adding dropwise a mixt. of alkyl bromide (chloride) and 104 g. I to 12 g. Mg and then digesting as above: Mg + RX + I = $RSi(OEt)_3$ + EtOMgX. *EtSi(OEt)₃* (61% yield), b. 158-60°, d_4^{20} 0.9281, n_D^{20} 1.3853, M. R. 46.04-46.21; *iso-Pr deriv.* (20.2%), b. 177-9°, d_4^{20} 0.9194; *iso-Bu deriv.* (71%), b. 180-92°, d_4^{20} 0.9101, n_D^{20} 1.3908, M. R. 56.71-57.37; *iso-Am deriv.* (48%), b. 195-200°, d_4^{20} 0.8955, n_D^{20} 1.3982, M. R. 60.81-61.26; *hexyl deriv.* (50.3%), b. 200-20°, d_4^{20} 0.8938, n_D^{20} 1.4167, M. R. 68.4-69.71. Chas. Blanc

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ANDRIANOV, K.

"Recherches dans le domaine des orthoesters de l'acide silicique, contenant de substituants alcoyles et aryles. Communication I." Andrianov, K. et Gribanova, O. (p. 577)

SO: Journal of General Chemistry (Zhurnal Obshchei Khimii) Volume 8, No. 6, 1938

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Alkyl- and aryl-substituted ortho esters of silicic acid. III. Synthesis of allyltriethoxysilicane. K. Andrianov and M. Kamenskaya. *J. Gen. Chem.* (U. S. S. R.) 8, 969-71(1938); cf. *C. A.* 32, 7892[illegible].—The prepn. by the previous method of an alkyltriethoxysilicane with an unsatd. radical in the absence of Et_2O was studied. The condensation of allyl bromide and chloride with $(EtO)_3Si$ in the presence of Mg gave 55.1 and 50% $CH_2:CHCH_2Si(OEt)_3$, resp., b. 172-8°, d_4^{20} 0.9229, n_D^{20} 1.3952, M. R. 51.67 (calcd. 52.84). Chas. Blanc

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Alkyl- and arylsubstituted esters of silicic acid. IV. Mechanism of the reaction of hydrolysis and dehydration of alkyltriethoxymonosilicanes. K. A. Andrianov. — *J. Gen. Chem.* (U. S. S. R.) 8, 1255-62 (in French, 1263) (1938); cf. *C. A.* 33, 1206[6].—The hydrolysis of RtSi(OEt)$_3$ and iso-BuSi(OEt)$_3$ was studied by digesting the silicanes with 0.5-3 mols. H_2O at 65-70° and 90° for 10 hrs. and removing samples at intervals of 2 hrs. for examn. While the max. sapon. of 93-5% of OEt groups was reached in the 1st 2 hrs., the values of n and pH of the reaction products continued to rise. The hydrolysis is accompanied by dehydration of the monosilicanes and as a result of the combined reaction there are formed not the "silicane acids" ($RSiO_3H$) as was claimed by Friedel and Ladenburg (*Compt. rend.* 6, 818 (1908)), but complex mixts. of high-mol. condensation products formed by the siloxane bonds: RSi(OEt)$_2$.O.SiR(OEt)$_2$.O.SiR(OEt)$_2$, and so forth, (R = Et and Bu). The length of the chain depends chiefly on the amt. of H_2O and the thermal conditions in the sapon. The probable scheme of reaction is: $nRSi(OEt)_3 + nH_2O \rightarrow nRSi(OEt)_2OH + nEtOH$; $nRSi(OEt)_2OH \rightarrow n/2R_2Si_2O(OEt)_4 + n/2H_2O$, and so forth. The process is continued until the entire H_2O is consumed in the reaction. In the presence of insufficient H_2O, assuming that the water reacts chiefly with the original silicane mols., the end product of the reactions can be represented by the formula: RSi(OEt)$_2$.O.[SiR(OEt)$_2$.O]$_n$.SiR(OEt)$_2$. The mechanism of the reaction in the presence of a large excess of H_2O and the chem. and phys. nature of the resinous products are being investigated.

Chas. Blanc

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CA

13

Sovol. A new, noninflammable insulating liquid. K. A. Andrianov and E. E. Sidorova. *Trudy Vsesoyuz. Elektrotekh. Inst.* 1938, No. 33, 5-100; *Chem. Zentr.* 1941, I, 415-16; cf. *C. A.* 34, 1096[1].—Two new catalysts were developed for the pyrolysis of benzene, which bring about the conversion of up to 16% of the benzene into biphenyl in plant-scale operations at 800° and atm. pressure. Fe was used as catalyst in the chlorination of the biphenyl. The chlorination products contg. 0-43 and 67-70% Cl showed a tendency to crystallize. Products contg. 50-67% Cl were glass-clear resins, while those with 43-50% Cl were liquids which did not crystallize. In order to study the influence of catalysts on the properties of the Sovol, 97% biphenyl having a d. of 1.007, m. 68-71°, b. 248-58°, was chlorinated in the presence of the following catalysts with a temp. of 100° and a catalyst concn. of 0.1%: I, $SbCl_3$, $FeCl_3$ and Fe. The conversion into pentachlorobiphenyl required 16 hrs. with Fe, 27 hrs with I and 36 hrs. with $SbCl_3$. The chlorinated products were most satisfactorily purified with a special alumina. Up to 70° the viscosity of the Sovol was greater than that of transformer oil or of American Pyranol. The tangential δ increased slightly only above 80°. With Sovol B the values for this quantity were the same as those of Pyranol; the values were lower for Sovol A. The values for ε were lowest for Sovol B. (The A and B refer to the catalyst used for pyrolysis.) The behavior of Sovol was practically the same as that of transformer oil toward atm. moisture and in the formation of emulsions with water. In contrast to oils, the presence of water increased the value of the tangential δ of Sovol. Because of the high d. of the Sovol, the water was dispersed on the surface and soon evapd while it sank to the bottom of the lighter oil. Thermal aging for 100 days at 150° changed Sovol only slightly; the acid no. was increased from 0.001 to 0.004 mg. and the sapon. no. was increased from 0.003 to 0.008. Sovol had less effect than transformer oil on metals and fibrous materials, even when heated for long periods. The relation between temp. and breakdown resistance of both liquids was sharply influenced by the presence of gases, the effect being of the same nature in both cases. The breakdown strength of thin films (0.5-0.75 mm.) showed normal values. The addn. of Sovol to transformer oil in amts. up to 40% produced no undesirable effects, while the addn. of only a few % of oil to Sovol lowered the resistance about 40%. Cable or condenser papers impregnated with transformer oil or with Sovol behaved the same. The specific resistance of Sovol decreased more rapidly with temp. than that of transformer oil. Because of its high viscosity at low temps. and its relatively high f. p., Sovol is not suitable for use alone in transformers. Eutectic mixts. with products of the chlorination of benzene, e. g., trichlorobenzene, are suitable. A mixt. of 4 mol. Sovol (87.76%) and 1 mol. trichlorobenzene (12.24%) has the same viscosity as transformer oil and is entirely satisfactory for use in transformers. The usefulness of Sovol is not restricted to the construction of transformers and condensers, as it is useful as a softening agent for cellulose lacquers, the inflammability of which it sharply reduces.

M. G. Moore

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13

New ways of obtaining resinous and film-forming materials from organosilicon compounds. K. A. Andrianov. *Org. Chem. Ind.* (U. S. S. R.) 6, 203-7(1939).—Previously it was shown that the combined reaction of hydrolysis and dehydration of alkyltriethoxymonosilicanes affords com-

plex mixts. of high mol. products formed by the silicone bonds (c. 1, 33, 1940). The glass-like resinous products are sol. in org. solvents. The solns. form films, which become infusible and insol. at room temp. Their elastic properties can be modified by the addn. of common plasticizers. The resin, when mixed with asbestos or wood flour, can be molded at about 200° to an infusible product. In their dielec. strength and resistance to heat and atm. elements these products are superior to the com. condensation products of PhOH, $PhNH_2$ and $CO(NH_2)_2$ with CH_2O and to Glyptal resins. This study of Et_3SiOEt_3 and iso-$BuSi(OEt)_3$ is being continued with other alkyl- and arylsubstituted esters of silicic acid. Extensive bibliography is given. Chas. Blanc

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3RD AND 4TH ORDERS

Ca

22

Switch oils with low carbon formation. K. A. Andrianov and A. K. Vardenburg. *Vestnik Elektroprom.* 1939, No. 9, 23-5.—C formation in switch oils as a result of the elec. arcs, was reduced by as much as 50% after the oils were subjected to an addnl. refining with H_2SO_4. The C formation was not influenced by addns. of water or paraffin. C formation increased rapidly when Ni was substituted for Cu as the electrode metal. This is probably due to the catalytic dehydrogenation of the oil in the presence of the Ni at high temp. caused by the elec. arcs.

B. Z. Kamich

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1ST AND 2ND ORDERS

3RD AND 4TH ORDERS

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CA

22

The production of oil with low carbon formation for interrupters. K. A. Andrianov and A. K. Vardenburg. *Vestnik Elektropram.* 10, No. 1, 27-31(1939); *Chem. Zentr.* 1940, II, 3078.—Since it has been shown experimentally that C formation in an oil is related to its content of aromatic compds., the detn. of the aniline point can be used to det. the "C concn." in the oil. For this purpose a 2-cc. sample of the oil is mixed with 2 cc. of aniline and heated and stirred on the water bath until the turbidity disappears. It is then immediately cooled while being stirred and the temp. at which turbidity reappears is read on a thermometer the bulb of which is at the level of the line between aniline and oil. Another 0.4 cc. of aniline is added and the detn. is repeated until the same values are obtained for 4 successive detns. On the basis of this temp. (the aniline point) the extent of potential C formation in the sample can be obtained, since the 2 values stand in a very definite, inverse relationship. Analytical results are reported for a no. of Russian oils. Oils best suited for use in an interrupter have an aniline point of about 90. The properties of an oil can be improved by appropriate purification (reducing the C:H ratio of its constituents).

M. G. Moore

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New noninflammable insulating liquid for transformers. K. A. Andrianov and A. K. Vardenburg. *Vestnik Elektro-prom.* 10, No. 8, 14-17(1939).—A new noninflammable insulating liquid for transformers includes trichlorobenzene and Sovol (chiefly pentachlorodiphenyl) and has the following properties: colorless, d_4^{20} = 1.500-1.550, at 65° not over 10 centipoises, at 90° about 4 centipoises, b. p. 240-320°, coeff. of expansion 0.0000, heat capacity 0.25 cal./kg. °C., heat cond. about 0.2 cal./m. °C. hr., solidifying point 20-30°, acid no. 0.01-0.05, dielec. permeability 4.5 at 20° and 3.8 at 90°, tangent of angle of dielec. losses was 0.001-0.002 at 20° and 0.01-0.05 at 90°. The elec. resistance of the liquid was decreased after being heated at 110° for 31 days with various materials, such as magnesia cement, bakelite, enameled iron, which are used in transformer construction. B. Z. Kanich

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ANDRIANOV, K. A.

"New Electric Insulating Resins, Varnishes, Pastes and Compounds," Elektrichestvo, No.4, pp 19-22, 1940

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1ST AND 2ND ORDERS

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3RD AND 4TH ORDERS

B-III-5

BC

Dephenolation of effluent water. K. A. Andrianov and O. J. Fedotova (Prom. Org. Chim., 1940, 7, 164—167).—Effluent H_2O containing CH_2O and 3—5% of PhOH is heated for 30 min. at 100° with 2% of Na_2CO_3 or NaOH, when the PhOH separates as a non-fusible condensation product, which may be used in the manufacture of plastics. NH_3 and $Ca(OH)_2$ are not satisfactory condensing agents. Fusible resins are obtained similarly by heating with 1·8% of HCl, but elimination of PhOH is not complete in this case. R. T.

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Hexylphenol-formaldehyde resins of low solubility for electrical insulation. K. A. Andrianov and O. I. Gribanova. *Org. Chem. Ind.* (U. S. S. R.) 7, 500-3(1940). — Conditions for the prepn. of hexyl chloride by the chlorination of a benzine fraction boiling within 60-80° were studied. Max. yield of monochloro derivs. of hexane was obtained when the crude product of chlorination had a sp. gr. of 0.805. Further increase in sp. gr. resulted in more polychlorides. The best yield of hexylphenol was obtained when the ratio of PhOH to the chloride was 1:0.75, reaction temp. of 90-100° and catalyst of $AlCl_3$. Condensation in the presence of HCl and oxalic acid, did not give satisfactory results, but in the presence of 25% NH_3 catalyst it was possible to obtain oil-sol. resins. The yield of resin and its m. p. increased by increasing the ratio formaldehyde:hexylphenol. For formaldehyde:hexylphenol ratios of 1.2:1 and 1.5:1 the yield was 105% of hexylphenol and m. p. was 143° while for ratio of 2:1 the yield was 117% and drop formation was over 100°. Resins prepd. with the 2:1 ratio easily became insol. in oil when heated and changed into insol. and infusible state. These resins were mixed with polymerized linseed oil (1:1) heated at 220-240°, dild. with toluene or white spirit and 0.25% of Pb or Mn resinate was added. These lacquers dried in 2-3 hrs. at 20° and in 30 min. at 100°. The elec. properties of these lacquers were very high initially and changed very little after the film had been in water or in 100% relative humidity.

H. Z. Kamich

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ANDRIANOV, Kuz'ma Andrianovich

"Moisture-Resistant Insulation and Synthetic Resins Highly Resistant to Water," Khim. Ref. Zhur., No.12, p. 75, 1940

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1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

Ca

Preparation of silicon tetrachloride and its use as a basis for obtaining silicic acid esters. K. A. Andrianov. *Compt. rend. acad. sci. U. R. S. S.* 28, 66-9(1940) (in English).—$SiCl_4$ (I) was prepd. in yields of 91% by the chlorination of ferrosilicon at 550°. Me, Et, iso-Bu and Bu esters ($Si(OR)_4$) were prepd. in yields of 84% with alcs. of 99% concn.

I. C. Lo Cicero

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ANDRIANOV, K. A.

"Chemical Stability of Electric Insulating Varnishes," Trudy Vses Elektrotekh. Inst., No.38, pp 70-71, 1940

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Oil-soluble hydroxybiphenyl-formaldehyde resins. K. A. Andrianov and O. I. Gribanova. *J. Chem. Ind.* (U.S.S.R.) 18, No. 9, 17-20(1941); cf. *C. A.* 35, 4119[9].—Hydroxybiphenyls, (I), b. 270-305°, condense with CH_2O and an alk. catalyst to give a resin insol. in oil. When an acid catalyst is used, an oil-sol. resin is obtained. The ratio of CH_2O to I should not be less than 1.2:1. The rate of polymerization and m. p. of the product increase with increasing amt. of CH_2O. If the product is heated at high temp., it forms an insol. high-fusing resin. Lacquers prepd. from the condensation product are stable to H_2O and air and show good elec. properties.

H. M. Leicester

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ANDRIANOV, K. A.

Electrical insulation lacquers without solvents. K. A. Andrianov, Dvinnikova, A. M. Syrova and A. A. Bogdanova. *Vestnik Electrotekh.* 1943, No. 3, 1–6.—Formulation of resinates and bitumens in refined oils (linseed, cottonseed, etc.) for production of materials suitable for elec. insulation coatings and impregnation is presented.

G. M. Kosolapoff

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ANDRIANOV, K. A.

Anilidoformaldehyde resin. K. A. Andrianova, O. I. Gribanov, and M. A. Kamenskaya. U.S.S.R. 64,626, April 30, 1945. A fat acid, or a mixt. of fat acid and vegetable oil, is treated with $PhNH_2$, and the product condensed with CH_2O, or the acid is condensed with CH_2O and the condensation product treated with $PhNH_2$.
M. Hosch

Composition for extinguishing electric arcs. K. A. Andrianov, S. I. Dzhenchel'skaya, and A. G. Prelkova. U.S.S.R. 64,909, July 31, 1945. CH_2O-urea condensation product is mixed with powd. polymethacrylate, and the mixt. is dried, ground, and pressed in hot molds.
M. Hosch

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101410016-7

Organosilicon compounds for making polymers and lubricating oils. K. A. Andrianov. Khimicheskaya Prom. 1948, No. 2, 1-3. The importance of organosilicon compds. for industrial uses is discussed. The advantages of these compds. lie in their high b.p. and low f.p., and the small effect of temp. on their viscosity etc. properties. M. Hosch.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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ANDRIANOV, Kuz'ma Andrianovich.

Practical works in synthetic resin and plastics. Dopushcheno v kachestve ucheb. posobiia dlia khim. vuzov Moskva, Gos. nauchno-tekhn. izd-vo khim. lit-ry, 1946. 259 p. (51-15215)

TP986.A2A6 1946

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101410016-7

ANDRIANOV, K. A., DZHENCHEL'SKAYA, S. I. and PREIKOVA, A. G.

"Composition for Extinguishing Electric Arcs," Patent 64,909, July 31, 1946

Increasing the water-resistant properties of ceramic materials. K. A. Andrianov and O. I. Gribanova. U.S.S.R. 67,169, Sept. 30, 1946. Damp ceramic materials are treated with $EtSiCl_3$, Et_2SiCl_2, or alkyl or aryl orthosilicates; the Si org. compds. hydrolyze, and the hydrolysis products are condensed at an elevated temp. M. Hosch

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AUDRIANOV, K. A.

Organosilicon compounds. V. Synthesis of alkyl- and arylhalomonosilanes. K. A. Andrianov (All-Union Electrotech. Inst. Moscow). *J. Gen. Chem.* (U.S.S.R.) 16, 487-92(1946); cf. *C.A.* 33, 4193[4].—Mg (12 g.) was treated with several drops of $(EtO)_4Si$ and then dropwise with 40 g. EtBr, after which 22 g. more EtBr was added in benzene soln., and the mixt. was refluxed 1.5 hrs. to yield 93.3% EtMgBr soln. which was slowly treated with 85 g. $SiCl_4$ in 100 cc. benzene and refluxed 3-4 hrs. to yield 65 g. $EtSiCl_3$, b. 98-100°. Similarly iso-BuCl gave *iso-Bu-$SiCl_3$*, b. 148-52°, while iso-AmBr gave *iso-Am-$SiCl_3$*, b_{18} 48-52°, d. 1069; use of hexyl bromide gave $C_6H_{13}SiCl_3$, (42%), b. 160-70°; $PhCH_2Cl$ gave $PhCH_2SiCl_3$, b_{11} 94-6°, d. 1.2834, in a similar procedure. 1-$C_{10}H_7Br$ (138 g.) and 10.2 g. Mg moistened with a little $(EtO)_4Si$ in 2 vols. benzene was heated 3 hrs. until the Grignard reagent was prepd. and this was added to 113.5 g. $SiCl_4$ and heated several hrs. on a steam bath; the MgClBr was filtered off and the org. layer was distd. *in vacuo* to yield 53.2% 1-$C_{10}H_7SiCl_3$, b_{15} 160-5°, d. 1.370. The prepn. of dialkyl derivs. was conducted as above with the amt. of $SiCl_4$ being halved, i.e. 2RMgBr + $SiCl_4$. In this manner the following were prepd.: Et_2SiCl_2, 70.3%, b. 128-32°; $(C_6H_{13})_2SiCl_2$, b_{30} 157-65° (38.5 g. from 93 g. $C_6H_{13}Cl$); iso-Bu_2SiCl_2, b. 140-60° (25.1 g. from 49 g. BuCl).

G. M. Kosolapoff

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ANDRIANOV, K.A.

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Organosilicon compounds. VI. Hydrolysis mechanism and anhydridization of dialkyldiethoxymonosilanes. K. A. Andrianov. *J. Gen. Chem.* (U.S.S.R.) 16, 633-8 [illegible] Water reacts with dialkyl-substituted esters of H_2SiO_3 to effect not only the hydrolysis of the EtO groups but also to produce condensation products of the general type $EtOSiR_2(OSiR_2)_nOSiR_2OEt$, with the size of the chain being dependent essentially on the amt. of water used. Thus, 44 g. $Et_2Si(OEt)_2$ and 16.9 g. 80% EtOH heated 10 hrs. to 90° with stirring yielded principally (80.3%) $(EtO)_2O_2Si_2Et_6$, $b_{0.001}$ 165-72°; increase of 80% EtOH to 19.2 g. gave 79.2% $(EtO)_2O_2Si_2Et_{14}$, $b_{0.001}$ 201-12°; increase to 42 g. 80% EtOH (must be a typographical error, as this is supposed to be 0.87 molar ratio of H_2O to the Si compd.) gave 74.4% $(EtO)_2O_2Si_2Et_{14}$, $b_{0.001}$ 194-202°, while 21.5 g. 80% EtOH gave 73.1% $(EtO)_2O_2Si_2Et_{10}$, $b_{0.001}$ 225-32°. The degree of polymerization (or the no. of Si atoms in 1 mol.) is related to the mol. fraction of water used by the equation $A = P/(P - M)$, where A is the degree of polymerization, P is the no. of moles of silane used, and M is the no. of H_2O mols. **VII. Influence of the radical on the mechanism of hydrolysis and anhydridization of alkyltriethoxymonosilanes.** *Ibid.* 639-46. In the course of the action of water on alkyltriethoxysilanes the degree of hydrolysis of the EtO groups decreases with increase of size of the alkyl radical. A satd. radical does not influence the general course of reaction which proceeds with formation of polymers of type $RSi(OR')_2OSi(OR')_2R$, while an unsatd. radical also leads to partial polymerization through the unsatd. group. Hydrolyses were conducted for 10 hrs. at 90°, using 90% EtOH as the carrier of water (the mol. proportion of the latter is indicated in the following examples). *Isobutyltriethoxysilane* (b. 190-2°, d. 0.9104, n^{20} 1.3908) gave with 0.5 mol. H_2O 78% $(iso\text{-}Bu)_2OSi_2(OEt)_6$, $b_{0.1}$ 175-82°; with 0.75 mol. H_2O, 70.8% $(iso\text{-}Bu)_2O_2Si_2(OEt)_6$, $b_{0.001}$ 192-8°; with 0.85 mol. H_2O, 74.1% $(iso\text{-}Bu)_2O_2Si_2(OEt)_6$, $b_{0.001}$ 243-8°. *Isoamyltriethoxysilane* (b. 195-200°, d. 0.8955, n^{20} 1.3981) gave with 0.75 mol. H_2O 71.2% $(iso\text{-}Am)_2O_2Si_2(OEt)_6$, $b_{0.001}$ 203-8°, while 0.80 mol. H_2O gave 68.9% $(iso\text{-}Am)_2O_2Si_2(OEt)_6$, $b_{0.001}$ 256-60°. *Hexyltriethoxysilane* (b. 200-5°, d. 0.8938, n^{20} 1.4667) gave with 0.65 mol. H_2O 74.7% $(C_6H_{13})_2O_2Si_2(OEt)_6$, $b_{0.001}$ 199-201°, while 0.80 mol. H_2O gave 70.1% $(C_6H_{13})_2O_2Si_2(OEt)_6$, $b_{0.001}$ 260-72°. *Allyltriethoxysilane* (b. 172-6°, d. 0.9229, n^{20} 1.3952) gave with 0.75 mol. H_2O a *polymer*, $b_{0.001}$ 190-220°, which had a mol. wt. of 785 with 6 atoms Si in the mol. unit; 0.8 mol. H_2O gave a *polymer*, with a mol. wt. of 901 with 7 Si atoms per mol. unit, which $b_{0.001}$ 201-40°. G. M. Kosolapoff

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Organosilicon compounds. VIII. Organosilicon polymeric products from phenyltrichlorosilane and diphenyldichlorosilane. K. A. Andrianov and B. M. Breitman. *J. Gen. Chem.* (U.S.S.R.) 17, 1822-7(1947)(in Russian); cf. *C.A.* 41, 1208a.—Hydrolysis of $PhSiCl_3$ and Ph_2SiCl_2 to the corresponding OH derivs. and the polymer formation from the latter were studied. $PhSiCl_3$, Ph_2SiCl_2, or their 1:1 mixts. were hydrolyzed by passing moist air into 40% PhCl soln. at 50-60° and at 150°. Pure $PhSiCl_3$ is hydrolyzed to the extent of 96.2% in 80 hrs. at 50°; Ph_2SiCl_2, 97.8%; their mixt., 99.5%. The viscosity of the resulting products varies as follows (under the above conditions): $PhSiCl_3$ shows a rapid rise of viscosity over the 1st few hrs., after which the curve flattens out and approaches a limiting value very slowly; the mixt. of $PhSiCl_3$-Ph_2SiCl_2 on the other hand shows a very slow initial viscosity rise, but after 60-70 hrs. a very rapid rise is observed. Expts. with Ph_2SiCl_2 and its mixt. with $PhSiCl_3$ gave cryst. ppts. on cooling. The products after the 50-60° cycle were heated to higher temps.: $PhSiCl_3$ to 200° 1.5 hrs., when it coagulated to a solid (insol., infusible); Ph_2SiCl_2 to 150-200° 40 hrs., no change observed, ppt. formed on cooling; mixt. of $PhSiCl_3$-Ph_2SiCl_2 6 hrs. at 150°, then 3 hrs. at 200°, no change observed, the mixt. remaining nonhomogeneous, with solid suspended matter. Moist air hydrolysis at 150° gave generally similar results, the % hydrolysis being 92.7, 94.2, and 90.5, resp., after 80 hrs.; viscosity changes were similar to each other: a fairly rapid initial rise, followed by a flat curve, $PhSiCl_3$ showing the smallest increase of viscosity. The polymer from $PhSiCl_3$ was a hard brittle resin, m. 103-7°, contg. 10.81% Si and polymerizing in 5 min. at 100°. The polymer from Ph_2SiCl_2 was a viscous resinous mass which on heating 1 hr. at 130-40° gave a transparent hard resin, m. 56°, contg. 10.92% Si. The polymer from the mixt. was a viscous mass, which, heated 0.5 hr. at 130-40°, gives a hard resin, m. 95°, contg. 12.96% Si, while heating 85 min. at 100° gave a rubbery mass, and a complete polymer after 4 hrs. 10 min. at 160°. Ph_2SiCl_2 (10% soln. in benzene) with ice-water gave a benzene-sol. product, forming, on evapn. of the solvent, a yellow sticky cryst. mass, which by pptn. with MeOH from benzene was sepd. into 56% solid, m. 41°, and 44% oil; the 1st product appears to be a polymer of the diol, the 2nd appears to be the monomeric diol.; the 1st product is thermally stable up to 200°, but the 2nd product forms a solid resin on heating to 140°. Higher hydrolysis temp. and acidic media favor the formation of the cryst. products. The waxy products obtained from the hydrolyses-polymerizations have good elec. properties. G. M. Kosolapoff

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ANDRIANOV, Kuz'ma Andrianovich

Yamanov, S. A., jt. au.

Organic dielectrics and their application in the industry of means of communication. Moskva, Gos, energ. izd-vo, 1949. 138 p. (50-21897)

QC585.A62

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101410016-7

ANDRIANOV, K. A. and SOBOLEVSKIY, M. V.

"High-Molecular Silicon Organic Compounds," (Vysokomolekulyarnyye kremniyorganicheskiye soyedineniya), Oborongiz, 1949, 320 pp.

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101410016-7

ANDRIANOV, K. A.

USSR/Chemistry - Silicon
Chemistry - Organic Compounds

Mar/Apr 49

"Silicon Organic Compounds," K. A. Andrianov, A. A. Zhdanov, S. A. Golubtsov, M. V. Sobolevskiy, Moscow, 40 pp

"Uspekhi Khim" Vol XVIII, No 2

Discusses: chemical bonds, halide derivatives, orthosilicic acid esters, alkyl- and arylhalidosilanes, hydrolysis and condensation of organic silicon monomers, polysiloxanes, use of silicon organic compounds, preparation of hydrophobic films, thermostable resins and lacquers,

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USSR/Chemistry - Silicon (Contd)

Mar/Apr 49

polysiloxane fluids and lubricants, and polysiloxane rubber.

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101410016-7

ANDRIANOV, K. A.

"Progress Made in the Field of Chemistry of Organo-Silicon Compounds," by K. A. Andrianov and A. A. Zhdanov, Progress in Chemistry USSR 21, pp 207-236, No 2, 1952.

This appears to be a good article of the review type and seems to be fairly thorough. There are a great many references, mostly from the Journal of the American Chemical Society, but also Soviet and others. K. A. Andrianov, apparently the senior author, has published considerable work on the subject of silicones and other resins, especially their use in the electrical and insulation field, during the past 20 years or so, judging by titles under his name in Chemical Abstracts. A number of the references he quotes as to silicone chemistry are to his own experimental work. We do not find A. A. Zhdanov in Chemical Abstracts. Perhaps he was a student.

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ANDRIANOV, K. A.

USSR/Chemistry - Organosilicon Compounds 21 Feb 52

"Chemistry of the Formation of Organopolysiloxanes," K. A. Andrianov, N. N. Sokolov

"Dok Ak Nauk SSSR" Vol LXXXII, No 6, pp 909-912

The formation of the following previously unknown dialkylsilanones during the decompn of organopolysiloxane was established using a mass spectrograph. Dimethylsilanone ($Me_2Si = O$), diphenylsilanone, dibutylenesilanone and diamylsilanone. Dimethylsilanone, dimethylsilanediol, and dimethylchlorosilanol were found after hydrolysis of dimethyldichlorosilane. The new data furthurs

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knowledge of the mechanism of formation of organopolysiloxanes by hydrolysis of organosilica monomers in an aq medium. They also provide a general scheme for the reactions taking place. Offers a new condensation-polymerization mechanism for the formation of organopolysiloxanes.

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101410016-7

ANDRIANOV, K. A.

PA 253T20

USSR/Electricity - Dielectrics Jan 53

"Petroleum Oils And Hydrocarbon Polymers as Dielectrics," Docent V. A. Golubtsova, Cand Tech Sci, and K. A. Andrianov, Dr Tech Sci, Moscow

Elektrichestvo, No 1, pp 51-56

Cites results of investigation of elec properties of mixtures of petroleum oils and hydrocarbon polymers. Demonstrates positive influence of rosin on stablitiy of elec properties of the mixtures under action of heat and voltage. Submitted 10 Sep 52.

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ANDRIANOV, K. A.

(2)

Basis of nomenclature and classification of the lower silicoorganic compounds. A. V. Topchiev and K. A. Andrianov. *Izvest. Akad. Nauk S.S.S.R., Otdel. Khim. Nauk* 1953, 490-7.—The nomenclature of the organo-Si compds. is summarized. The use of the simple unit structures, based on silane for SiH_4, hydroxysilanes for the HO derivs., and siloxane for compds. with Si-O-Si-O structures is explained with numerous examples. For chains of C and Si atoms it is suggested that names of the appropriate org. radicals be used with the silane nomenclature.
G. M. Kosolapoff

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101410016-7

ANDRIANOV, K.A.

Foundations of nomenclature and classification of high-molecular organosilicon compounds K. A. Andrianov and A. V. Topchiev. *Izvest. Akad. Nauk S.S.S.R., Otdel. Khim. Nauk* 1953, 665-9; cf. *C.A.* 48, 9908a. — A system of nomenclature of polymeric organo-Si compds. is proposed. This is based on the structure of the polymer chain: the fundamental structure of a parent substance is taken to be $H_3Si(SiH_2)_nSiH_3$. Typical names that are suggested for various classes are as follows [(1 − n) in the following examples refers to the 1st and nth (terminal) Si atoms, resp., and hexamethyl indicating a total of 6 Me groups on the Si atoms in question]: $Me_3Si(SiMe_2)_nSiMe_3$, (1 − n)hexamethylpolydimethylsilane, $(SiMePh)_n$, polyphenylmethylsilane, $Me_3Si(CH_2SiMe_2)_nCH_2SiMe_3$, (1 − n)hexamethylpolydimethylmethylenesilane, $Me_3Si(OSiMe_2)_nOSiMe_3$, (1 − n)hexamethylpolydimethylsiloxane, $Me_3Si(C_6H_4SiMe_2OSiMe_2)_nC_6H_4SiMe_3$, (1 − n)hexamethylpolytetradimethylphenylenedisiloxane, $Me_3Si(OAl(O)OSiMe_2)_nOAlOSiMe_3$, (1 − n)hexamethylpolydimethylalumosiloxane, $(EtO)_3Si(OMgOSi(OEt)_2)_nOMgOSi(OEt)_3$, (1 − n)hexaethoxypolydiethoxymagnesiumsiloxane; $Me_3Si(HSiNMe_2)_nNHSiMe_3$, (1 − n)hexamethylpolydimethylaminosilane.

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101410016-7

ANDRIANOV, K.A. 11 Feb 53

USSR/Chemistry - Silicon Organic Compounds

"The Heat Effect of Hydrolysis on Alkyl- and Arylchlorosilanes," K.A. Andrianov and S.A. Pavlov; All-Union Elec Eng Inst im V.I. Lenin

DAN SSSR, Vol 88, No 5, pp 811-814

Detd the heat effect of hydrolysis of $SiCl_4$, methyltrichlorosilane, dimethyl dichlorosilane, trimethylchlorosilane, ethyltrichlorosilane, and phenyltrichlorosilane in the presence of an excess of H_2O. Established that the heat effect of the reaction depends on the functional character of the above alkyl-arylchlorosilanes, and is practically independent of the nature of the org radical. The reaction rate of the hydrolysis is high and is commensurate with the rate of ionic reactions. Presented by Acad A.V. Topchiyev 13 Dec 52.

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ANDRIANOV, K. A.

USSR/Chemistry - Elastomers, Silicon Organic Compounds

1 Mar 53

"Molecular Weight and Characteristic Viscosity of Polydimethylsiloxane Fractions," A. Ya. Korolev, K. A. Andrianov, L. S. Utesheva, and T. Ye. Vedenskaya

DAN SSSR, Vol 89, No 1, pp 65-68

Investigated carefully fractionated samples of polydimethylsiloxane, using osmotic and viscosimetric methods for the purpose of measuring the mol wt of the fractions and to det the consts in the

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exponential eq relating mol wt with characteristic viscosity. Concluded from the results that the degree of branching of the chain in the low mol fractions of polydimethylsiloxane is somewhat greater than that of low mol fractions. Presented by Acad A. V. Topchiyev 12 Jan 53.

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