27554
S/170/61/004/010/008/019
B109/B138

Inverse problems of heat conduction...

There are 2 Soviet references.

ASSOCIATION: Tekhnologicheskiy institut rybnoy promyshlennosti i khozyaystva, g. Kaliningrad (Technological Institute of the Fishing Industry and Economy, Kaliningrad)

SUBMITTED: March 25, 1961

Card 9/9

VINER, A.M., inzh.; TEMKIN, A.G., kand.tekhn.nauk; FEDOROV, V.N., inzh.

Nomogram for calculating heat transfer in a furnace. Teploenergetika 8 no.1:89-90 Ja '61. (MIRA 14:4)
(Furnaces) (Heat—Transmission)

S/170/62/005/004/012/016
B104/B108

AUTHOR: Temkin, A. G.

TITLE: The temperature field of bodies of complex shape at regular heat conditions

PERIODICAL: Inzhenerno-fizicheskiy zhurnal, v. 5, no. 4, 1962, 106 - 121

TEXT: General properties of body shape criteria (characteristic numbers), the temperature field near the center of a body, the mean distance between isotherms, the heat conduction equation, and errors found in various publications are discussed in the present survey which is based on publications, issued between 1933 and 1961. N. Ye. Zhukovskiy, A. V. Lykov, A. S. Ginzburg, D. V. Burdin, V. A. Krasovskiy, G. Ye. Pikus, L. S. Leybenzon, G. P. Buynyachenko, I. A. Parkhomenko, L. V. Kravchuk, G. M. Kondrat'yev are mentioned. There are 43 references: 42 Soviet and 1 non-Soviet.

ASSOCIATION: Tekhnicheskiy institut rybnoy promyshlennosti i khozyaystva, g. Kaliningrad (Technical Institute of Fish Industry and Fisheries, Kaliningrad)

Card 1/2

TEMKIN, A.G.

Apropos of A.N. Borshchevskii's article "Heat transfer through enclosing structures." Inzh.-fiz. zhur. 5 no.6:118-120 Je '62. (MIRA 15:12)

(Heat—Transmission) (Structures, Theory of) (Borshchevskii, A.N.)

41316

S/170/62/005/010/009/009
B104/B186

26.5100

AUTHOR: Temkin, A. G.

TITLE: Temperature field of a multilayered wall

PERIODICAL: Inzhenerno-fizicheskiy zhurnal, v. 5, no. 10, 1962, 104 - 117

TEXT: If k finite measurement values are available the equation of heat conduction through a multilayered wall is

$$C(r)\frac{\partial t}{\partial \tau} = r^{1-k}\frac{\partial}{\partial r}\left[\lambda(r)r^{k-1}\frac{\partial t}{\partial r}\right] \qquad (1.1).$$

The specific heat C and the coefficient of heat conduction λ of this wall depend considerably on the coordinates and are piece-wise continuous functions.

$$\frac{\partial t}{\partial F} = \frac{1}{C(N)N^{k-1}}\frac{\partial}{\partial N}\left[\Lambda(N)N^{k-1}\frac{\partial t}{\partial N}\right] \qquad (1.6)$$

is obtained from (1) by introducing the dimensionless coordinate $N = r/r_e$, the Fourier number $F = a_o\tau/r_e^2$, the dimensionless thermal conductivity

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Temperature field of a multilayered...

$\lambda(N) = \lambda(r)/\lambda_0$ and the dimensionless specific heat $C(N) = C(r)a_0\lambda_0$. $t(N_1,F) = t_1(F)$, $\lambda(N_2)\frac{\partial t(N,E)}{\partial N} = q(F)$ are the mixed boundary conditions. The solution is obtained as a series

$$t(N, F) = t_1(F)\,1 + t_2'(F)\,\nabla^{-2}\,1 + \ldots + t_1^{(n)}(F)\,\nabla^{-2n}\,1 + \ldots + \\ + q(F)\,a(N) + q'(F)\,\nabla^{-2}a + \ldots + q_{(F)}^{(n)}\,\nabla^{-2n}a + \ldots \qquad (2.4)$$

arranged with respect to the derivatives of the quantities to be measured and the radial quasipolynomials of the problem. The function (2.4) describes the temperature field at sufficiently long time values for the initial temperature distribution no longer to influence the heat conduction. The Fourier integral makes it possible to construct the field of the aftereffect of this problem. It can be shown that this field gradually vanishes and that at the initial moment a temperature distribution appears contradicting the initial value of the function (2.4). If the temperatures on the surfaces N_1 and N_2 are known functions of time, then the field of the action can be represented as the sum of the two series:

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$$t(N, F) = \sum_{n=0}^{\infty} t_1^{(n)}(F) P_n(N, N_1) + t_2^{(n)}(F) P_n(N, N_2), \quad (3.3).$$

The series are arranged accordingly with respect to the derivatives of the temperatures to be measured and with respect to the radial quasipolynomials of the problem. The convective heat exchange with media at variable temperatures is studied with the aid of the boundary conditions

$$[t_i(F) - t(N_i, F)] B_i = -\Lambda(N_i) \frac{\partial t(N_i, F)}{\partial N} \quad (4.1)$$

$$[t(N_e, F) - t_e(F)] B_e = -\Lambda(N_e) \frac{\partial}{\partial N} t(N_e, F) \quad (4.2),$$

of the third kind. For the field of action

$$t(N, F) = t_i(F) P_0(N, N_i) + t_i'(F) P_1(N, N_i) + \ldots + t_i^{(n)}(F) P_n(N, N_i) + \ldots$$
$$+ t_e(F) P_0(N, N_e) + t_e'(F) P_1(N, N_e) + \ldots + t_e^{(n)}(F) P_n(N, N_e) + \ldots, \quad (4.4)$$

is obtained in a similar way. This series is arranged with respect to the

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derivatives of the temperatures of the inner and outer medium. If the temperature on the inner surface is kept constant, and if the temperature on the outer surface varies periodically, then

$$t(N, F) = t_1 P_0(N, N_1) +$$
$$+ t_0 [P_0(N, N_e) - \omega^2 P_2(N, N_e) + \omega^4 P_4(N, N_e) - \ldots] \cos \omega F +$$
$$+ t_0 [-\omega P_1(N, N_e) + \omega^3 P_3(N, N_e) - \omega^5 P_5(N, N_e) + \ldots] \sin \omega F, \quad (5.20)$$

is valid for the field of action.

ASSOCIATION: Tekhnicheskiy institut rybnoy promyshlennosti i khozyaystva, g. Kaliningrad (Technical Institute of the Fish Industry and Fisheries, Kaliningrad)

SUBMITTED: July 23, 1962

Card 4/4

TEMKIN, A.G.

Phenomenological equation of transfer processes. Dokl. AN BSSR 7 no.2:92-94 F '63. (MIRA 16:7)

1. Tekhnicheskiy institut rybnoy promyshlennosti i khozyaystva, Kaliningrad. Predstavleno akdemikom AN BSSR A.V. Lykovym.
(Heat—Transmission) (Mass transfer)

TEMKIN, A.G.

Solution of a Schrodinger type equation. Dokl. AN BSSR 7 no.4:240-243 Ap '63. (MIRA 16:11)

1. Energeticheskiy institut AN BSSR. Predstavleno akademikom AN BSSR A.V. Lykovym.

TEMKIN, A.G., kand.tekhn.nauk, dotsent; IONOV, A.G., aspirant

Useful book on refrigerating engineering. Khol.tekh. 40 no.6: 54-55 N-D '63. (MIRA 17:4)

Lykov, A.V.

Reconstruction of the fields of heat and mass contents of a colloidal capillary-porous body. Inzh.-fiz. zhur. no.10:89-93 O '64. (MIRA 17:11)

1. Tekhnicheskiy institut rybnoy promyshlennosti i khozyaystva, Kaliningrad.

L 3639-66 EWT(1)/EPF(c)/ETC/EPF(n)-2/EWG(m) WW
ACCESSION NR: AP5022384 UR/0170/65/009/003/0305/0317
536.75+536.24

55
52
B

AUTHOR: Temkin, A. G. 44,55

TITLE: Determination of the parameters of internal heat and mass transfer using the characteristic functions of the thermodynamics of irreversible processes

SOURCE: Inzhenerno-fizicheskiy zhurnal, v. 9, no. 3, 1965, 305-317

TOPIC TAGS: heat transfer, mass transfer, thermodynamics, irreversible process, mathematic matrix, thermal diffusion

ABSTRACT: The article presents a theoretical development starting with the determination of the parameters of internal transfer first with multiple point changes in temperature and then with two point changes in temperature. The methods of matrix mathematics are applied to a determination of transfer criteria using a local measurement of the moisture content. It is demonstrated that, starting from any given set of experimentally determined parameters, the rest can be determined by use of the characteristic thermodynamic functions of irreversible processes. This includes the coefficients of thermal diffusivity and

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ACCESSION NR: AP5022384

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the criteria for inertial and thermal diffusion and phase transfer. Examples of typical calculations by this method are presented in tabular form. Orig. art. has 74 formulas and 3 tables

ASSOCIATION: Politekhnicheskiy institut, g. Riga (Polytechnical Institute, Riga)

SUBMITTED: 00

ENCL: 00

SUB CODE: TD

NR REF SOV: 019

OTHER: 002

44,55

BVK

Card 2/2

Russia (1923) Manual on planning prestressed reinforced concrete structures (K-148-52)
MSPTI

TA444.R8

1. Concrete, Prestressed. I. Temkin, A. I., ed. II. Moscow. TSentral'nyi [illegible]-issledovatel'skii institut promyshlennykh sooruzhenii.

NEVYAZHSKIY, I.Kh; DRABKIN, V.F.; TRUBETSKOY, V.F.; TEMKIN, A.S.

Use of ferrite-core inductance in the high-frequency power stage circuit of the proton synchrotron. Radiotekh.i elektron.i no.7:954-964 J. '56. (MLRA 10:1)

(Synchrotron)

h0748

S/120/62/000/004/016/047
E192/E382

24.6730

AUTHORS: Lebedev-Krasin, Yu.M., Gutner, B.M., Pisarevskiy, V.Ye., Temkin, A.S., Barabash, L.Z., Kuryshev, V.S. and Moiseyev, A.I.

TITLE: The accelerating elements of the proton synchrotron and the system of their high-frequency feed

PERIODICAL: Pribory i tekhnika eksperimenta, no. 4, 1962, 94 - 97

TEXT: The description, principal characteristics and the results of the control of the h.f. accelerating system of the 7 GeV proton cyclotron are reported. The accelerating elements are in the form of drift tubes situated in 11 compensating magnets. Each of the 11 electrodes is fed from a separate system of high-frequency amplifiers consisting of a 7-stage wideband amplifier and an automatically-tuned resonance output amplifier. The inductances of the resonant circuit in the output stages are in the form of coils fitted with ferrite cores. The amplitude of the high-frequency field of each accelerating electrode is 2.5 kV ± 10% over the frequency range of

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The accelerating elements S/120/62/000/004/016/047
E192/E382

0.65 - 8.5 Mc/s. The phase-shift between the output voltages of any two channels is less than 30°. The overall power used by the supply system is 400 kVA. By using tuned amplifiers in the output stages the power consumption was reduced by about 30 times, as compared with a non-tuned amplifier. There are 4 figures.

SUBMITTED: March 29, 1962

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4

I 3778-66 EWT(m)/EWA(m)-2 IJP(c) GS
ACCESSION NR: AT5007965 S/0000/64/000/000/0932/0936

AUTHOR: Vodop'yanov, F. A.; Zhukovskiy, L. S.; Zalmanzon, V. B.; Ivanov, Yu. S.; Izergina, Ye. V.; Kuz'min, A. A.; Prokop'yev, A. I.; Temkin, A. S.; Rubchinskiy, S. M.

TITLE: System for the generation of the accelerating field of a 70-Gev proton synchrotron 19

SOURCE: International Conference on High Energy Accelerators. Dubna, 1963. Trudy. Moscow, Atomizdat, 1964, 932-936

TOPIC TAGS: high energy accelerator, synchrotron, particle beam, magnetic field

ABSTRACT: After the development of a high-precision system of frequency control of the accelerating field of the proton 50-60 Gev synchrotron with critical energy compensation (Mints, A. L., et al., Proc. International Conference on High Energy Accelerators and Instruments, CERN 1959), it was decided to achieve an alternative accelerator with transition through the critical energy, which makes it possible to increase the energy to 70 Gev. In this modification of the accelerator serious difficulties are encountered with the realization of a system for generating an accelerating field with frequency control only according to the H-program. Therefore,

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ACCESSION NR: AT5007965

it was decided to achieve a system with twin frequency control: rough, according to the H-program, and precise, according to the information on the radial and phase position of the accelerated particle beam. The present report discusses the principal characteristics governing the achievement of a programmed FM-generator, a system of frequency control according to information of the position of the accelerated particle bunches, and accelerator installation. The programmed FM-generator consists of the usual elements: transducer of the derived magnetic field strength (inductive coil in the gap of the measuring electromagnet), electronic switch, tube integrator, modulator, FM-oscillator, phase manipulator, amplitude modulator of accelerating voltage, amplifier-distributor, and a system of cable contacts. To obtain energy increase per revolution of ΔE = 166 Kev for a rate of change of magnetic field strength of $\dot{H}$ = 550 oersteds/second and ϕ_s = 30°, provision is made for the application of 53 accelerator stations with rated input of 7 kilovolts and 6 kilowatts power. Provisions are also made for the short-duration increase of this voltage, 1.8 times up to the time of beam bunching (around 15 microseconds), and its slow decrease to about 2 times less toward the end of the acceleration cycle with the aim of preserving constant equilibrium phase during the fall in the magnetic field growth rate. The system of frequency control of the accelerating field according to the information on the accelerated particle beam position is similar in

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ACCESSION NR: AT5007965

principle of operation to a system described by Yu. S. Ivanov and A. A. Kus'min (*Pribory i tekhnika eksperimenta*, No. 4, 106, (1962)), which was intended to stabilize the position of the center of gravity of the beam according to radius and phase. Orig. art. has: 1 figure.

ASSOCIATION: Radiotekhnicheskiy institut AN SSSR (Radio Engineering Institute, AN SSSR)

SUBMITTED: 26May64 ENCL: 00 SUB CODE: NP

NO REF SOV: 001 OTHER: 001

Card 3/3

NESTEROV, S.N.; VALETOV, V.V., inzhener, redaktor; TEMKIN, A.V., redaktor; GENICH, V.A., kandidat tekhnicheskikh nauk, retsenzent; UVAROVA, A.F., tekhnicheskiy redaktor.

[Establishing norms for use of materials in machine building plants; method of determining consumption rates of basic and subsidiary materials for plants engaged in mass and large-scale production] Normirovanie raskhoda materialov na mashinostroitel'nykh zavodakh; metodika opredeleniia norm raskhoda osnovnykh i vspomogatel'nykh materialov na zavodakh massovogo i krupnoseriinogo proizvodstva. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit. lit-ry, 1955. 187 p. [Microfilm] (MLRA 8:12)
(Machinery industry)

TEMKIN, A.V.

BARANOV, A.I., kandidat tekhnicheskikh nauk; KUZ'MIN, V.V., inzhener; GOKUN, V.B., kandidat tekhnicheskikh nauk, retsenzent; NOVIKOV, K.D., inzhener, retsenzent; TKACHENKO, V.V., kandidat tekhnicheskikh nauk, redaktor; TEMKIN, A.V., redaktor; UVAROVA, A.F., tekhnicheskiy redaktor; SOKOLOVA, T.V., tekhnicheskiy redaktor.

[Setting standars and norms in machine building] Standartizatsiia i normalizatsiia v mashinostroenii. Izd.2-oe, perer. i dop. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroitel'noi lit-ry, 1955. 202 p. (Machinery industry) (MLRA 8:11)

SHEVELEV, M.L.; TIKHONOV, A.S., kandidat tekhnicheskikh nauk dotsent, retsenzent; SHAROV, N.V., inzhener, retsenzent; PCHELINTSEV, V.A., inzhener, retsenzent; TEMKIN, A.V., redaktor; MATVEYEVA, Ye.N., tekhnicheskiy redaktor.

[Fire prevention in machine building] Protivopozharnaia tekhnika v mashinostroenii. Izd.2-oe, perer. i dop. Moskva, Gos.nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1955.208 p. (MLRA 9:6)
(Factories--Fires and fire prevention)

ASVAL'DOV,M.Ya.; TEMKIN,A.V., redaktor; UVAROVA,A.F., tekhnicheskiy redaktor

[Complex improvement in the operation of metal cutting machines] Kompleksnoe uluchshenie ispol'zovaniia metallorezhushchikh stankov. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1955. 229 p. (MLRA 9:2)

(Cutting tools)

ZUBOK, V.N., inzhener, redaktor; UMNYAGIN, M.G., inzhener, redaktor; KASSATSIER, M.S. inzhener, redaktor; SHIFRIN, S.M., redaktor; TEMKIN, A.V., redaktor; TIKHONOV, A. Ya., tekhnicheskiy redaktor.

[Experience in introducing advanced technology in factories engaged in heavy machine building] Opyt vnedreniia peredovoi tekhnologii na zavodakh tiazhelogo mashinostroeniia. Moskva, Ges.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1955.306 p. (MLRA 9:4)

1.Moscow. Vsesoiuznyy proyektno-tekhnologicheskiy institut.
(Machinery--Construction)

IVANOV, Nikolay Filippovich; GORENSHTEYN, B.I., retsenzent; EYKHENVAL'D, A.V., kandidat ekonomicheskikh nauk, dotsent, redaktor; TEMKIN, A.V., redaktor izdatel'stva; POPOVA, S.M., tekhnicheskiy redaktor

[Operational planning; planning machine inspection every ten days at machine building plants producing in lots] Operativnoe planirovanie; podsekadnoe, mashinokomplektnoe planirovanie na mashinostroitel'nykh zavodakh seriinogo proizvodstva. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1956. 105 p. (MLRA 10:3)
(Machinery industry)

GANSHTAK, V.I.; BOGINSKIY, I.N., inzhener, redaktor; TEMKIN, A.V., redaktor; UVAROVA, A.F., tekhnicheskiy redaktor.

[Cost of production in machine-building] Sebestoimost' produktsii v mashinostroenii. Izd. 2-oe, perer. i dop. Moskva, Ges.nauchno-tekhn. izd-vo mashinostroitel'noi lit-ry, 1956. 153 p. (MIRA 9:6)
(Machinery industry--Costs)

IVANOV, Nikolay Vasil'yevich; MALYUTIN, Nikolay Kuz'mich; FLEYSHMAN, Abram L'vovich; BURSHTEYN, I.I., retsenzent; LOBODIN, P.V., retsenzent; MOROZOV, A.N., retsenzent; LYUBOVICH, Yu.O., kandidat ekonomicheskikh nauk, redaktor; TSYMKIN, A.V., tedaktor izdatel'stva; UVAROVA, A.F., tekhnicheskiy redaktor.

[Supply of materials and equipment in machinery manufacturing] Material'no-tekhnicheskoe snabzhenie v mashinostroenii. Moskva, Ges.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1956. 275 p. (MLRA 10:4)
(Machinery industry)

BOCHAROV, Grigoriy Grigor'yevich; YUR'YEV, N.M., inzhener, retsenzent; SHNEYVAS, P.Kh., redaktor; TEMKIN, A.V., redaktor; EL'KIND, V.D., tekhnicheskiy redaktor

[Evaluating and calculating production in the machinery industry] Uchet proizvodstva i kal'kulirovanie v mashinostroenii. Izd. 2-oe, perer. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit. lit-ry, 1957. 309 p. (MLRA 10:10)
(Machinery industry)

ANDREYEV, Yevgeniy Dmitriyevich; GORENSHTEYN, B.I., retsenzent; KUZNETSOV, B.R., retsenzent; TEMKIN, A.V., red.; SALYANSKIY, A.A., red.izd-va; UVAROVA, A.F., tekhn.red.

[Operational and production planning in machinery plants with piece and small-scale production; organization by work schedules] Operativno-proizvodstvennoe planirovanie na mashinostroitel'nom zavode edinichnogo i melkoseriinogo proizvodstva; rabota po grafiku. Izd. 2., dop. Moskva, Gos. nauchno-tekhn.izd-vo mashinostroit. lit-ry, 1958. 218 p. (MIRA 12:2)
(Machinery industry)

S/076/60/034/011/012/024
B004/B064

21.6000 also 2209

AUTHOR: Tëmkin, A. Ya. (Moscow)

TITLE: Mechanism of the Radiolysis of Solid Oxalic Acid

PERIODICAL: Zhurnal fizicheskoy khimii, 1960, Vol. 34, No. 11, pp. 2503-2505

TEXT: The purpose of the present paper isto prove that the radiochemical processes in solids take place along tracks. Using the experimental data of Refs. 1,2 the following relation is written: $\nu(t) = (wv/a)\ln(1+aQt)$(2). $\nu(t)$ is the concentration of the radicals; w is the number of tracks per unit volume and unit time; v is the volume of the track; $Q = n(t_o)$ is the initial condition for the density n of the radicals; and a is the coefficient of recombination. This equation is in good agreement with the data of Ref. 1. Since a long lifetime of the free radicals must be assumed for solid substances, the overlapping of the tracks was studied, and a correction $\chi(t)$ was calculated for equation (2). It is found to increase with t, so that saturation is achieved after a long time of irradiation. Thus,

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Mechanism of the Radiolysis of Solid Oxalic Acid

S/076/60/034/011/012/024
B004/B064

the radiochemical processes in solid oxalic acid proceed along tracks according to a radical mechanism. This is assumed to hold also for other solid substances which are neither conductors nor semiconductors. L. S. Polak, N. Ya. Chernyak, Yu. N. Molin, and A. T. Koritskiy are thanked for a discussion. [Abstracter's note: The experimental data on which the calculation is based are not given.] There are 2 Soviet references.

ASSOCIATION: Akademiya nauk SSSR. Institut neftekhimicheskogo sinteza (Academy of Sciences USSR, Institute of Petrochemical Synthesis)

SUBMITTED: February 19, 1959

Card 2/2

FILIPPOV, Yevgeniy Mikhaylovich. Prinimali uchastiye: GUBERMAN, SH.A.; LEYPUNSKAYA, D.I., nauchnyy sotr., red.; BESPALOV, D.F., nauchnyy sotr., red.; SREBRODOL'SKIY, D.M., nauchnyy sotr., red.; SHIMELEVICH, Yu.S., nauchnyy sotr., red.; TEMKIN, A.Ya., red.; MEDER, V.M., red. izd-va; PRUSAKOVA, T.A., tekhn. red.; MAKUNI, Ye.V., tekhn. red.

[Applied nuclear geophysics; use of sources of nuclear radiation in geology and geophysics]Prikladnaia iadernaia geofizika; primenenie istochnikov iadernogo izlucheniia v geologii i geofizike. Pod obshchei red. L.S.Polaka. Moskva, Izd-vo Akad. nauk SSSR, 1962. 579 p. (MIRA 15:12)

1. Chlen-korrespondent Akademiya nauk SSSR (for Filippov). 2. Institut geologii i razrabotki goryuchikh iskopayemykh (for Leypunskaya, Bespalov, Srebrodol'skiy, Shimelevich). 3. Institut neftekhimicheskogo sinteza Akademii nauk SSSR (for Temkin).
(Nuclear geophysics)

TEMKIN, A. Ya.

USSR/Nuclear Physics - Meson formation FD 429

Card 1/1 Pub. 147-15/16

Author : Temkin, A. Ya.

Title : Conversion of two photons into a π^0-meson, and the production of π^0-mesons in the Compton effect

Periodical : Zhur. eksp. i teor. fiz. 26, 645-646, May 1954

Abstract : A letter to the editors. Computes the total cross-section of meson production, and finds it to be very small (10-46 cm^2) even at 21-22 Bev. Refers to various related works, appearing in 1950-1951 of: A. M. Baldin and V. V. Mikhaylov (ZhETF 20, 1057, 1950); B. Ioffe, A. Rudik and I. Shmushkevich (DAN SSSR 77,403,1951); V. B. Berestetskiy and I. Ya. Pomeranchuk (DAN SSSR 77,803, 1951). Acknowledges the interest of Yu. M. Shirokov in the present work.

Institution :

Submitted : October 15, 1953

TEMKIN, A.YA.

SUBJECT USSR / PHYSICS CARD 1 / 5 PA - 1774
AUTHOR TEMKIN, A.YA.
TITLE On the Theory of the Slowing Down of Neutrons.
PERIODICAL Žurn.eksp.i teor.fis, 31, fasc.5, 893-895 (1956)
Issued: 1 / 1957

The integral of collisions between neutrons and the nuclei of the slowing down material can be written down as follows:

$$\sum_{\alpha}\int_{0}^{u} du' \int_{-1}^{1} d\mu' \int_{0}^{2\pi} d\beta' f_{\alpha o}(u-u') \frac{\lambda(u')}{\lambda_{\alpha}(u')} \delta(\mu_o - \gamma_\alpha) \Psi(\vec{r}, u', \mu', \beta') = \sum_{\alpha} \hat{K}_{\alpha} \hat{\beta}_{\alpha} \Psi$$

$$\hat{K}_{\alpha} \equiv \int_{0}^{u} du' f_{\alpha o}(u-u') (\lambda(u')/\lambda_{\alpha}(u')) \int_{-1}^{1} d\mu' K_{\alpha}(\mu, \mu', u-u')$$

$$K_{\alpha} \equiv (1-\mu^2-\mu'^2-\gamma_\alpha^2 - 2\gamma_\alpha \mu\mu')^{-1/2}, \quad \hat{B}_{\alpha} \int_{0}^{2\pi} \delta(\beta'-\bar{\beta})\, d\beta'$$

Here Ψ denotes the distribution function of these neutron collisions, α - an index which denotes the individual elements with the nuclear mass M_α occurring in the slowing down material, ϑ and β - the spherical angles of the vectors $\omega = \vec{p}/p$, $\vec{p}$ - the momentum of the neutron, $\vec{r}$ - radius vector of the neutron, $u = \ln(2mE_o/p^2)$, E_o the initial energy of the neutrons, m - the mass of the

neutron, λ_α - the partial length of the free length of path of the neutron in consideration of the elastic collisions with nuclei with the mass M_α, λ - the total length of the free length of path of the neutron in the medium, m - the mass of the neutron. It further applies that:

$$\gamma_\alpha(u) = \left[(M_\alpha + m)\, e^{-u/2} - (M_\alpha - m) e^{u/2}\right] / 2m$$

$$f_{\alpha_o}(u) = \left[(M_\alpha + m)^2/4mM_\alpha\right] e^{-u} \quad \text{or} \quad f_{\alpha_o}(u) = 0 \text{ at } u \leq q_\alpha \quad \text{or} \quad u > q_\alpha.$$

$$q_\alpha = 2 \ln \left[(M_\alpha + m)/(M_\alpha - m)\right]$$

$$\mu_o = \omega\omega' = \mu\mu' + \sqrt{1-\mu^2}\ \sqrt{1-\mu'^2}\ \cos(\beta' - \beta)$$

In the onedimensional problem Ψ is independent of β and consequently $\hat{B}_\alpha \Psi = \Psi$
It is then easy to develop K_α into a series according to LEGENDRE polynomials:

$$K_\alpha = \pi \sum_{l=0}^{\infty} (2l + 1)\, P_l(\gamma_\alpha)\, P_l(\mu)\, P_l(\mu').$$

Žurn.eksp.i teor.fis,31,fasc.5,893-895 (1956) CARD 3 / 5 PA - 1774

$K_\alpha(\mu,\mu',u)$ denotes the angular distribution (on the angle ϑ) in the laboratory system of the neutrons scattered by the nucleus. It is shown that even in the case of the scattering of neutrons by hydrogen nuclei the sum of some (n_o+1) initial terms of the series(which is here denoted by K_α^o) plays the main part. The remainder of the series $\tilde{K}_\alpha = K_\alpha - K_\alpha^o$ is written down in form of a finite expression. If all functions of u and μ are considered to be points of the metric space L_2, the norm of the function $V(u,\mu)$ is defined as follows: $\|V\| = \int_0^u du e^{-u/2} \int_{-1}^{1} d\mu V^2(u,\mu)$, and if the denotion $\varepsilon = \|\tilde{K}_\alpha\|^{1/2} / \|K_\alpha^o\|^{1/2}$ is used, the value $\varepsilon = 0{,}33 < 1$ is found for $M = m$ and $n_o = 1$. Now n_o is chosen in such a manner that 1. Instead of the punctiform kinetic equation $\hat{L}\Psi = \sum_\alpha \hat{K}_\alpha \hat{B}_\alpha \Psi + S$ the equation $\hat{L}\Psi^o = \sum_\alpha \hat{K}_\alpha^o \hat{B}_\alpha \Psi^{(o)} + S$ is now investigated, where S denotes the density of the neutron sources and $\hat{L}_r(u,\mu,\beta) = \lambda(u)\omega\nabla + 1$. The influence exercised by $\hat{K}_\alpha$ can be looked upon as a perturbation. For this purpose one puts $\Psi = \Psi^{(o)} + \Psi^{(1)} + \Psi^{(2)} +$

Zurn.eksp.i teor.fis,31,fasc.5,893-895 (1956) CARD 4 / 5 PA - 1774

$+ \ldots + \Psi^{(n)} + \ldots$. By inserting this series into the aforementioned collision integral an equation for the determination of the n-th correction is obtained. The solutions of these equations can be written down with the help of a GREEN'S function G as follows: $\Psi^{(n)}(\vec{r},u,\mu,\beta) = S^{(n-1)}(\vec{r},u_1,\mu_1,\beta_1)$ $G(\vec{r},\vec{r}_1,u,u_1,\mu,\mu_1,\beta,\beta_1)d\vec{r}_1 du_1 d\mu_1 d\beta_1$, where $S^{(-1)} = S$. The aforementioned series converges towards $\Psi - \Psi^{(o)}$ and a formula is given for the error. The GREEN'S function G satisfies the equation $\hat{L}\Psi^{o} = \sum_{\alpha} \hat{K}^{o}_{\alpha}\hat{B}_{\alpha}\Psi^{(o)} + S$, if one puts $S=\delta(r-r_1)\delta(u-u_1)\delta(\beta-\beta_1)$. If this equation is multiplied from the left with the operator L^{-1} and if GREENS function of the operator L is denoted with g, GREEN'S function can be put into the following shape in consideration of the boundary condition:

$$G = \sum_{\alpha}\int d\vec{r}' \, \hat{K}^{o}_{\alpha} \hat{B}_{\alpha} \, g(\vec{r},\vec{r}',\mu,\beta) \, G(\vec{r}',\vec{r}_1,u',u_1,\mu',\mu_1,\beta'\beta_1) +$$

$$+ g(\vec{r},\vec{r}_1,u,\mu,\beta)\,\delta(u-u_1)\,\delta(\mu-\mu_1)\,\delta(\beta-\beta_1).$$

The first part on the right side of this formula actually contains G^{o}, the

Žurn.eksp.i teor.fis,31,fasc.5,893-895 (1956) CARD 5 / 5 PA - 1774

sum of the first $\sum_{n=0}^{n_0} (2n+1)$ (in the onedimensional case of the (n_0+1)) spherical harmonics of the function G. Therefore determination of GREEN'S function is reduced to the determination of G^o by the method of spherical harmonics, i.e. to the solution of a system with a small number of integral equations. These integral equations can be solved by taking the dependence of λ and λ' on u into account. The GREEN'S function G as well as the functions $\Psi^{(o)}$ and $\Psi^{\alpha}(n)$ are then determined in finite form.
This is of particular importance for the computation of neutron distribution in media containing hydrogen (waster, mineral oil, etc.), because the convergence of the usually used development of the distribution function according to spherical functions in this case is bad.

INSTITUTION: Institute for Geophysical Prospecting Methods.
Ministry for the Mineral Oil Industry of the USSR

TEMKIN, A.Ya.

Method for the approximate solution of the neutron kinetic equation.
Prikl. geofiz. no.17:211-230 '57. (MIRA 11:2)
(Neutrons) (Prospecting--Geophysical methods)
(Nuclear geophysics)

ZAPOROZHETS, V.M., kandidat tekhnicheskikh nauk; TEMKIN, A.Ya.

Using charged particle accelerators in investigating oil wells. Priroda 46 no.1:79-81 Ja '57. (MLRA 10:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut geofizicheskikh methodov razvedki Ministerstva neftyanoy promyshlennosti SSSR, Moskva (for Temkin).
(Petroleum research)

ТЕМКИН, А. Я.

3(5,6) PHASE I BOOK EXPLOITATION SOV/2899

Vsesoyuznyy nauchno-issledovatel'skiy institut geofizicheskikh metodov razvedki

Prikladnaya geofizika; sbornik statey, vyp. 23 (Applied Geophysics; Collection of Articles, No.23) Moscow, Gostoptekhizdat, 1959. 242 p. 3,500 copies printed.

Ed.: N.K. Polshkov; Exec. Ed.: N.N. Kuz'mina; Tech. Ed.: A. S. Polosina.

PURPOSE: This book is intended for scientific, engineering, and technical personnel of industrial geophysical exploration services.

COVERAGE: This is a collection of 14 articles by various authors on aspects of geophysical exploration. The material treated in the articles may be divided into four categories: the physical properties of rocks in specific geological regions, methods and techniques used in industrial geophysical exploration, concepts in the theory of electrical exploration, and the economics involved in geophysical operations. Specifically, the authors discuss the geologic structures of the central parts of the Russian Platform, southwestern Turkmenia, the West Siberian Plains, the eastern part of the Siberian Platform, and the Minusinsk basins; electrical frequency sounding, neutron logging, gamma spectrometry techniques, and the standard equipment and installations of the geophysical services of the petroleum industry in the USSR. References accompany each article.

AVIALABLE: Library of Congress

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MM/bg
12-21-59

TEMKIN, A.Ya.

Some methods of solving problems in the theory of neutron logging. Prikl. geofiz. no.23:141-173 '59. (MIRA 13:1)
(Oil well logging, Radiation)

5 (4)

AUTHORS: Polak, L. S., Tomkin, A. Ya. SOV/20-125-3-13/65

TITLE: On the Theory of Radiation Chemistry (K teorii radiatsionnoy khimii)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 125, Nr 3, pp 584-587 (USSR)

ABSTRACT: The present paper deals with two problems: The taking into account of the interaction of the tracks and the method of approximate calculation of the quantity of the free radicals and final products of the (γ- and β-) radiolysis. The taking into account of the track structure, of its volume distribution and interaction is important for the investigation of the radiation-chemical reactions with low yields (~10 molecules per 100 ev). The reactions of chain character are by far less important. In the investigation of radiation-chemical reactions of non-chain character, (to which belong, for instance, the radiation cracking of hydrocarbons, some kinds of radiation polymerization, nitration, and many other reactions) high densities of the ionizing radiation must be applied in order to obtain a great yield of the final product per unit of time. High radiation densities,

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naturally, cause the interaction of the tracks. It is necessary, therefore, to take into account the mutual influence of the tracks of various ionizing particles if the density of the ionizing radiation is high. In this case the theory of radiation chemistry can be formulated as follows: It is necessary to find (for the instant of time t) the variation of the distribution of the ions and free radicals in the irradiated medium) which is caused by the formation of a track of given initial distribution of the ions and radicals in the instant of time $t_o = t - t'$. An equation for the time dependence of the density of the particles of the free radicals or ions is deduced. This equation, however, describes bimolecular reactions and does not take into account the possibility of secondary reactions. The authors then investigate some special cases: If a radiation of high density acts on polymers, there is nearly no diffusion of the polymer radical. In the case of reactions with yield of atomic hydrogen at high radiation densities the corresponding system of equations must contain an equation which describes the diffusion and various types of reactions of hydrogen atoms. The above-

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mentioned system of equations is then specialized and adapted for the case of low radiation densities, and the authors discuss a method for the approximate solution of this simplified system of equations. The formulae deduced then permit the computation of the number of free radicals and final products of the radiolysis. The method discussed in the present paper may be applied also to calculations by means of an electronic computer of discrete action. There are 3 references, 1 of which is Soviet.

ASSOCIATION: Institut neftekhimicheskogo sinteza Akademii nauk SSSR (Institute for Petroleum-chemical Synthesis of the Academy of Sciences USSR)

PRESENTED: December 11, 1958, by A. V. Topchiyev, Academician

SUBMITTED: December 10, 1958

TEMKIN, A.Ya.

Mechanism of the radiolysis of solid oxalic acid. Zhur. fiz. khim. 34 no. 11:2503-2505 N '60. (MIRA 14:1)

1. Akademiya nauk SSSR, Institut neftekhimicheskogo sinteza.
(Oxalic acid) (Radiation)

86397

S/020/60/135/002/028/036
B004/B056

S.4300 1142, 1273, 1297
24 6820 1043

AUTHOR: Temkin, A. Ya.

TITLE: Theory of Thermalization of Hot Hydrogen Atoms and Their Effect Upon the Dimer Yield in the Radiolysis of Alkanes

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 135, No. 2, pp. 373-376

TEXT: The present paper deals with the problem in which under the action of ionizing radiation upon gaseous organic substances part of the energy is converted into the kinetic energy of the fragments formed. In this case, kinetic energies may occur which are higher than the average energy of the thermal motion at the given temperature. In the radiolysis of alkanes, hot fragments, above all hot hydrogen atoms, will be formed. The action of these atoms upon the course of reaction is studied by an approximation method, the method of energy groups, suxh as is applied in the theory of slowing down and thermalization of neutrons. In the present case, i.e., the transition of hot H-atoms into thermal H-atoms, two kinds of particles

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Theory of Thermalization of Hot Hydrogen Atoms and Their Effect Upon the Dimer Yield in the Radiolysis of Alkanes

S/020/60/135/002/028/036
B004/B056

are concerned, which may go over into each other. For a track process the system of equation is written which describes the diffusion, recombination, formation of free radicals, and thermalization of hot H-atoms:

$$\partial n_i/\partial t = D_i \Delta n_i - \sum_{j=1}^{m} a_{ij} n_i n_j - a_{iH} n_i n_H + A_i n_h + S_i \quad (1a);$$

$$\partial n_h/\partial t = D_h \Delta n_h - \Lambda n_h + S_h \quad (1b); \quad \partial n_H/\partial t = D_H \Delta n_H - \sum_{i=1}^{m} a_{iH} n_i n_H$$

$$- a_{HH} n_H^2 + (\Lambda + \Lambda_H) n_h + S_H \quad (1c).$$

D_i is the diffusion coefficient of i-type radicals; a is the recombination coefficient of i- and j-radicals; S_i is the number of i-radicals formed by the ionizing particle per unit time and volume; A_i is the macroscopic cross section for the formation of an i-radical by the hot H-atom; Λ is the macroscopic cross section for the collisions of the hot atom with gas molecules, in which the hot atom becomes thermal; n_i is the density of i-radicals. The subscript h refers

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Theory of Thermalization of Hot Hydrogen Atoms and Their Effect Upon the Dimer Yield in the Radiolysis of Alkanes

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to hot, and the subscript H to thermal hydrogen atoms. If the terms $a_{iH}n_i n_H$ are neglected, only the system of equations (1a), (1b) need be studied. The following example is given: At the instant t_0 of the formation of the track at the point with the radius vector $\vec{r}_0$, hot atoms are formed. Within the sphere of radius R and with the same center, there are free radicals of a single type. The author develops a system of equations (2) for the dimer yield, using definitions taken from Ref. 3, which are not mentioned in this paper. If the intensity of radiation becomes so great that the tracks overlap and the reaction takes place within the entire volume, the group equations may be simplified. The following denotations are chosen: n_i: steady density of the hot atoms of energy E_i; N: number of molecules of the initial substance per unit volume; σ_i: elastic scattering cross section of the hot atom of the i-group from a molecule, the atom going over into the (i+1) group; σ_{ik}, σ_{ic}: summational cross sections for all nonelastic collisions of a hot atom of the i-group, which cause its transition to the k-group ($k > i$). The following relations are found:

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Theory of Thermalization of Hot Hydrogen Atoms and Their Effect Upon the Dimer Yield in the Radiolysis of Alkanes

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$$N(\sigma_i + \sum_{k=i+1}^{n} \sigma_{ik} + \sigma_{ic})n_i = N\left[\sigma_{i-1}n_{i-1} \sum_{k=1}^{i-1} \sigma_{ik}n_k\right] + S_i \quad (1 \leq i \leq m-1) \quad (3a);$$

$$N\sigma_{mc}n_m + a_{HH}n_m^2 + \sum_i a_{H\mu}n_m n_{R,\mu} = N(\sigma_{m-1}n_{m-1} + \sum_{k=1}^{m-1} \sigma_{mk}n_k) + S_m \quad (3b).$$

Herefrom, the equations for the elementary events $\rho^{(\alpha)}$ are derived, e.g., for the reaction H + M in which the H-atom vanishes, and for the reactions in which the hot atom passes from the i-group to the k-group. The author suggests to use this method of calculation when investigating the kinetics of processes in which hot molecules, radicals, or ions appear. He thanks L. S. Polak and N. Ya. Chernyak for discussions. There are 3 Soviet references.

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Theory of Thermalization of Hot Hydrogen Atoms and Their Effect Upon the Dimer Yield in the Radiolysis of Alkanes

S/020/60/135/002/028/036
B004/B056

ASSOCIATION: Institut neftekhimicheskogo sinteza Akademii nauk SSSR (Institute of Petrochemical Synthesis of the Academy of Sciences USSR)

PRESENTED: June 3, 1960 by A. V. Topchiyev, Academician

SUBMITTED: June 3, 1960

X

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S/081/62/000/004/006/087
B149/B101

AUTHOR: Temkin, A. Ya.

TITLE: Accounting of the action of hot atoms and molecules in radiochemical kinetics

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 4, 1962, 73, abstract 4B508 (Tr. Tashkentsk. konferentsii po mirn. ispol'zovaniyu atomn. energii, v. I, 1959. Tashkent, AN UzSSR, 1961, 195-200)

TEXT: Equations were obtained describing the kinetics of chemical reactions induced by the passage of fast charged particles through a gas. The equations in general form take into account the diffusion and disintegration of the primarily excited molecules as well as the diffusion and recombination of the secondary radicals. In order to find the critical values of parameters at which irradiation induces a chain development of the process, the equations were linearized. Further simplification of the system associated with brief irradiation and preferential dissociation, rather than excitation of molecules is also considered. [Abstracter's note: Complete translation.]

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TEMKIN, A. YA.

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SOV/6177

PHASE I BOOK EXPLOITATION

Akademiya nauk SSSR. Institut neftekhimicheskogo sinteza

Radioliz uglevodorodov; nekotoryye fiziko-khimicheskiye problemy (Radiolysis of Hydrocarbons; Some Physicochemical Problems) Moscow, Izd-vo AN SSSR, 1962. 207 p. Errata slip inserted. 5000 copies printed.

Resp. Eds.: A. V. Topchiyev, Academician, and L. S. Polak, Doctor of Physics and Mathematics; Ed.: L. T. Bugayenko; Tech Ed.: Ch. A. Zentsel'skaya.

PURPOSE: This book is intended for physical and industrial chemists interested in the properties and behavior of irradiated hydrocarbons.

COVERAGE: The book gives a systematic presentation of the results of research on the radiolysis of hydrocarbons carried out from 1957 through 1961 at the Laboratory of Radiation Chemistry, Institut neftekhimicheskogo sinteza AN SSSR (Institute of Petro-

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chemical Synthesis, Academy of Sciences USSR). Although the results were obtained for individual compounds, they may be generalized and applied to other members of the same homologous series. The following persons participated in making the experiments and in writing the text: V. G. Beryozkin, V. E. Glushnev, Yu. A. Kolbanovskiy, I. M. Kuntanovich, V. D. Popov, A. Ya. Temkin, V. D. Timofeyev, N. Ya. Chernyak, V. A. Shakhray, E. B. Shilikhter, A. S. Shcherbakova, B. M. Negodov, A. Z. Peryshkina, M. M. Rytova, T. A. Tegina, Yu. B. Emin, A. M. Brodskiy, V. V. Voyevodskiy, P. Ya. Glazunov, B. A. Smirnova, and Yu. L. Khait. References, mainly Soviet and English, follow individual chapters.

TABLE OF CONTENTS [Abridged]:

S/844/62/000/000/003/129
D290/D307

AUTHOR: Temkin, A. Ya.

TITLE: Application of the theory of multiple scattering of electrons in matter to the study of radiolysis mechanisms

SOURCE: Trudy II Vsesyuznogo soveshchaniya po radiatsionnoy khimii. Ed. by L. S. Polak. Moscow, Izd-vo AN SSSR, 1962, 34-37

TEXT: The case is considered of a source of fast electrons (energy E_0) that is uniformly distributed in an infinite homogeneous medium which only contains atoms of slow atomic number. The theory of multiple scattering of electrons in matter is used to show that the rates of production of singly-charged ions and excited molecules (S^+ and S^* respectively and the ratio S^*/S^+ all depend on E_0. Considering the effect of the addition of a small quantity of inhibitor, it is shown that the inhibition coefficient also depends on E_0. Che-

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mical effects of radiation will depend on the energy spectrum of the radiation as well as on absorbed dose. The multiple scattering theory can be used in more general cases, e.g. in inhomogeneous media.

ASSOCIATION: Institut neftekhimicheskogo sinteza AN SSSR (Institute of Petrochemical Synthesis, AS USSR)

43797

S/204/62/002/003/001/002
I032/I242

AUTHOR: Temkin, A. Ya.

TITLE: Contribution to the theory of the radiation polymerization of clathrate inclusion compounds

PERIODICAL: Neftekhimiya, v. 2, no. 3, 1962, 324–331

TEXT: The kinetics of radiation-induced polymerization of inclusion compounds is analysed theoretically. The dependence of the average molecular weight of the polymer on the duration of irradiation is calculated for two cases: (a) when the growth of the polymer chain proceeds from the point of initiation in both directions along the channel; and (b) when growth of the chain takes place in one direction only. Comparison with previously reported experimental results indicates that the growth of polymer chains from the point of initiation proceeds in one direction only, and that the observed decrease of average molecular weight of the polymer with duration of irradiation must be due to the fact that long channels, essential for growth of long polymer chains become more and more scarce as polymerization proceeds. In order to decide with greater certainty how polymerization proceeds, a small known amount of foreign molecules, that stop chain growth but are otherwise inactive, should be allowed during polymerization. Then the final average molecular weight of the

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polymer will depend on the concentration of these inactive molecules in different ways, according to whether polymerization proceeds in both directions or in one only.

ASSOCIATION: Institut neftekhimicheskogo sinteza AN SSSR (Institute for Petrochemical Synthesis AS USSR)

SUBMITTED: May 4, 1962

GUBERMAN, Sh.A.; TEMKIN, A.Ya.

Two abstracts in "Referativnyi sbornik" (Series on petroleum). Izv. AN SSSR. Ser. geofiz. no.6:951-952 Je '63. (MIRA 16:7)
(Oil well logging, Radiation)

BRODSKIY, A.M.; TEMKIN, A.Ya.

On the resonance theory of chemical reaction rates. Dokl. AN SSSR 152 no.1:127-130 S '63. (MIRA 16:9)

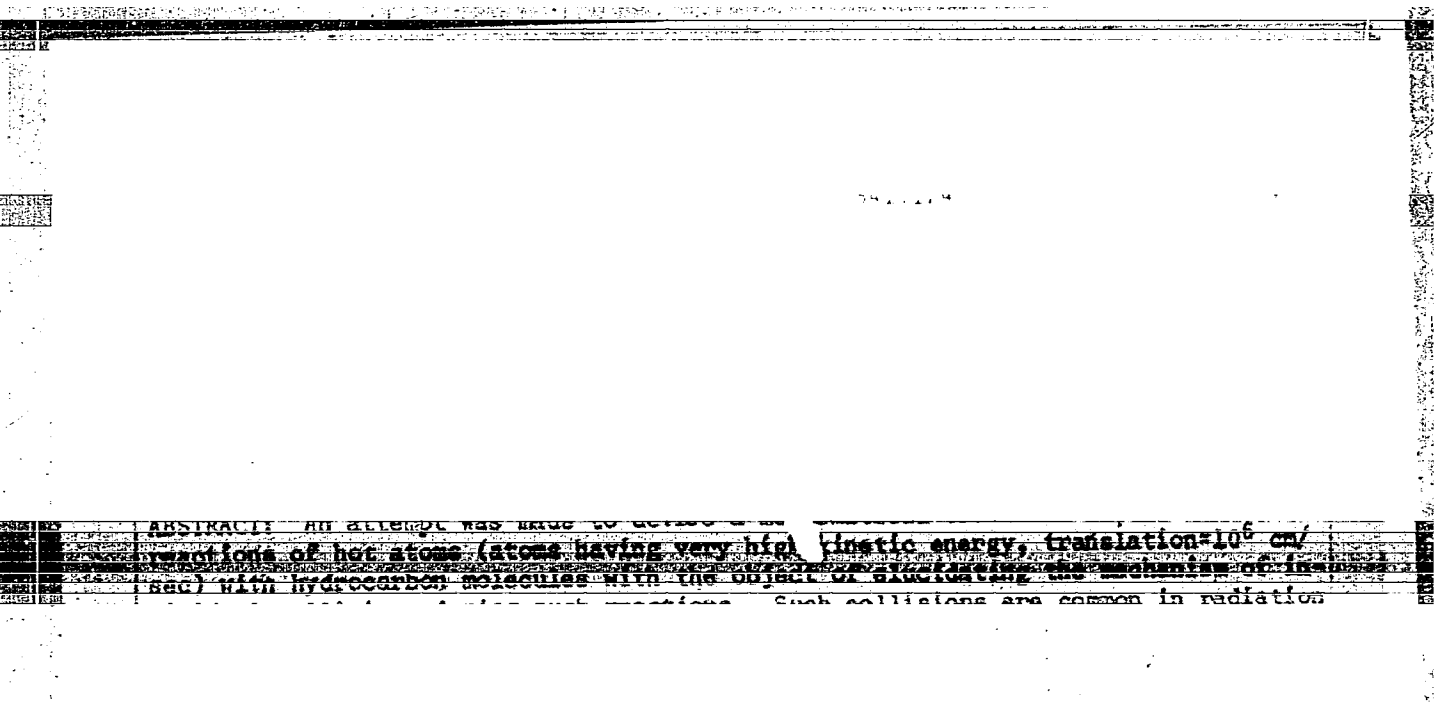
1. Institut neftekhimicheskogo sinteza AN SSSR. Predstavleno akademikom Ya.B.Zel'dovichem.

(Chemical reaction, Rate of)

ALEKSANDROV, A.Yu.; DORFMAN, Ya.G.; LEPENDINA, O.L.; MITROFANOV, K.P.; PLOTNIKOVA, M.V.; POLAK, L.S.; TEMKIN, A.Ya.; SHPINEL', V.S.

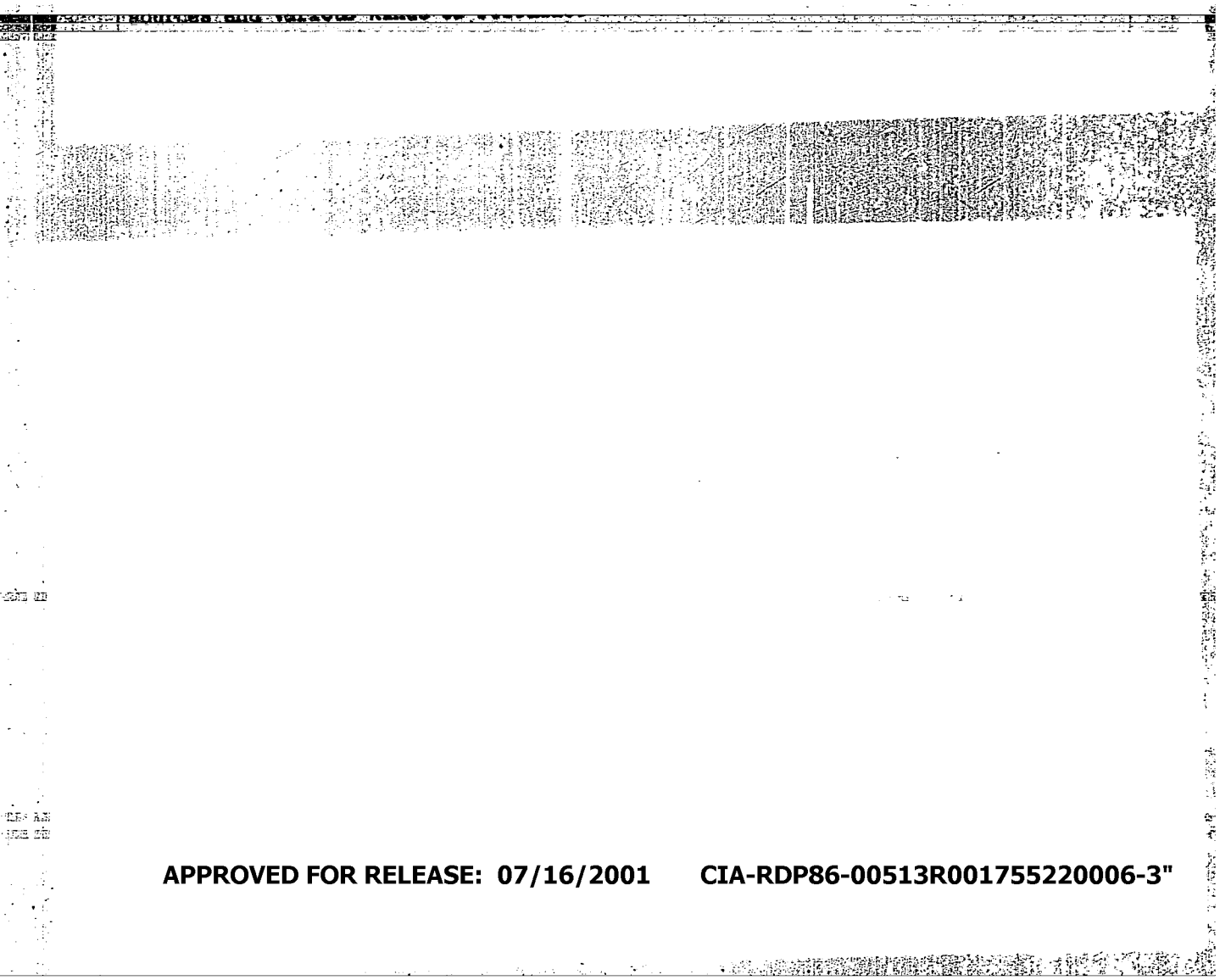
Resonance absorption spectra of γ-quanta and the magnetic susceptibility of solutions of some organotin compounds. Zhur. fiz. khim. 38 no.9:2190-2197 S '64. (MIRA 17:12)

1. Institut neftekhimicheskogo sinteza AN SSSR i Institut yadernoy fiziki Moskovskogo gosudarstvennogo universiteta.



ABSTRACT: An attempt was made to derive a ... reactions of hot atoms (atoms having very high kinetic energy, translation=10^6 cm/sec) with hydrocarbon molecules with the object of ... Such collisions are common in radiation

APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R001755220006-3"



TEMKIN, B.I.

"Study load and changes in the nervous activity of pupils during the school day."

report submitted at the 13th All-Union Congress of Hygienists, Epidemiologists and Infectionists, 1959.

TEMKIN, B. I.

Experience from teaching school hygiene in the pedagogic institute. Gig. i san. no.11:35-37 N '54. (MLRA 7:12)

1. Iz Kuybyshevskogo pedagogicheskogo instituta imeni V.V.Kuybysheva.
(HEALTH, education
in Russia, pedagogic institute)
(HYGIENE
school hyg. teaching in Russia, pedagogi, institute)

TEMKIN, B.I., dots.

Hygienic significance of workshop classes in daily school schedule [with summary in English]. Gig.i san. 23 no.8:34-36 Ag '58 (MIRA 11:9)

1. Iz Kuybyshevskogo pedagogicheskogo instituta imeni V.V. Kuybysheva.
(EDUCATION,
hyg. aspects of workshop classes (Rus))

TEMKIN, B.I.

Effect of work classes on the functional state of the nervous system in school children. Uch. zap. Mosk. nauch.-issl. inst. san. i gig. no.2:19-21 '59 (MIRA 16:11)

1. Kuybyshevskiy pedagogicheskiy institut imeni V.V.Kuybysheva.

*

TEMKIN, B.I.

Changes in the basal metabolism of schoolchildren during vacation at Pioneer camps. Pediatriia 37 no.7:87 Jl '59. (MIRA 12:10)

1. Iz Kuybyshevskogo pedagogicheskogo instituta imeni Kuybysheva.
(METABOLISM)

TEMKIN, B.I., dotsent

Changes in the muscle tone in school children during work assignments. Gig.i san. 25 no.7:99-100 Jl '60. (MIRA 14:5)

1. Iz Kuybyshevskogo pedagogicheskogo instituta imeni V.V. Kuybysheva. (MUSCLES) (SCHOOL CHILDREN)

TEMKIN, B.I., dotsent

Hygienic characteristics of the curriculum of schools with an 11-year course, and ways of making it more effective. Pediatriia no.6:25-29 '61. (MIRA 14:9)

1. Iz Kuybyshevskogo pedagogicheskogo instituta imeni V.V. Kuybysheva.

(SCHOOL HYGIENE)

TEMKIN, B.I., dotsent

Schedule and workload for pupils in the higher grades in industrial education. Gig. i san. 26 no.7:40-45 Jl '61. (MIRA 15:6)

1. Iz Kuybyshevskogo pedagogicheskogo instituta imeni V.V. Kuybysheva.
(VOCATIONAL EDUCATION--HYGIENIC ASPECTS)

TEMKIN, B.I.

Changes in the higher nervous activity in students vacationing in Pioneer camps. Vop.kur., fizioter.i lech.fiz.kul't. 27 no.2:128-130 Mr-Ap '62. (MIRA 15:11)

1. Iz Kuybyshevskogo pedagogicheskogo instituta imeni V.V. Kuybysheva.

(CONDITIONED RESPONSE) (CAMPING)

TEMKIN, B.I., dotsent

Functional body changes in boarding school pupils during lessons at the school. Pediatriia 42 no.6:40-45 Je'63 (MIRA 17:1)

1. Kuybyshevskiy pedagogicheskiy institut imeni V.V.Kuybysheva.

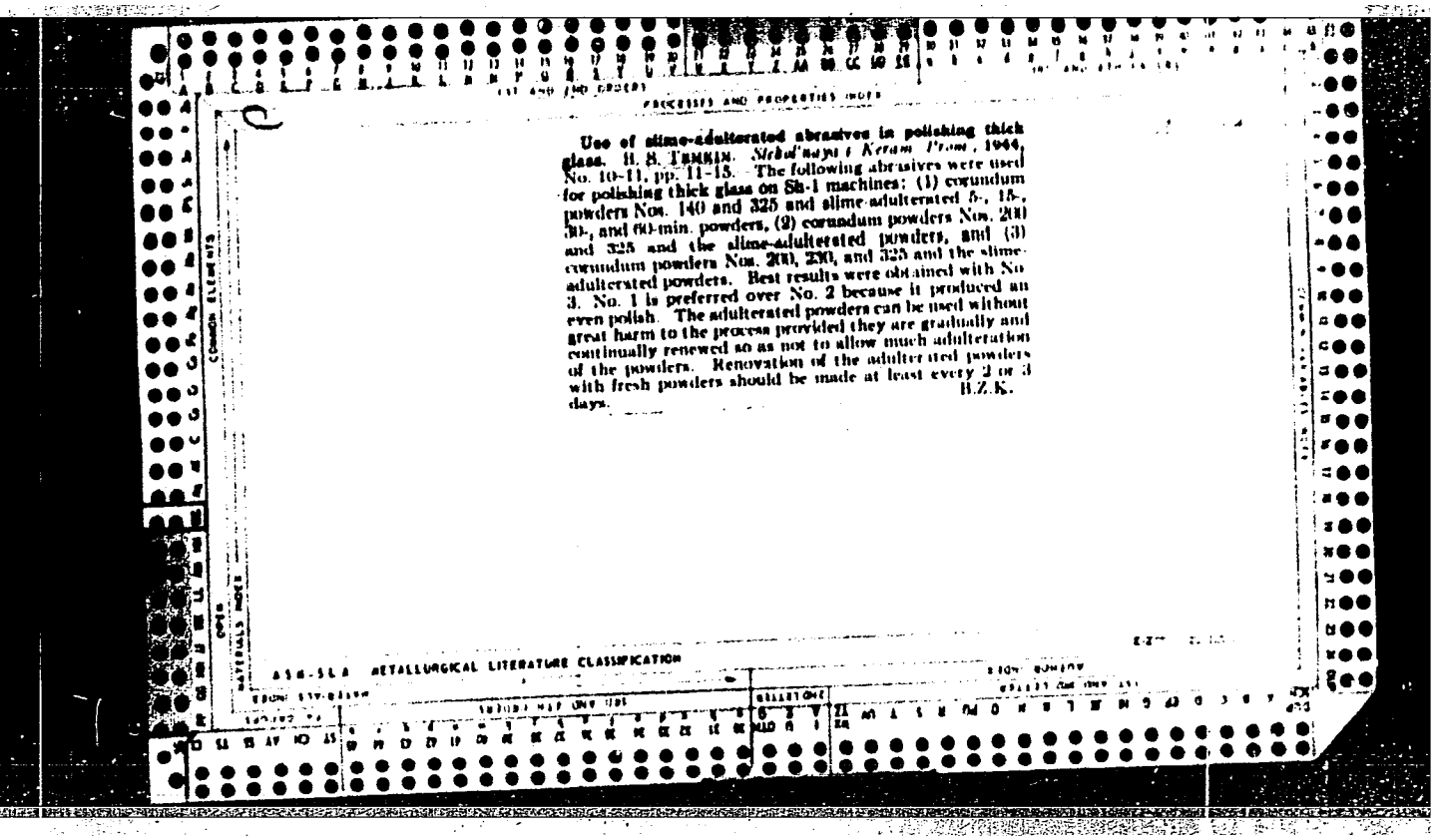
A E.S.

Geology

Dolomite flour of Shigulev origin. B. S. TAMKIN. *Stekol'naya Prom.*, 1940, No. 2, 9–10; *Chem. Zentr.*, 1940, II, 1341; *Chem. Abs.*, 36, 4681 (1942).—A report on the chemical composition and geologic conditions of a flourlike dolomitic mass in a very extensive deposit of Shigulev is presented. It contains R_2O_3 0.09 to 1.8, CaO 30 to 32, and Mg 20 to 21.8%. The material is so fine that it can be used without further grinding in the glass industry. It was tested and found a desirable raw material.

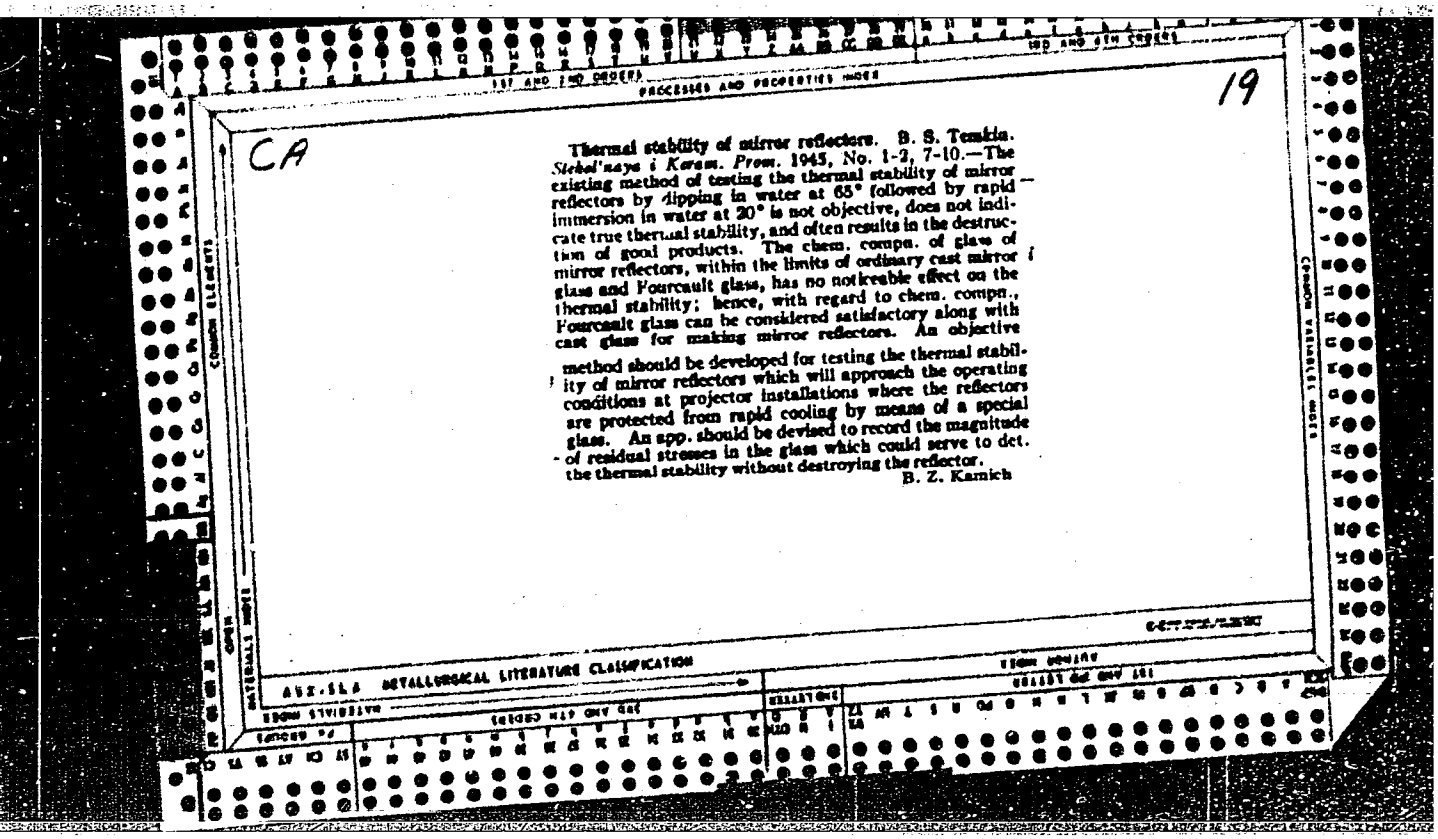
A.C.S.

Reconstruction of spindle grinding-polishing tables SP-600. H. S. Tuskin. *Steklo i Keram. Prom.*, 1944, No. 7/8, pp. 13–16.—The inovable parts of these polishing tables were quickly put out of commission because of the nature of their construction. This caused vibration and wobbling, which reflected adversely on the product. The gears, drives, bearings, etc., of the tables were completely redesigned, resulting in durable and uniform performance.
M.Ho.



Use of slime-adulterated abrasives in polishing thick glass. B. S. TEMKIN. *Steklo i Keram Prom.*, 1944, No. 10-11, pp. 11-15. The following abrasives were used for polishing thick glass on Sh-1 machines: (1) corundum powders Nos. 140 and 325 and slime-adulterated 5-, 15-, 30-, and 60-min. powders, (2) corundum powders Nos. 200 and 325 and the slime-adulterated powders, and (3) corundum powders Nos. 200, 230, and 325 and the slime-adulterated powders. Best results were obtained with No. 3. No. 1 is preferred over No. 2 because it produced an even polish. The adulterated powders can be used without great harm to the process provided they are gradually and continually renewed so as not to allow much adulteration of the powders. Renovation of the adulterated powders with fresh powders should be made at least every 2 or 3 days.

B.Z.K.

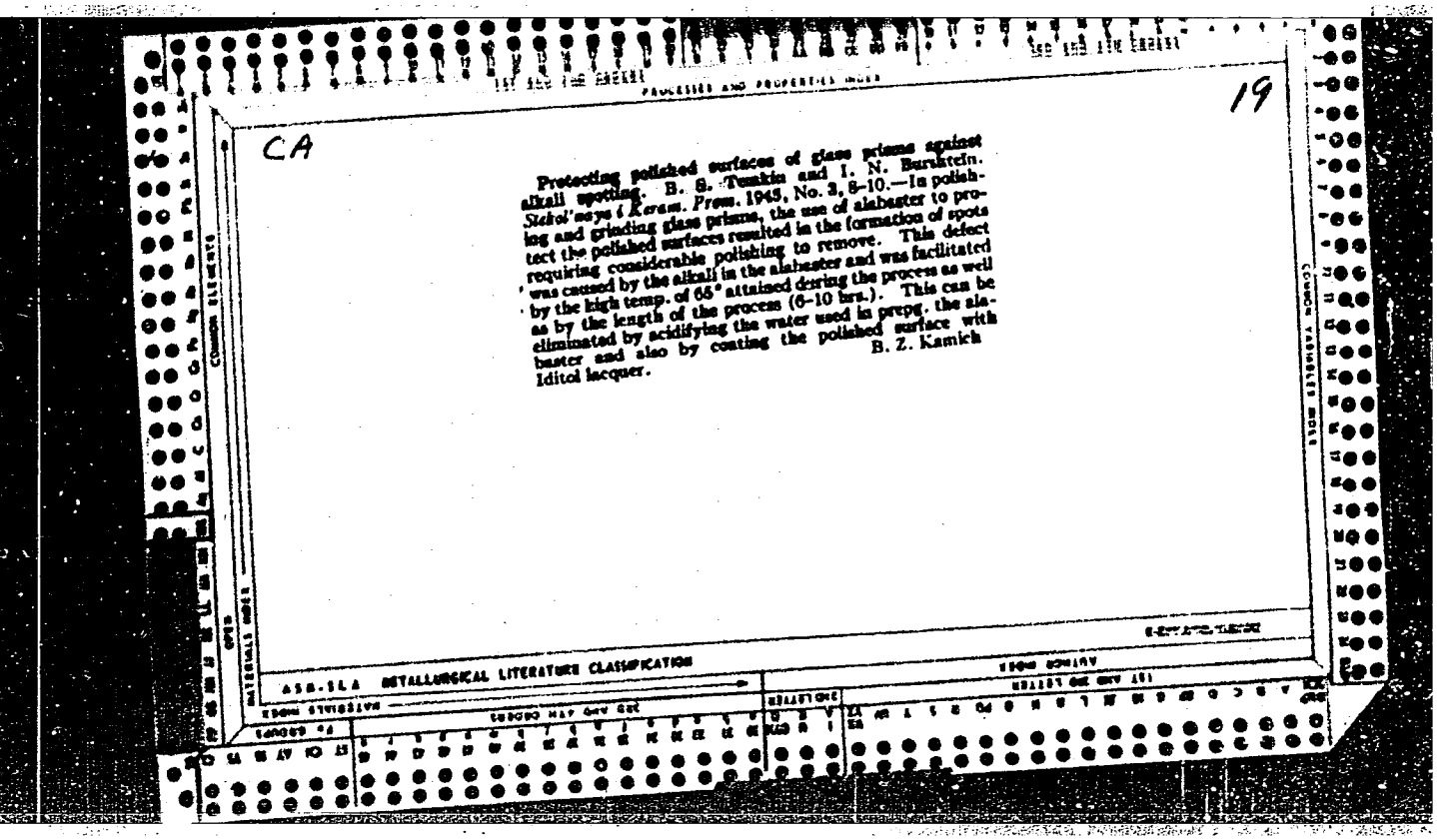


19

CA

Thermal stability of mirror reflectors. B. S. Temkin. *Stekol'naya i Keram. Prom.* 1945, No. 1-2, 7-10.—The existing method of testing the thermal stability of mirror reflectors by dipping in water at 65° followed by rapid immersion in water at 20° is not objective, does not indicate true thermal stability, and often results in the destruction of good products. The chem. compn. of glass of mirror reflectors, within the limits of ordinary cast mirror glass and Foucault glass, has no noticeable effect on the thermal stability; hence, with regard to chem. compn., Foucault glass can be considered satisfactory along with cast glass for making mirror reflectors. An objective method should be developed for testing the thermal stability of mirror reflectors which will approach the operating conditions at projector installations where the reflectors are protected from rapid cooling by means of a special glass. An app. should be devised to record the magnitude of residual stresses in the glass which could serve to det. the thermal stability without destroying the reflector.

B. Z. Kamich



19

CA

Protecting polished surfaces of glass prisms against alkali spotting. B. S. Tenkin and I. N. Bernshtein. *Steklo i Keram. Prom.* 1945, No. 3, 8–10.—In polishing and grinding glass prisms, the use of alabaster to protect the polished surfaces resulted in the formation of spots requiring considerable polishing to remove. This defect was caused by the alkali in the alabaster and was facilitated by the high temp. of 65° attained during the process as well as by the length of the process (6–10 hrs.). This can be eliminated by acidifying the water used in prepg. the alabaster and also by coating the polished surface with Iditol lacquer.

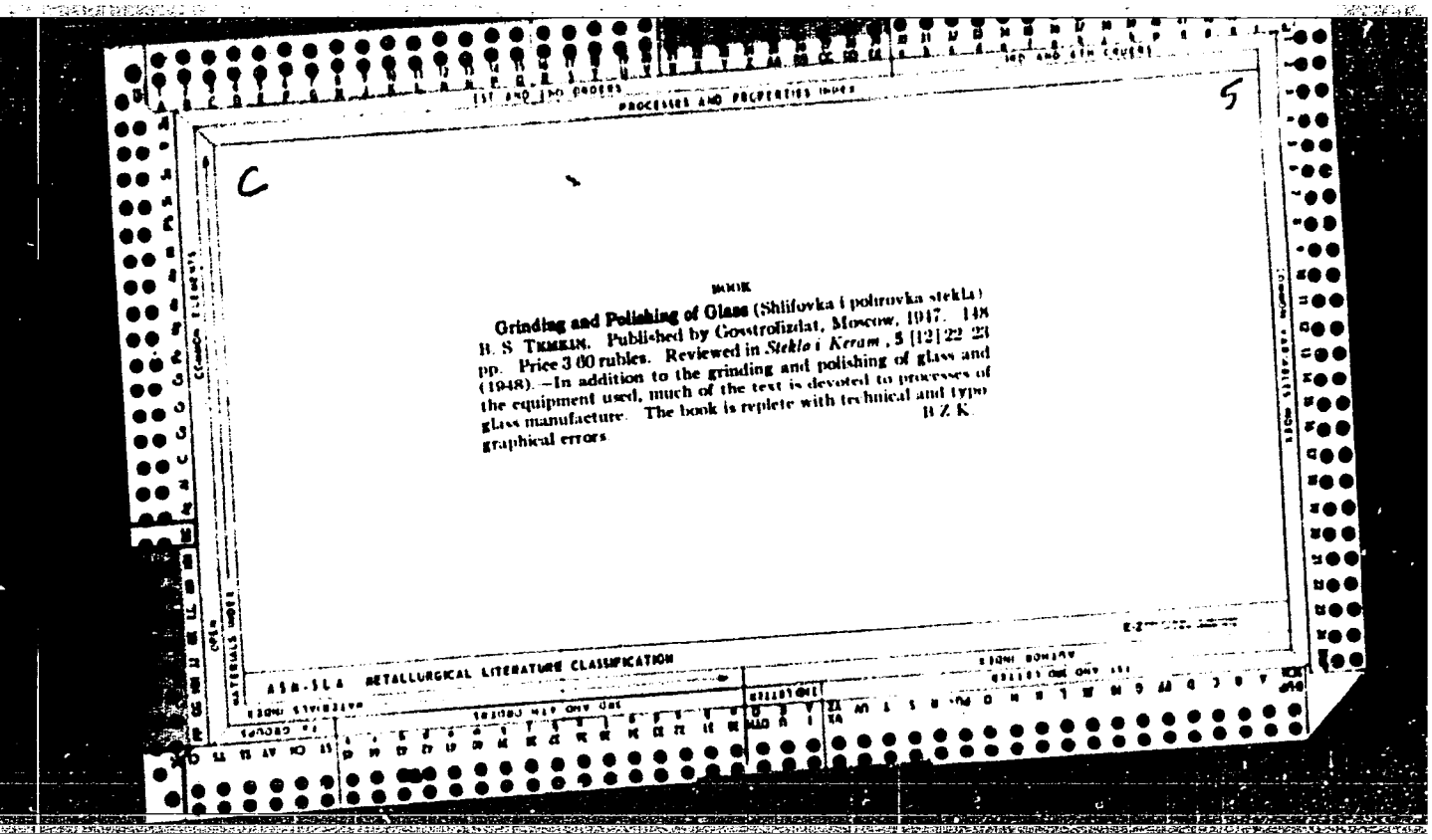
B. Z. Kamich

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

TEMKIN, B. S. Cand. Tech. Sci.

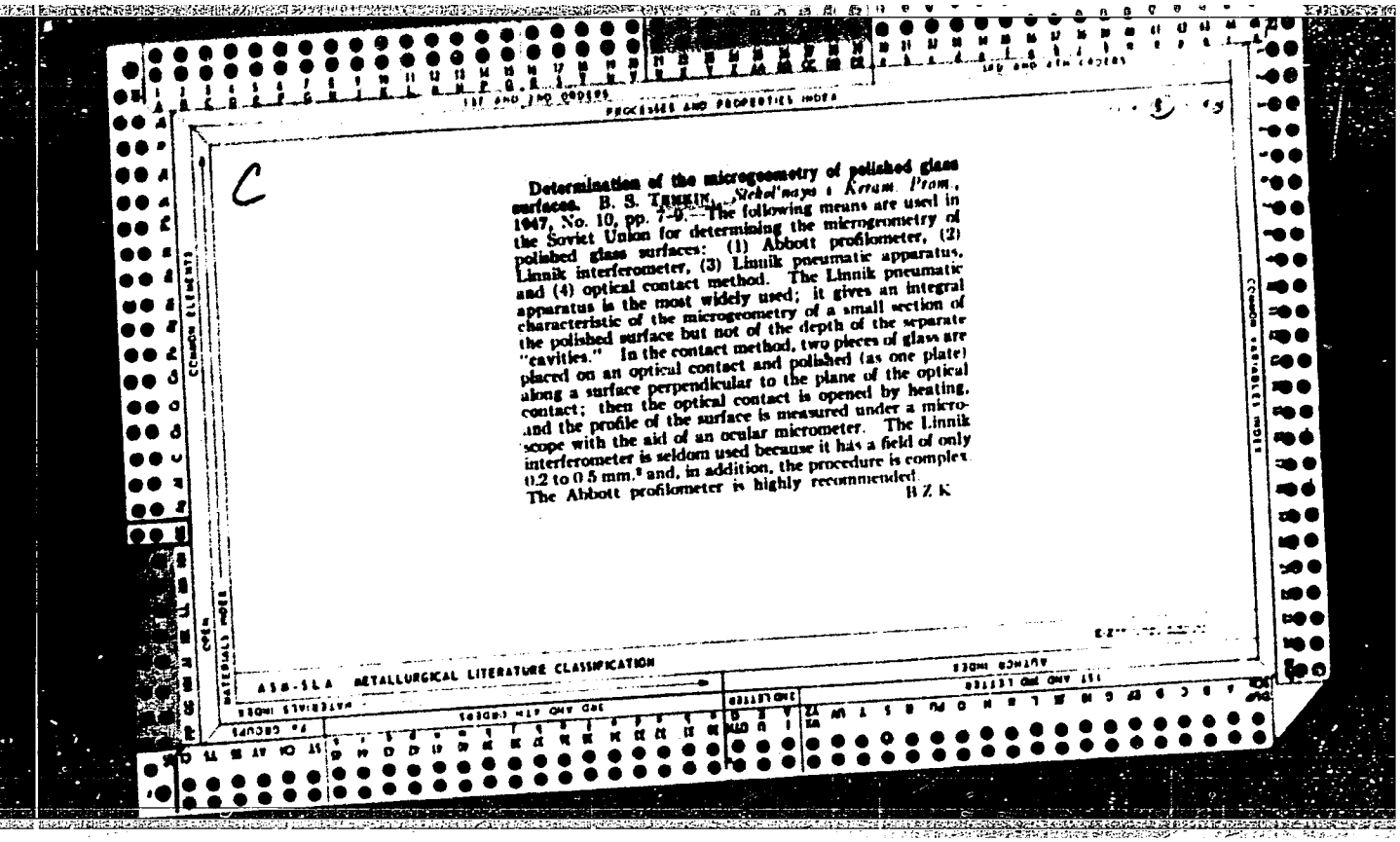
Dissertation: "Peculiarities of the Effect of Chalk and Cyrene Slime on the Process of Glass Grinding." All-Union Sci Res Inst of Glass, 12 Mar 47.

SO: Vechernyaya Moskva, Mar, 1947 (Project #17136)



BOOK

Grinding and Polishing of Glass (Shlifovka i polirovka stekla) B. S. TIKHKIN. Published by Gosstrofizdat, Moscow, 1947. 148 pp. Price 3.60 rubles. Reviewed in *Steklo i Keram.*, 5 [12] 22–23 (1948).—In addition to the grinding and polishing of glass and the equipment used, much of the text is devoted to processes of glass manufacture. The book is replete with technical and typographical errors. B.Z.K.



C

Determination of the microgeometry of polished glass surfaces. B. S. TERKIN. *Steklo i Keram. Prom.*, 1947, No. 10, pp. 7-9.—The following means are used in the Soviet Union for determining the microgeometry of polished glass surfaces: (1) Abbott profilometer, (2) Linnik interferometer, (3) Linnik pneumatic apparatus, and (4) optical contact method. The Linnik pneumatic apparatus is the most widely used; it gives an integral characteristic of the microgeometry of a small section of the polished surface but not of the depth of the separate "cavities." In the contact method, two pieces of glass are placed on an optical contact and polished (as one plate) along a surface perpendicular to the plane of the optical contact; then the optical contact is opened by heating, and the profile of the surface is measured under a microscope with the aid of an ocular micrometer. The Linnik interferometer is seldom used because it has a field of only 0.2 to 0.5 mm.² and, in addition, the procedure is complex. The Abbott profilometer is highly recommended.

B Z K

Production of Polished Glass (Proizvodstvo polirovannogo stekla) B. S. Tsukin. Promstroiizdat, Moscow, 1950. 323 pp. Price R 14.60. Reviewed in *Steklo i Keram.*, 9 [10] 23-24 (1952). The book covers problems in making sheet glass, methods of casting and rolling, grinding and polishing of sheet glass, laboratory control, polishing and grinding equipment, and methods of calculation. The book reflects contemporary progress both in the Soviet Union and in foreign countries. B.Z.K.

POTOTSKAYA, G.V.; TEMKIN, B.S., nauchnyy redaktor; LITVAKOVSKIY, A.A., redaktor; DVORNIKOVA, N.I., tekhnicheskiy redaktor

[Production control in glass works manufacturing industrial glass] Kontrol' produktsii na zavodakh tekhnicheskogo stekla. Moskva, Gos. izd-vo lit-ry po stroit. materialam, 1953. 170 p. (MLRA 7:10) [Microfilm]

(Glass manufacture)

TEMKIN, B.S.; kandidat technicheskikh nauk.

Ways for further development of the mirror industry. Leg.prom. 14 no.12:10-12 D '54. (MLRA 8:2)
(Mirrors)(Glass manufacture)

TEMKIN, B.S., kandidat tekhnicheskikh nauk; YUZHNAYA, Ye.A., redaktor; MEL'NIKOVA, N.V., tekhnicheskiy redaktor

[Mass production of mirrors] Proizvodstvo zherkal shirokogo potrebleniia. Moskva, Gos. izd-vo mestnoi promyshlennosti RSFSR, 1956. 175 p. (MLRA 9:12)
(Mirrors)

TEMKIN, Boris Semenovich; GURENKOV, V.N., nauchnyy red.; GRINBERG, S.M., red.; GILENSON, P.G., tekhn.red.

[Designing processes for assembly-line grinding and pulishing of sheet glass] Raschety protsessov konveiernogo shlifovaniia i polirovaniia listovogo stekla. Moskva, Gos. izd-vo lit-ry po stroit.materialam, 1957. 61 p. (MIRA 11:6)
(Grinding and polishing) (Glass)

TMKIN, B.S.

Selecting methods for planning automatic flow lines in manufacturing polished glass. Stek. i ker. 17 no.6:19-22 Je '60. (MIRA 13:6)

(Glass manufacture) (Conveying machinery)

KITAYGORODSKIY, I.I., doktor tekhn. nauk, prof.; KACHALOV, N.N., prof.; VARGIN, V.V., doktor tekhn. nauk, prof.; YEVSTROP'YEV, K.S., doktor tekhn. nauk, prof.; GINZBURG, D.B., doktor tekhn. nauk, prof.; ASLANOVA, M.S., doktor tekhn. nauk, prof.; GURFINKEL', I.Ye., inzh.; ZAK, A.P., kand. tekhn. nauk; KOTLYAR, A.Ye., inzh.; PAVLUSHKIN, N.M., doktor tekhn. nauk, prof.; SENTYURIN, G.G., kand. tekhn. nauk; SIL'VESTROVICH, S.I., kand. tekhn. nauk, dots.; SOLINOV, F.G., kand. tekhn. nauk; SOLOMIN, N.V., doktor tekhn. nauk, prof.; TEMKIN, B.S., kand. tekhn. nauk; GLADYSHEVA, S.A., red. izd-va; TEMKINA, Ye.L., tekhn. red.

[Glass technology] Tekhnologiia stekla. Izd.3., perer. Moskva, Gos. izd-vo lit-ry po stroit., arkhit. i stroit. materialam, 1961. 622 p. (MIRA 14:10)

1. Chlen-korrespondent AN SSSR (for Kachalov).
(Glass manufacture)

TEMKIN, Boris Semenovich; KITAYGORODSKIY, I.I., doktor tekhn. nauk, prof., retsenzent; NOVIKOVA, A.F., retsenzent; SULIMENKO, M.V., retsenzent; DUKHOVNYY, F.N., red.; SHAPENKOVA, T.A., tekhn.red.

[Technology of glass and glass products] Tekhnologiia stekla i stekloizdelii. Moskva, Rostekhizdat, 1962. 458 p. (MIRA 16:3)

(Glass)

BEREZHNOY, A.I.; BRODSKIY, Yu.A.; BRONSHTEYN, Z.I.; VEYNBERG, K.L.; GALDINA, N.M.; GLETMAN, B.A.; GINZBURG, D.B.; GUTOP, V.G.; GUREVICH, L.R.; DAUVAL'TER, A.N.; YEGOROVA, L.S.; KOTLYAR, A.Ye.; KUZYAK, V.A.; MAKAROV, A.V.; POLLYAK , V.V.; POPOVA, E.M.; PRYANISHNIKOV, V.P.; SENTYURIN, G.G.; SIL'VESTROVICH, S.I., kand. tekhn. nauk, dots.; SOLOMIN, N.V.; TEMKIN, B.S.; TYKACHINSKIY, I.D.; SHIGAYEVA, V.F.; SHLAIN, I.B.; EL'KIND, G.A.[deceased]; KITAYGORODSKIY, I.I., zasl. deyatel' nauki i tekhniki RSFSR, doktor tekhn. nauk, prof., red.; GOMOZOVA, N.A., red.izd-va; KOMAROVSKAYA, L.A., tekhn. red.

[Handbook on glass manufacture] Spravochnik po proizvodstvu stekla. [By] A.I.Berezhnoi i dr. Pod red. I.I.Kitaigorodskogo i S.I.Sil'vestrovicha. Moskva, Gosstroiizdat. Vol.2. 1963. 815 p. (MIRA 16:12)

(Glass manufacture)

TEMKIN, Boris Semenovich; BARKAN, Ye.Kh., retsenzent; IOFINOVA, T.B., red.

[Repair and manufacture of mirrors for consumers' use] Remont i proizvodstvo bytovykh zerkal. Moskva, Legkaia industriia, 1965. 117 p. (MIRA 18:4)

L 40318-66 EWT(d)/EWT(m)/EWP(v)/T WW/RM/WH/AT

ACC NR: AP6005335 SOURCE CODE: UR/0413/66/000/001/0072/0072

INVENTOR: Katler, S. M.; Alekseyev, Yu. Ye.; Belinskiy, S. M.; Temkin, B. Ya.

ORG: none

TITLE: Device for activation and maintenance of an a-c welding arc. Class 21, No. 177574 [announced by the All-Union Scientific Research Institute for Electric Welding Equipment (Vsesoyuznyy nauchno-issledovatel'skiy institut elektrosvarochnogo oborudo aniya)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 1, 1966, 72

TOPIC TAGS: ~~arc activation~~, arc welding ~~arc~~, ~~arc maintenance~~, ~~ac~~ welding arc equipment

ABSTRACT: An Author Certificate has been issued describing a device for activating and maintaining an a-c arc generating one pulse per cycle or half cycle of voltage from the welding-arc power source; it also contains a storage battery, a commutator, a control block. In order to phase the pulse against the shape of the voltage curve on ne

UDC: 621.791.75—503.51

Card 1/2

ACC NR: AP6005335

arc gap, the control block contains a series-connected resistor-bridged capacitor, a resistor, and a unilaterally conducting element all connected in parallel to the arc gap, with the commutator input circuit connected in parallel to the element. A grid circuit and a thyratron cathode serve as the unilaterally conducting element (see Fig. 1). Orig. art. has: 1 figure.

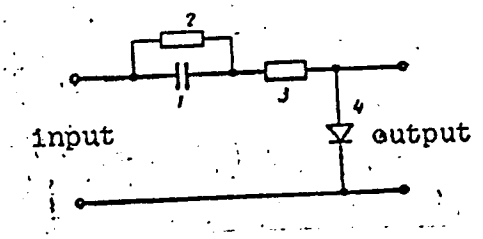


Fig. 1. Device for activation and maintenance of an a-c welding arc. 1— capacitor; 2—resistor bridge; 3—resistor; 4— unilateral conducting element

[LD]

SUB CODE: 13/ SUBM DATE: 11Feb64

Card 2/2 MLP

BORISOV, V.T.; LYUBOV, B.Ya.; TEMKIN, D.Ye.

Calculation of the kinetics of solidification of metal ingots under various surface temperature conditions. Dokl.AN SSSR 104 no.2:223-226 S '55. (MLRA 9:2)

1.Institut metallovedeniya i fiziki metallov TSentral'nogo nauchno-issledovatel'skogo instituta chernoy metallurgii. Predstavleno akademikom G.V. Kurdyumovym.
(Solidification) (Steel ingots)

TEMKIN, D.Ye.; TEUMIN, I.I.

Method of longitudinal oscillations for determining the coefficient of internal viscosity. Zav. lab. 22 no.12: 1448-1451 '56. (MLRA 10:2)

1. TSentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii.
(Viscosity) (Deformations (Mechanics))

TEMKIN, D. YE.

137-1958-2-2366

Translation from: Referativnyy zhurnal. Metallurgiya, 1958. Nr 2. p 23 (USSR)

AUTHORS: Dobrovenskiy, V.V., Temkin D.Ye.

TITLE: How to Control Automatically the Growth of Single Crystals From a Melt by Means of Pulling With a Calculated Assignment of Input Parameters (K voprosu ob avtomaticheskom regulirovanii protsessa vyrashchivaniya monokristallov iz rasplava metodom vytyagivaniya s raschetnym zadaniyem vkhodnykh parametrov)

PERIODICAL: V sb.: Rost kristallov. Moscow, AN SSSR, 1957, pp 345-350

ABSTRACT: Solving the equation for the thermal conductivity of a crystal being grown from a melt following the Chokral'skiy method, there being no radiation in the system of coordinates (which was stationary with respect to the solid phase), the A's arrived at the conclusion that the job of regulating an established crystallization process could be reduced to the task of controlling the temperature T_x of the upper end of a rod (the crystal) which is in contact with a cooler. A block diagram of an automatic control for T_x is given. The diagram indicates how the scheduled variations in the master e.m.f. were produced and how the difference between the e.m.f. of a thermocouple placed at the cooler and the master e.m.f. was transmitted

Card 1/2

137-1958-2-2366

How to Control Automatically the Growth of Single Crystals (cont.)

to a galvanometer; it shows also that the galvanometer was equipped with a photoelectric relay which was activated by any deviation, and it shows the amplifier and the actuating motor used to regulate the amount of water fed into the cooler.

Yu.Sh.

1. Crystals--Growing 2. Crystals--Thermal conductivity 3. Crystals--Mathematical analysis

Card 2/2