Electrical Theory of Ozonizers. VII. The Effect of the Formation of Ozone on the Current-voltage of Ozonizers

S/076/60/034/05/24/038
B010/B002

voltage of the ozonizer. This may be explained by a successive propagation of the discharge on the surface of the electrode. The active capacity of the ozonizer may be calculated with sufficient accuracy if the dependence of the burning voltage of the discharge on the ozone concentration and the change in the effective capacity of the barrier of the ozonizer are taken into account. There are 4 figures, 3 tables, and 9 references: 5 Soviet, 2 German, and 2 Swiss.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova (Moscow State University imeni M. V. Lomonosov)

SUBMITTED: July 21, 1958

Card 2/2

S/076/60/034/05/37/038
B010/B003

AUTHORS: Vendillo, V. P., Yemel'yanov, Yu. M., Filippov, Yu. V.

TITLE: Calculation of Laboratory Ozonizers

PERIODICAL: Zhurnal fizicheskoy khimii, 1960, Vol. 34, No. 5, pp. 1145-1147

TEXT: The electrical theory of ozonizers (Ref. 3) and experimental results on the kinetics of the ozone synthesis obtained in the laboratoriya kataliza i gazovoy elektrokhimii MGU (Laboratory of Catalysis and Gas Electrochemistry of MSU) permit the calculation of ozonizers having the necessary capacity for a certain concentration of ozone. The calculation method described is suitable for any ozonizer. Proceeding from the curves of dependence (Fig. 1) for the concentration of ozone on the factor u/v (u = capacity of the ozonizer, v = consumption of gas) the equations for the calculation of ozonizers are derived. The calculation method is illustrated by an example. It is recommended to use a working voltage of 8-9 kv. For feeding the ozonizer, machine generators

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Calculation of Laboratory Ozonizers

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B010/B003

or vacuum-tube generators of different types may be used (ЗГ-2А (ZG-2A), ЗГ-10 (ZG-10), ЗГ-11 (ZG-11), and others) along with the corresponding amplifiers (У-300 (U-300), У-500 (U-500), У-600 (U-600), and ТУ-5 (TU-5)). In order to raise the voltage (to 8-9 kv), transformers of the types НОМ-10 (NOM-10), ОМ-0.5/10 (OM-0.5/10), and ОС-5/10 (OS-5/10) may be used. The voltage may be regulated by laboratory autotransformers of the types ЛАТР-1 (LATR-1) and ЛАТР-2 (LATR-2). The transformer operation may be controlled by means of kilovoltmeters of the types С-96 (S-96) and ВКС-7Б (VKS-7b), voltage dividers of the types АНЕ-1 (DNYe-1) and АНЕ-2 (DNYe-2), or by means of milliammeters with rectifiers (of the types Ц-312 (Ts-312) and Ц-41 (Ts-41) and others). There are 2 figures and 4 Soviet references.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova (Moscow State University imeni M. V. Lomonosov)

SUBMITTED: September 30, 1959

Card 2/2

S/076/60/034/012/024/027
B020/B067

AUTHORS: Yemel'yanov, Yu. M., Filippov, Yu. V.

TITLE: Equivalent Electric Circuit of Ozonizers (Reply to the Article by V. V. Yastrebov "On the Problem of an Equivalent Electric Circuit of Ozonizers")

PERIODICAL: Zhurnal fizicheskoy khimii, 1960, Vol. 34, No. 12, pp. 2841-2843

TEXT: In the article by V. V. Yastrebov (Ref. 1) a number of objections are made to the equivalent electric circuit of the ozonizer. A new equivalent ozonizer circuit is suggested which consists of an electric system of three series-connected condensers, the central one of which is shunted by two thyrotrons and a resistor. The authors point to the fact that V. V. Yastrebov has not observed the principal difference between the equivalent circuit of the apparatus and its model. The equivalent circuit should be a combination of simple elements of the electric system which in the calculations replaces part of the actual electric system. Furthermore, it replaces any device only as source or consumer of electric

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energy, it can, however, not be regarded as its model. The equivalent circuit suggested corresponds to these three requirements: it allows the theoretical calculation of the most important electric characteristics of ozonizers, i.e., of the external static and dynamic volt-ampere characteristics, of the active power and the power factor. The authors refute V. V. Yastrebov's opinion that the ozonizer circuit suggested by the authors (Fig. 1) does not allow the interpretation of other types of current curves which are obtained when studying real ozonizers. The electric system suggested by V. V. Yastrebov is only one of the possible ozonizer models and cannot be regarded as equivalent circuit since it contains also thyratrons besides simple elements. The results obtained by V. V. Yastrebov when studying the qualitative dependence of the shape of the current curve of the ozonizer on the lumped voltage in the thyratron system and the magnitude of the shunt do not correspond to the facts. Fig. 2 shows the oscillogram of the voltage curve in the discharge interval which was experimentally obtained by the authors. The shape of this curve corresponds to the theory of electric ozonizers. The flat

Equivalent Electric Circuit of Ozonizers (Reply to the Article by V. V. Yastrebov "On the Problem of an Equivalent Electric Circuit of Ozonizers")

S/076/60/034/012/024/027
B020/B067

peaks of this curve confirm the voltage regulation in the discharge interval during the ignition of discharge. Hence, the following may be concluded: 1) the objections made by V. V. Yastrebov against the equivalent ozonizer circuit are not substantiated and do not take account of the principle difference between the equivalent circuit and a model, 2) the electric system suggested by V. V. Yastrebov is no equivalent circuit of ozonizers but only its faulty model. There are 2 figures, and 7 Soviet references.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova (Moscow State University imeni M. V. Lomonosov)

SUBMITTED: October 7, 1959

Card 3/3

S/189/61/000/001/002/002
B105/B208

AUTHOR: Yemel'yanov, Yu. M.

TITLE: First All-Union Conference of Schools of Higher Education on Ozone.

PERIODICAL: Vestnik Moskovskogo universiteta. Seriya 2, khimiya no. 1, 1961, 77 - 80

TEXT: The first All-Union Conference of Schools of Higher Education on Ozone took place in Khimicheskiy fakul'tet Moskovskogo universiteta (Chemical Department of the Moscow University) on May 10 - 14. It has been convened by the Department and the Ministerstvo vysshego i srednego spetsial'nogo obrazovaniya (Ministry of Higher and Medium Special Training) of RSFSR. It dealt with production, properties and applicability of ozone in various branches of national economy. In his opening speech, Professor N. I. Kobozev outlined the historical development of ozone research, its production methods and fields of application. In the plenary session, three scientists delivered generalized lectures. Yu. F. Filippov, Docent, reported on ozone synthesis in electric discharge, N. A. Matveyev,

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Candidate of Technical Sciences, on the technology and apparatus of industrial ozone production in the USSR and abroad. I. A. Khvostikov, Professor, spoke on ozone in the terrestrial atmosphere, the nature of the ozone layer, methods of measuring ozone, the vertical ozone distribution, and the role of atmospheric ozone for the life on the Earth. 65 lectures were held altogether which were divided into 4 sections: 1) 20 lectures in the section: "Electrosynthesis of ozone"; 2) 26 in the section "Chemical reactions, properties and application of ozone"; 3) five in the section "Study of various methods of ozone-preparation"; 4) 10 in the section: "Water purification". Yu. V. Filippov, Yu M. Yemel'yanov, V. P. Vendillo and V. G. Samoylovich reported on the electrical theory of ozonizers and practical engineering calculations for laboratory and industrial ozonizers. Yu. V. Filippov, and N. I. Kobozev pointed out that the formation constant of ozone is not temperaturedependent. Yu. M. Yemel'yanov.and Yu. V. Filippov discussed the quantitative evaluation of the thermal conditions of ozonizers. I. A. Semiokhin, N. I. Kobozev and Ye. N. Pitskhelauri found the electrosynthesis at $\leq$ 0.5 - 1.0 atm to be the most economic method of ozone preparation. V. G. Voronkov reported

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on the possibilities of preparing ozone of low concentration with pressures up to 50 atm. abs. V. P. Vendillo, Yu. N. Zhitnev, A. N. Gukova and Yu. V. Filippov stated that argon does not take part in ozone formation and decomposition. Carbon dioxide up to 20-30 % increases the conversion of oxygen to ozone, nitrogen increases, by activation under certain conditions, the energy yield and ozone concentration by 30-50 % according to the theory of "energetic catalysis" by S. S. Vasil'yev, et al. V. V. Krylov and Yu. V. Filippov spoke on the effect of oxygen moisture on ozone synthesis. N. A. Matveyev and S. F. Beschastnov had tried to produce ozone from non-dried air in ozonizers with hydrophobic electrode coverings. V. P. Bykov reported on the stability of ozone on contact with various substances, and ozone losses in production plants. The following methods of preparation were reported: 1) by condensation of atomic oxygen at low temperature: L. I. Nekrasov, I. I. Skorokhodov, N. I. Kobozev; 2) from the dissociation products of carbon dioxide in glow discharge; Ye. N. Yeremin; 3) by radiolytic action of fast electrons and γ -rays upon gaseous and liquid oxygen: N. A. Buneyev, I. A. Myasnikov, S. Ya. Pshezhetskiy; 4) by electrolysis of sulfuric acid: E. V. Kasatkin, A. A.

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Rakov, V. I. Veselovskiy; 5) by electrolysis of perchloric acid: M. A. Gerovich (deceased), R. I. Kaganovich, Yu. A. Mazitov, V. V. Sobol', L. N. Gorokhov. S. Ya. Pshezhetskiy, S. A. Kamenetskaya, Ye. I. Gribova, A. V. Pankratov, Ya. M. Morosov, I. N. Pospelova, A. Ya. Apin, V. N. Siryatskaya, N. A. Slavinskaya, V. M. Cherednichenko, E. N. Pitskhelauri, V. V. Yastrebov, N. I. Kobozev, G. I. Yemel'yanova, B. V. Strakhov, V. P. Lebedev spoke on the resistance to explosion of liquid and gaseous ozone and on mechanism and kinetics of its thermal, photochemical, and catalytic decomposition. A. A. Rakov and V. I. Veselovskiy reported on the cathodic ozone reduction on metal electrodes. M. G. Terekhova, A. N. Mal'tsev, Ye. N. Yeremin, N. I. Kobozev stated that the ozone adsorption by silica gel considerably increases between - 120 and - 150°C. S. Ya. Pshezhetskiy, S. A. Kamenetskaya, V. M. Cherednichenko, N. A. Slavinskaya, I. N. Pospelova reported that ozone decreases the effective avtivation energy of oxidation processes. L. A. Lovachev dealt with the propagation rate of flames on ozone supply, N. A. Kleymenov, A. B. Nalbandyan with the primary methyl peroxide formation in the reaction of hydrocarbons with

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First All-Union Conference...

ozone. I. A. Kazarnovskiy, Corresponding Member of the AS USSR, reported on alkali ozonide formations of the MeO_3 type. I. I. Skorokhodov, L. I. Nekrasov and N. I. Kobozev spoke on the reaction of 100% ozone with atomic hydrogen, V. G. Voronkov, N. M. Emanuel' on paraffin oxidation, V. G. Voronkov, I. D. Uvarova on the oxidation of liquid cyclohexane, and E. T. Denisov, V. V. Kharitonov on the cyclohexanol oxidation with ozone. V. L. Plakidin, V. A. Yakobi, S. Ye. Pokhila, P. P. Karpuklin reported on the production of 16,17-dihydroxy-violanthrone by ozone. B. V. Strakhov, V. P. Lebedev, N. I. Kobozev reported that the nitric oxyde concentration amounts to 3% in the nitrogen oxidation with ozone. S. I. Papko spoke on ammonia xidation. N. I. Kobozev, A. L. Shneyerson, Ye. N. Yeremin, Ye. N. Pitskhelauri A. Ch. Podeyko reported on the oyidation of nitrous gases; B. A. Dogadkin, I. I. Tugov, V. S. Al'tzitser, and L. S. Krokhina on ozonization of vulcanizates; V. V. Korshak, K. K. Mozgova, and M. A. Shkolina on ozone as an initiator in the grafting of vinyl monomers. B. I. Aykhodzhayev, V. A. Kargin, Kh. U. Usmanov and N. Sh. Inoyatov spoke on the refinement of cotton cord, Yu. S. Zuyev, S. I. Pravednikova on the destruction of rubbers by means of ozone. T. P. Bogdanova and M. A. Gubar'

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dealt with the bactericidal properties of ozone. The chemical, technological, and bactericidal aspects of water purification of Dnepr and Desna were discussed by L. A. Kul'skiy, M. A. Shevchenko, of the reservoirs of Uchinsk and Klyaz'ma, by T. A. Dmitriyeva, I. A. Gusev, Yu. B. Bagotskiy, I. Kh. Bikktenin, N. M. Avdiyevich, Ye. S. Zel'mina and of the hydroelectric power plant of Stalino, by Yu. A. Bardin, Ye. S. Shalashova. I. I. Rozhnyatovskiy, D. P. Dubrovskaya, F. A. Melamed reported on the purification of phenol sewages, M. A. Popov on that of the sewages of mineral oil plants, Ye. N. Pitskhelauri and T. A. Pospelova on the desulfurization of benzine-ligroin distillate, I. A. Semiokhin, G. M. Panchenkov, V. K. Korovkin on the enrichment of the O^{18}-isotope in the electric ozone synthesis, D. M. Chizhikov and V. P. Kreyngauz on cobalt extraction from nickel ores by ozone. It was decided to convene the next conference in 2-3 years. The Moscow Department of Vsesoyuznoye khimicheskoyo obshchestvo im. D. I. Mendeleyeva (All-Union Chemical Society imeni D. I. Mendelyev) was asked to establish a comission for ozone.

Card 6/7

ASSOCIATION: Moskovskiy universitet, Kafedra fizicheskoy khimii
(Moscow University, Department of Physical Chemistry)

SUBMITTED: September 12, 1960

Card 7/7

89575
S/076/61/035/002/012/015
B107/220

11.1120

AUTHORS: Filippov, Yu. V. and Yemel'yanov, Yu. M. (Moscow)

TITLE: Electrosynthesis of ozone.
I. Kinetics of ozone synthesis under flow conditions

PERIODICAL: Zhurnal fizicheskoy khimii, v. 35, no. 2, 1961, 407-415

TEXT: The paper is mainly a theoretical study of the kinetics of ozone synthesis in the ozonizer under flow conditions. The investigation is substantiated by some experimental data. For the kinetics of ozone synthesis, the equation
$\frac{dx}{dt} = k'_o - k'_1 x$ (1), where x is the ozone concentration, t the time, k'_o and k'_1 constants, has been derived by S. S. Vasil'yev, N. I. Kobozev, and Ye. N. Yeremin (Zh. fiz. khimii, 7, 619, 1936). When t is replaced by U/v, the solution of the equation will be $x = x_p(1 - \exp(-k_1 \frac{U}{v})$ (2); $x_p = k_o/k_1$ is the equilibrium concentration of the ozone, U/v is the ratio of capacity to volume rate of the gas flow. A further equation for the kinetics of ozone

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Electrosynthesis of ozone ...

synthesis has been derived by H. Becker (Wiss. Veröff. Siemens Konz., 1, 76, 1920; 3, 242, 1923/1924): $x = \frac{a\ U/v}{1 + b\ U/v}$ (3), where a and b are constants. The investigation has shown that these equations correspond to the critical cases of ozone transport in a gas flow. (3) holds for the case of ideal mixing, and (2) for the case of ideal displacement, i.e., in the absence of diffusion. For the general case, the differential equation

$D\frac{d^2x}{dl^2} - v_L\frac{dx}{dl} - k_1'x + k_0' = 0$ (8) has to be solved, where D is the diffusion coefficient, l the coordinate along the axis of the ozonizer, and v_L the linear flow velocity. In equation (8), the change of volume is not considered. As G. M. Panchenkov has shown (Uch. zap. MGU, no. 174, 53, 1958), this may have a substantial influence upon kinetics under flow conditions. Because of the slight conversion, the volume change in the electrosynthesis of ozone amounts to 3% only. Under the boundary conditions, where the ozone is removed from the reaction space merely by mass transfer, the equation for the ozone concentration at the outlet of the ozonizer (l = L) is solved as follows:

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Electrosynthesis of ozone ...

$$x = x_p \left[1 - \frac{a_1^2 - a_2^2}{a_1^2 \exp(-a_2 L) - a_2^2 \exp(-a_1 L)} \right] \quad (9), \text{ where } a_{1,2} = \frac{v_L}{2D} \pm \sqrt{\frac{v_L^2}{4D^2} + \frac{k_1'}{D}} .$$

The direct calculation of the kinetic constants from this equation is very complicated. The following indirect solution is possible:

$$\overline{k_1} = \frac{v_L}{L} \ln \frac{x_p}{x_p - x} = \frac{v_L}{L} \ln \frac{a_1^2 \exp(-a_2 L) - a_2^2 \exp(-a_1 L)}{a_1^2 - a_2^2} \quad (10).$$ Here, the left-hand side is the decomposition "constant" of ozone, calculated from the equation for ideal displacement: $x = x_p(1 - \exp(-k_1 L/v_L))$. Fig. 1 shows the good agreement of the theoretical curve with experimental data. For the tests, an ozonizer of L = 35 cm was used; the external and internal diameters were 41.9 and 39.7 mm, respectively, for the outer electrode, and 35.6 mm and 33.0 mm, respectively, for the inner electrode; discharge capacity was about 120 w. The apparatus is described in detail in a previous paper of the authors (Zh. fiz. khimii, 31, 896, 1957). As a table shows, the decomposition constant of the ozone increases with increasing flow velocity and

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tends toward the critical value 0.340 sec^{-1}. Using this value for $\overline{k_1}$, the curves for several values of D were calculated (Fig. 2). In most cases, equation (10) can be reduced. Thus,

$\overline{k_1} = \frac{v_L}{L} \ln \frac{x_p}{x_p - x} = v_L a_2$ (11) holds for higher flow velocities. As to the accuracy of this approximation see Legend to Fig. 2. Equation (9) may be reduced to $x = x_p(1 - \exp(a_2 L))$ (14). Calculation shows that the error is below 1% under the above-described experimental conditions; for industrial conditions where the reaction space is considerably longer than 35 cm, the range of application of equation (14) is extended significantly. Furthermore, the usefulness of the equations (1) set up by S. S. Vasil'yev, N. I. Kobozev, Ye. N. Yeremin and (2) by H. Becker for an approximate calculation was examined. Their comparison with experimental data shows clearly that the former is more suitable. There are 5 figures, 1 table, and 10 references: 9 Soviet-bloc and 1 non-Soviet-bloc.

Card 4/6

89575

S/076/61/035/002/012/015
B107/B220

Electrosynthesis of ozone ...

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova (Moscow State University imeni M. V. Lomonosov)

SUBMITTED: June 16, 1959

Legend to Fig. 1: Dependence of $\overline{k_1}$ on the flow velocity of oxygen; the points represent experimental values, the curve is theoretically calculated for D = 15 cm^2/sec.

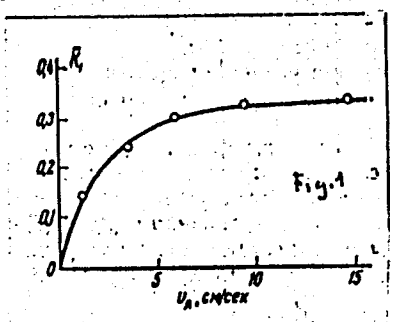

Fig. 1

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Electrosynthesis of ozone ...

Fig. 2: Dependence of $\overline{k_1}$ on the flow velocity of oxygen at different values of D.

Legend: (1) D = 0($\overline{k_1}$ = 0.340 sec^{-1}); (2) D = 1 cm^2/sec; (3) D = 10 cm^2/sec; (4) D = 100 cm^2/sec; (5) D = 1000 cm/sec; (6) D = ∞. The straights indicate the area where the error is less than 1%; the undulatory lines indicate the area with an error below 10%.

v, л/час	Объемн. % озона	$\overline{k_1}$, $сек^{-1}$	D, $см^2/сек$
10	12,53	0,144	13,0
30	11,52	0,238	22,1
50	10,59	0,301	14,7
80	8,91	0,323	14,2
125	6,97	0,334	12,2

x_p=12,7 об. % $D_{ср.}$=15,0 $см^2/сек$

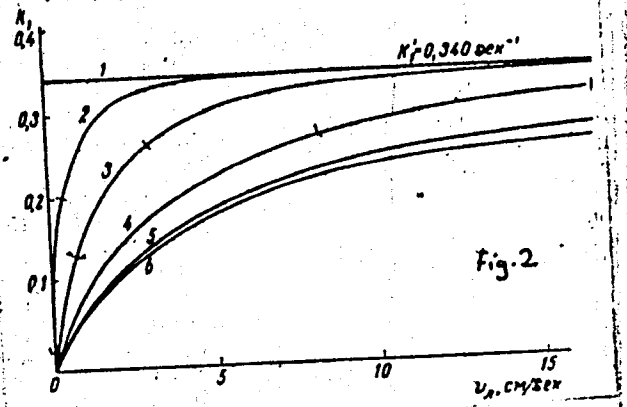

Fig. 2

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32640
S/076/62/036/001/012/017
B124/B110

11.1120

AUTHORS: Filippov, Yu. V., and Yemel'yanov, Yu. M.

TITLE: Electrosynthesis of ozone. IV. Effect of discharge power (ozonizer with 1 mm discharge gap)

PERIODICAL: Zhurnal fizicheskoy khimii, v. 36, no. 1, 1962, 181-188

TEXT: Five series of tests were performed at various rates of oxygen flow to study the effect of the discharge power on the ozone yield in electrosynthesis. The equipment used for ozone synthesis has been described earlier by the authors (Ref. 6: Zh. fiz. khimii 31, 896, 1957; Ref. 8: Zavodsk. laboratoriya 25, 1401, 1959). The gas pressure was automatically maintained at 775 ± 0.1 mm Hg. Tetrachloromethane was used as a coolant for the electrodes, the temperature of which was kept constant at 20.0 ± 0.05°C. The current frequency was 1350 cps. The discharge power was measured with a flow calorimeter described by the authors in Ref. 9 (Zh. fiz. khimii 33, 1042, 1959). The ozone content in the gas was determined iodometrically. As is evident from Fig. 1, the factor U/v, U being the discharge power and v the volume rate of oxygen flow through

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the ozonizer, is not the only parameter determining the ozone concentration. One of the additional factors is the temperature in the reaction zone which depends on the discharge power. The mean temperature in the reaction zone of the ozonizer can be calculated by allowing for the effects of the temperature differences between the gas in the reaction zone and the cooling liquid which, in turn, involve the gas temperature drop in the reaction zone, at the walls of the glass electrode, and at the interface between the cooling-liquid film and the electrode surfaces. The relation

$$t^{o}_{max} = \frac{q_o a^2}{2\lambda_g} + t^{o}_{el} \qquad (9),$$

where q_o = amount of heat evolved per sec in the volume unit of the reaction zone, a = distance between the electrode surface and the center of the discharge gap, λ_g = heat-transfer coefficient of the gas, and t_{el} = surface temperature of the electrode, holds for the maximum temperature of the gas layer in the central part of the reaction zone. For the mean gas temperature in the ozonizer, the relation

$$t^{o}_{g} = \frac{q_o a^2}{3\lambda_g} + t^{o}_{el} \qquad (10)$$

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is valid. By comparing these two equations, one obtains

$$t_g^o - t_{el}^o = \frac{2}{3}(t_{max}^o - t_{el}^o) \qquad (11).$$

λ_g was calculated from experimental data to be $14 \cdot 10^{-5}$ cal/cm·sec·deg. Thus, the temperature difference between the gas in the reaction chamber and the cooling liquid is a linear function of the discharge power. Mathematical evidence is given for the fact that equilibrium concentration (i.e., 12.5 % by volume) of ozone is the maximum yield which can be obtained in the given ozonizer with a constant coolant temperature of 20°C. The ozone concentration can be increased by improving the cooling of the electrodes. S. S. Vasil'yev, N. I. Kobozev, and Ye. N. Yeremin (Ref. 4: Zh. fiz. khimii 7, 619, 1936) are mentioned. There are 3 figures, 1 table, and 11 references: 8 Soviet and 3 non-Soviet.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova (Moscow State University imeni M. V. Lomonosov)

SUBMITTED: June 8, 1960

Card 3/4

FILIPPOV, Yu.V.; YEMEL'YANOV, Yu.M.

Electrical theory of ozonizers. Part 4: Dependence of the voltage of discharge burning on the concentration of ozone in ozonizers with various discharge gaps. Zhur.fiz.khim. 36 no.8:1781-1785 Ag '62. (MIRA 15:8)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.
(Ozonization)

YEMEL'YANOV, Yu.M.; FILIPPOV, Yu.V.

Electrosynthesis of ozone. Part 9. Zhur.fiz.khim. 36 no.10: 2263-2267 O '62. (MIRA 17:4)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.

YEMEL'YANOV, Yu.M., kand. khim. nauk

Ozone in the service of chemical industries. Priroda 52 no.12: 106-108 '63. (MIRA 17:3)

1. Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova.

YEMEL'YANOV, Yu.M.; NEKRASOV, V.I.

Radiophotography of wood from the area affected by the fall of the Tunguska meteorite. Dokl. AN SSSR 148 no.6:1418-1421 F '63. (MIRA 16:3)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova i Glavnyy botanicheskiy sad AN SSSR. Predstavleno akademikom V.N. Sukachevym.
(Podkamennaya Tunguska Valley—Meteorites) (Wood)
(Autoradiography)

NEKRASOV, V.I.; YEMEL'YANOV, Yu.M.

Studying forest growth in connection with the problem of the Tunguska meteorite. Meteoritika no.24:152-161 '64.
(MIRA 17:5)

L 35809-66 EWT(m)/EWP(t)/ETI IJP(c) JD

ACC NR: AP6014899 SOURCE CODE: UR/0076/65/039/012/3092/3095

AUTHOR: Semoylovich, V. G.; Popovich, M. P.; Yemel'yanov, Yu. M.; Filippov, Yu. V.

ORG: Moscow State University im. M. V. Lomonosov (Moskovskiy gosudarstvennyy universitet)

60
B

TITLE: Electric theory of ozonizers. XI. Discharge in helium at various pressures and discharge gaps

SOURCE: Zhurnal fizicheskoy khimii, v. 39, no. 12, 1965, 3092-3095

TOPIC TAGS: ozone, electric theory, helium, circuit design, gas discharge

ABSTRACT: The equipment used in the experiments (illustrated in a figure) consisted basically of an upper aluminum electrode with a diameter of 15 mm and a height of 50 mm and a lower aluminum electrode with a diameter of 10 mm, pressed into a base made of organic glass. The article gives also a diagram of the electric circuit. Using this equipment, measurements were made by the oscillographic method of the combustion pressure during a discharge in helium. Measurements of the combustion pressure in helium were made at gas pressures of 750, 600, 400, 200, 100, and 50 mm Hg for discharge gaps of 0.45, 1.0, 2.0, 3.0,

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4.0, 5.0, and 7.0 mm. The value of E/p was found to remain constant and to be equal to 1.4 volts/cm-mm Hg for discharge gaps from 2 to 7 mm and for pressures not less than 200 mm Hg. An evaluation of the electron temperature gave a value of 2.7 electron volts. Orig. art. has: 5 figures and 1 table.

SUB CODE: 20/ SUBM DATE: 23Nov64/ ORIG REF: 004/ OTH REF: 001

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Card 2/2

L 34377-66 EWT(m)/EWP(t)/ETI IJP(c) JD/WW/JW

ACC NR: AP6010743 SOURCE CODE: UR/0076/66/040/003/0531/0536

38
B

AUTHOR: Samoylovich, V. G.; Popovich, M. P.; Yemel'yanov, Yu. M.; Filippov, Yu. V.

ORG: Moscow State University im. M. V. Lomonosov (Moskovskiy gosudarstvennyy universitet)

TITLE: The electrical theory of ozonizers. XII. Burining voltage in oxygen-ozone mixtures

SOURCE: Zhurnal fizicheskoy khimii, v. 40, no. 3, 1966, 531-536

TOPIC TAGS: electric theory, gas discharge, oxygen, ozone

ABSTRACT: The authors used a flat ozonizer (discharger) to measure the burning voltage of a discharge in oxygen and oxygen-ozone mixtures at various gas pressures and with various discharge intervals. The value of the field applied to the oxygen and the oxygen-ozone mixtures is determined. In order to avoid any gradient in ozone concentration, the ozone was produced externally and introduced. Discharge gaps from 0.1 to 4.0 mm were used, with pressures from 50 to 750 mm Hg. The ozone concentration was 0.65 to 7.0% by volume. The ratio of the elemental reaction constants of ozone and oxygen upon collision with electrons was determined. It was established by the experiments that the curve of the burning

Card 1/2 UDC: 541.13

L 34377-66

ACC NR: AP6010743

voltage as a function of ozone concentration is linear. Orig. art. has: 6 tables, 4 figures, and 4 formulas.

SUB CODE: 07,20/ SUBM DATE: 07Dec64/ ORIG REF: 006/ OTH REF: 005

Card 2/2

ACC NR: AP7002558 (A,N) SOURCE CODE: UR/0413/66/000/023/0037/0038

INVENTOR: Yemel'yanov, Yu.N.

ORG: none

TITLE: Vibroacoustic protection system for magnetic receiving antennas. Class 21, No. 189034. [announced by Institute of Automation and Electrometry, Siberian Branch, AN SSSR (Institut avtomatiki i elektrometrii Sibirskogo otdeleniya, AN SSSR)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 23, 1966, 37-38

TOPIC TAGS: radio antenna, acoustic damping

ABSTRACT: To increase the efficiency of the proposed system of vibroacoustic protection for magnetic antennas, one end of each rubber shock absorber is fixed at the center of gravity of the magnetic antennas, and the other end is fixed to a rigid unloading ring while the magnetic antennas are placed in a supplementary acoustic screen which serves simultaneously as a vibrodamper. [JP]

UDC: 621.396.669.8:621.396.677.75

Card 1/2 UDC: none

ACC NR: AP7002558

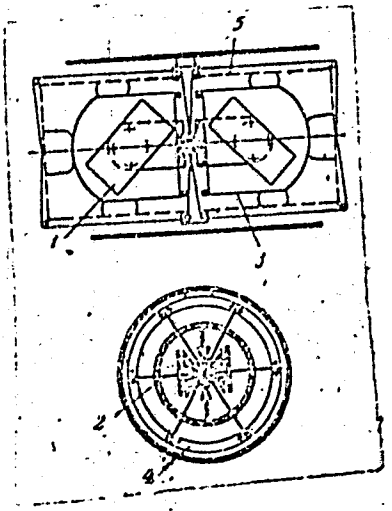

Fig. 1. Vibroacoustic protection system

1 - Magnetic antennas; 2 - rubber shock absorbers; 3 - acoustic screen; 4 - unloading ring; 5 - supplementary screen of the vibrodamper.

SUB CODE: 09/ SUBM DATE: 14Oct65/ ATD PRESS: 5113

Card 2/2

L 25976-66 EWT(1)/EWA(h)

ACC NR: AT6011932 SOURCE CODE: UR/000/66/000/000/0099/0104

AUTHOR: Yemel'yanov, Yu. N. (Novosibirsk); Timonen, L. S. (Novosibirsk)

ORG: none

TITLE: Binary-sequence tester

SOURCE: Vsesoyuznaya konferentsiya po avtomaticheskomu kontrolyu i metodam elektricheskikh izmereniy. 5th. Avtomaticheskiy kontrol' i metody elektricheskikh izmereniy; trudy konferentsii, t. 2: Izmeritel'nyye informatsionnyye sistemy. Ustroystva avtomaticheskogo kontrolya. Elektricheskiye izmereniya neelektricheskikh velichin (Automatic control and electrical measuring techniques; transactions of the conference, v. 2: Information measurement systems. Automatic control devices. Electrical measurements of nonelectrical quantities). Novosibirsk, Izd-vo Nauka, 1966, 99-104

TOPIC TAGS: random process, Markov process

ABSTRACT: The development is reported of a new tester for experimental determination of statistical characteristics of binary random sequences, i. e., homogeneous Markov chains. Such a chain may exist only in one of two incompatible states. Formulas for evaluating the probability of occurrence of a particular state are developed. The tester counts states A_1 and A_2 and also their combinations for the moments t_k and t_{k+N} (where N = 1, 2, ..., 22) of the sequence being tested. The states

Card 1/2

L 25976-66

ACC NR: AT6011932 O

A_1 and A_2 are represented as 1 and 0 in the tester. The instrument has 24 electromechanical counters; two counters, 10000 units each, are intended for separate counting of 1 and 0; twenty-two counters, 1000 units each, record the combinations in 22 points of the sequence. Any combination (1 and 1, 1 and 0, 0 and 1) can be selected by a logical unit. Basically, the tester includes: (1) A two-cycle ferrite-diode shift register which stores the information, advances and delivers all values of a particular sequence; (2) A logical unit which controls the type of combination; (3) A counting device which counts the detected combinations. A block diagram of the tester is supplied, and its distinguishing features are noted. Orig. art. has: 1 figure and 16 formulas. [03]

SUB CODE: 09 / SUBM DATE: 29Nov65 / ATD PRESS:

Card 2/2 FW

YEMEL'YANOV, YU.V.

Manual on small vessels. Album of diagrams; supplement, Leningrad, Gos. izd-vo sudostroit. lit-ry, 1950. 127 p. of diagrs. (51-27925)

VM295.E5 Diagr.

YEMEL'YANOV, Yu. V.

Spravochnik po melkim sudam (Handbook on small craft, by) Yu. V. Yemel'yanov i N. A. Krysov. Leningrad, Sudpromgiz, 1950. 396 p. diagrs.

SO: N/5
743.4
.Y1

YEMEL'YANOV, YU. V.

Motornaia lodka s podvesnym motorom (Outboard motor boats). Moskva, 1953. 64 p.
(Vsesoiuz. dobrovol'noe o-vo sodeistviia Armii, Aviatsii i Flotu. B-ka iunogo konstruktora)

SO: Monthly List of Russian Accessions, Vol 7, No 9, Dec 1954

YEMCL'YANOV, YU.V.

1. EMEL'IANOV, Yu. V.; KRYSOV, N. A.

2. USSR (600)

4. Emel'ianov, Yu. A.

7. Handbook of small vessels. Yu. V. Emel'ianov. N. A. Krysov. Reviewed by Eng. V. P. Pozdnyakov. Rech. transp. 13, No. 2, 1953.

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

YEMEL'YANOV, YU.

GORBACHEV, G., master sporta; ZHIROV, V., master sporta; ZHIROVA, G., master sporta; GLADKOV, K.; YEMEL'YANOV, Yu., kandidat'ya vsesoyuznoy kategorii; DOBROKHOTOV, B., inzhener, lyubitel' vodno-motornogo sporta.

Let's organize motorboat clubs. Voen.znan. 33 no.6:34 Je '57. (MLRA 10:8)

1.Predsedatel' vsesoyuznoy vodno-motornoy sektsii (for Gladkov)
(Boats and boating)

YEMEL'YANOV, Yuriy Vladimirovich; IGOSHIN, M.G., redaktor; KARYAKINA, M.S., tekhnicheskiy redaktor

[Boat with an outboard motor] Lodka s podvesnym motorom. Izd. 2-oe, dop. Moskva, Izd-vo DOSAAF, 1956. 93 p. (MLRA 9:7)
(Boatbuilding)

YEMEL'YANOV, Yu.; MALINOVSKIY, G.

"DOSAAF-1" outboard motor boat. Voen.znan. 31 [i.e. 32] no.4: 24-25 Ap '56. (MLRA 9:8)

(Outboard motorboats)

YEMEL YANOV, Yu.

YEMEL'YANOV, Yu.; DZYAKEVICH, V.; IGOSHIN, M.G., red.; BLAZHENKOVA, G.I., tekhn.red.

[Cutters with automobile motors] Kater s avtomobil'nym motorom. Moskva, Izd-vo DOSAAF, 1957. 136 p. (MIRA 11:2)
(Motorboats)

RADOV, Aleksandr Mironovich; YEMEL'YANOV, Yu.V., redaktor; SHAURAK, Ye.N., redaktor; DVORAKOVSKAYA, A.A., tekhnicheskiy redaktor

[Fundamentals in designing mechanical equipment for launches] Osnovy proektirovaniia katernykh mekhanicheskikh ustanovok. Leningrad, Gos. soiuznoe izd-vo sudostroitel'noi promyshlennosti 1955. 305 p. (Launches) (MLRA 9:1)

LAZAREV, Valentin Afanas'yevich; MANZHOS, Yu.A., inzh., retsenzent; KARPOV, D.T., inzh., retsenzent; YEMEL'YANOV, Yu.V., nauchnyy red.; SMIRNOV, Y .I., red.; FRUMKIN, P.S., tekhn. red.

[Automobile engines in launch building] Avtomobil'nye dvigateli v katerostroenii. Leningrad, Gos. soiuznoe izd-vo sudostroit.promyshl. 1961. 258 p. (MIRA 14:6)
(Marine engines) (Automobles—Engines)

ROMANENKO, Leonid Leont'yevich; SHCHERBAKOV, Leonid Sergeyevich; YEMELIYANOV, Yu.V., inzh., retsenzent; MANZHOS, Yu.A., nauchnyy red.; LISOK, E.I., red.; KOROVENKO, Yu.N., tekhn. red.

[Motorboat; manual for amateurs]Motornaia lodka; posobie dlia liubitelei. 2., ispr. i dop. izd. Leningrad, Sudpromgiz, 1962. 338 p. (MIRA 15:9)
(Boatbuilding--Handbooks, manuals, etc.)
(Motorboats)

YEMEL'YANOV, Yu.V.; MALINOVSKIY, G., master sporta; STROKOV, V., podvodnik-lyubitel'; PANTELEYEV, Yu., master sporta, admiral; ZHIROV, V., zasluzhennyy trener SSSR, master sporta, chempion Sovetskogo Soyuza po vodnomotornomu sportu

Deep waters for small boats! Tekh. mol. 31 no.6:26-29 '63. (MIRA 16:7)

1. Predsedatel' Federatsii vodnomotornogo sporta (for Yemel'yanov). 2. Predsedatel' Komiteta vodnolyzhnomu sportu (for Malinovskiy).
(Motorboats) (Aquatic sports)

KRIVONOSOV, Lev Mikhaylovich; BEL'CHENKO, N.I., red.; YEMEL'YANOV, Yu.V., red.

[Calculations and design in amateur boatbuilding] Raschety i chertezhi v liubitel'skom sudostroenii. Moskva, DOSAAF, 1964. 166 p. (MIRA 18:6)

GURARI, N.G.; YEMEL'YANOV, Yu.V.

[Mechanization of carcass splitting] Mekhanizatsiia raspilovki tush. Moskva, TSentr. in-t nauchno-tekhn. informatsii pishchevoi promyshl., 1963. 72 p. (MIRA 18:7)

YEMELYANOV-YAROSLAVSKIY, L. B. UNESCO/NS/ICIP/ABSTR...

METHODS OF SPEEDING-UP THE OPERATION OF DIGITAL COMPUTERS

I. Y. AKUSHSKIY, L. B. YEMELYANOV-YAROSLAVSKIY, E. A. KLYAMKO,
V. S. LINSKIY, G. D. MONAKHOV
Institute for Scientific Research of Electonic
Mathematical Machines, Moscow, USSR.

In the paper are considered different methods of speeding-up operations in digital computers.

Methods of accelerating the digit by digit multiplication by overlapping in time the operations of addition and shift/ the method of the "travelling wave" when the addition of several partial products is effected simultaneously, etc.

For speeding-up the division operation a method is recommended by which the information contained in the code of the next remainder is used for determining in one step the group of the quotient consecutive digits.

Are considered the advantages, from the point of view of operation speeding-up, of storage of codes in not normalized condition and representation of negative numbers in the machine in reverse code (With introduction of code feature). Combined methods of calculation of certain algebraic expressions in the conditions of an arithmetic device with an increased number of components.

Methods are described for speeding-up the addition elementary operation, which ensure single-shot operation of each component of the add circuit, as well as the methods of speeding up the group shift by means of a special shifter designed in the form of a ferrite matrix.

Considerations are given on the expediency of including the calculations of the values of elementary functions in the list of main machine operations, and some algorithms are given (which are adaptable for their circuit execution by the arithmetic device). on

Paper presented at Intl. Conf. on Information Processing, UNESCO House, Paris, 15-20 Jul '59.

the basis of which these values are formed of the operations of addition and group shift.

The role of microprogram control for accelerating operations is discussed. In particular, at microprogram control, when a single-sided high-speed large capacity memory is used, it seems possible to obtain efficient results by calculating the elementary function values on the basis of block-poly-nomial approximation of functions by different polynomials at various intervals.

PAPER PRESENTED AT
INTERNATIONAL CONF. ON INFORMATION PROCESSING
UNESCO HOUSE, PARIS
15 - 20 JUNE 1959

YEMEL'YANOV-YAROSLAVSKIY, L.B. [IEmel'ianov-IAroslavs'kyi, L.B.](Moskva)

Principles of the operation of an informal automaton.
Avtomatyka 9 no.1:29-42 '64. (MIRA 17:3)

YEMEL'YANOV,YAROSLAVSKIY L. B.

"On Simulating the Work of the Nervous System" (26 October 1956).

Paper presented at the Seminars on Cybernetics at Moscow University during the 1956-57 school year.

Problemy Kibernetiki, No. 1, 1958

YEMEL'YANOV-YAROSLAVSKIY, L. B., Cand Tech Sci -- (diss) "Microprogram control in digital computer machines." Moscow, 1960. 8 pp with schematics; (State Committee under the Council of Ministers USSR for Radioelectronics, NIISchetmash -- Scientific Research Inst for Computers); 150 copies; price not given; (KL, 21-60, 123)

YEMEL'YANOVA, A.A.

Space distribution of photons near the axis of extensive air showers. Zhur.eksp. i teor. fiz. 34 no.2:516-518 F '58. (MIRA 11:4)

1. Fizicheskiy institut im. P.N. Lebedeva Akademii nauk SSSR.
(Photons) (Cosmic rays)

STRUKOV, O.G.; YEMEL'YANOVA, A.D.; DUBOV, S.S.; KOZLOVA, N.V.

Infrared spectra and structure of some secondary amines, derivatives of cyanuric chloride and substituted anilines. Zhur. strukt. khim. 6 no.2:218-226 Mr-Ap '65. (MIRA 18:7)

BEL'TS, Ye.A.; YEMEL'YANOVA, A.G.

Anaphylactic shock following lactotherapy. Vest. derm. i ven. 38 no.10:83-84 O '64. (MIRA 18:1)

1. Kozhnoye otdeleniye (zav. Ye.A. Bel'ts) Uzlovoy bol'nitsy (nachal'nik - I.P. Belyy) Yugo-Zapadnoy zheleznoy dorogi, Vinnitsa.

AUTHORS: V'yushkov, B.P. and Yemel'yanova, A.I. SOV/11-59-1-11/16

TITLE: The First Find of Fossilized Reptiles in the Tungusska Basin (Pervaya nakhodka iskopayemykh reptiliy v Tungusskom basseyne)

PERIODICAL: Izvestiya Akademii nauk SSSR, Seriya geologicheskaya, 1959, Nr 1, pp 111-113 (USSR)

V. 34,

ABSTRACT: The fossilized bones of a large reptile, identified as belonging to the class of Dicynodontia, were found between the Permian and Triassic layers in the lower part of the Korvunchany river of the Tungusska basin.

ASSOCIATION: Paleontologicheskiy Institut AN SSSR, Moscow (The Moscow Paleontologic Institute of the AS USSR)

SUBMITTED: May 3, 1958

Card 1/1

YEMEL'YANOVA, A.M.

Production of carbonated water for heat treatment plants. Metallurg no.10:32-35 O '56. (MLRA 9:11)

1. Magnitogorskiy filial Gipromesa.
(Carbonated waters) (Metals--Heat treatment)

YEMEL'YANOVA, A.M.

Mechanization of labor consuming tasks. Matallurg no.12:33-35 D '56. (MLRA 10:1)

1. Magnitogorskiy filial Gidprometza.
(Magnitogrorsk--Metallurgical plants--Equipment and supplies)

130-5-15/22

AUTHOR: Emel'yanova, A. M.

TITLE: Mechanisation of the removal of brick debris in the repair of hot tops (Mekhanizatsiya uborki boya kirpicha pri remonte uteplitel'nykh nadstavok).

PERIODICAL: "Metallurg" (Metallurgist) 1957, No.5, p.32 (USSR).

ABSTRACT: A brief account is given of a recently adopted system at Magnitogorsk in which bricks knocked out of hot tops are removed by a conveyor belt. The belt runs in a trench which is covered by a grating. The hot tops are arranged in two rows on a framework on the grating, and the pieces of brick fall through the grating onto inclined chutes which direct them onto the conveyor belt. The adoption of this system in a single ingot yard has freed two men and increased the hot-top repair rate by 5%. There is 1 figure.

Card 1/1

ASSOCIATION: Magnitogorskiy metallurgical combine (Magnitogorskiy Metallurgicheskiy Kombinat).

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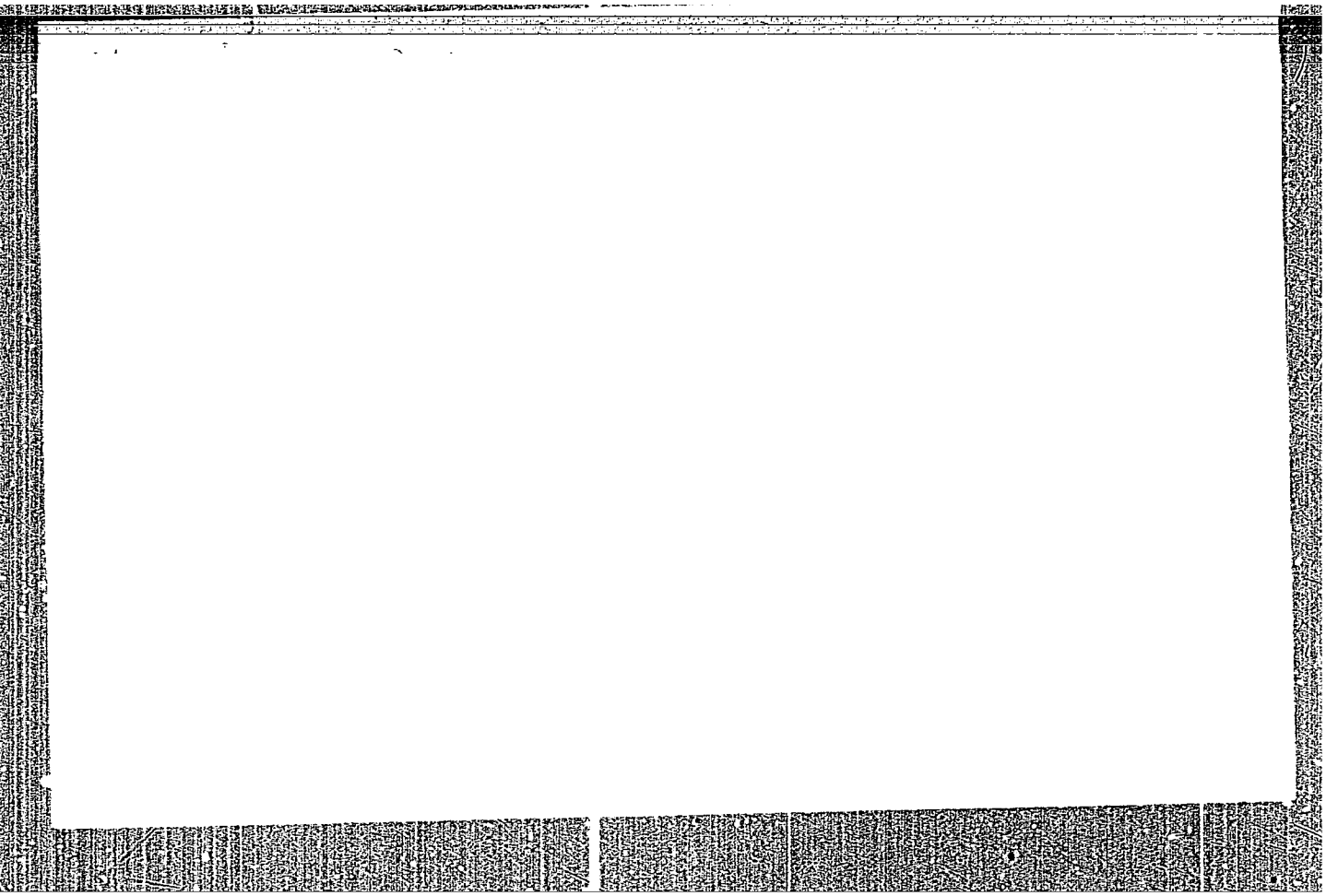

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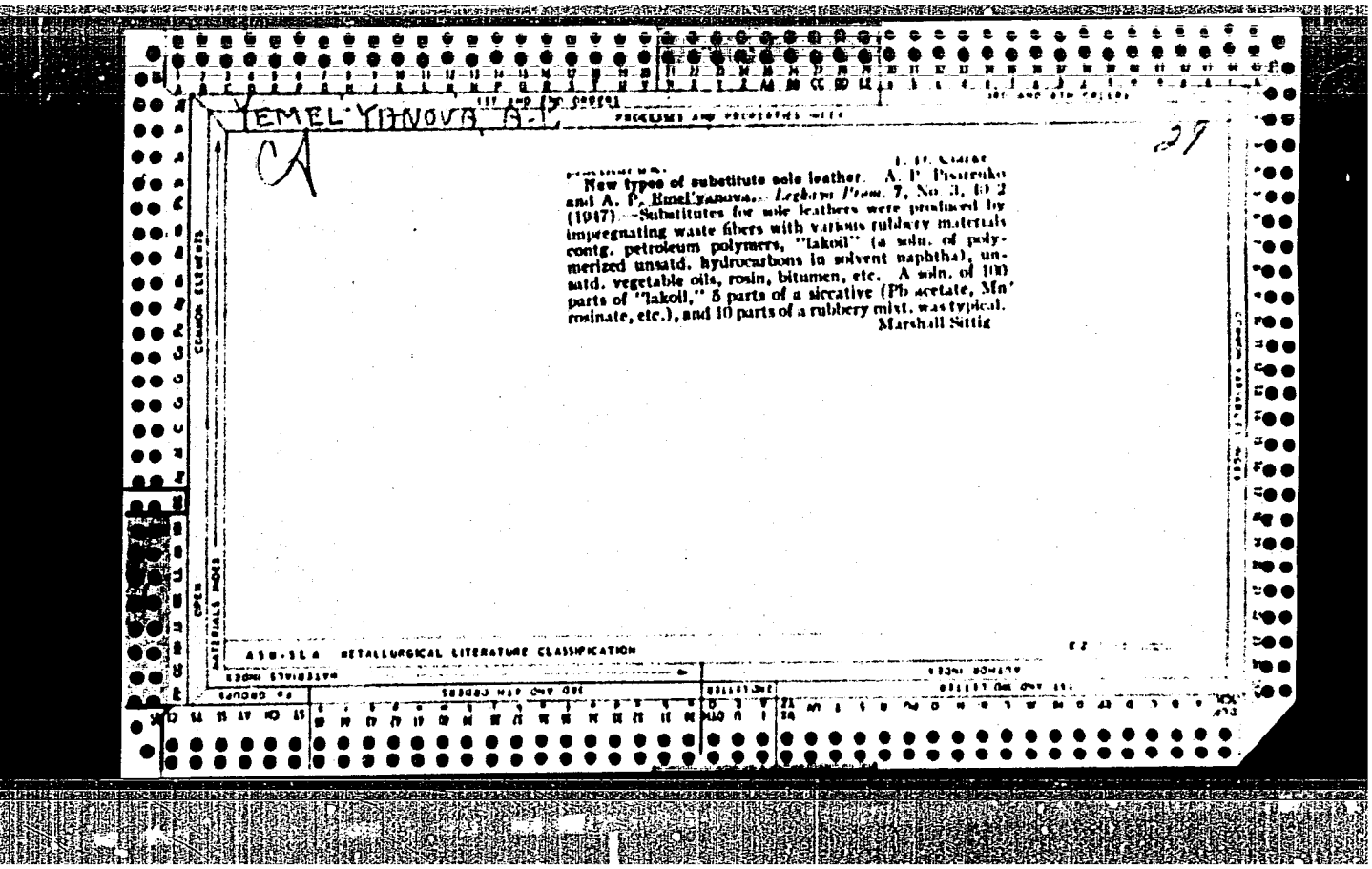
YEMEL'YANOVA, A.M.

Mechanized feed of quartzite. Ogneupory 22 no.2:77-78 '57. (MLRA 10:4)
(Crushing machinery--Attachments)

YEMEL'YANOVA, A.M.

Mechanizing the removal of broken bricks during sinkhead repairs. (MLRA 10:6)
Metallurg 2 no.5:32 My '57.

1. Magnitogorskiy metallurgicheskiy kombinat.
(Conveying machinery)



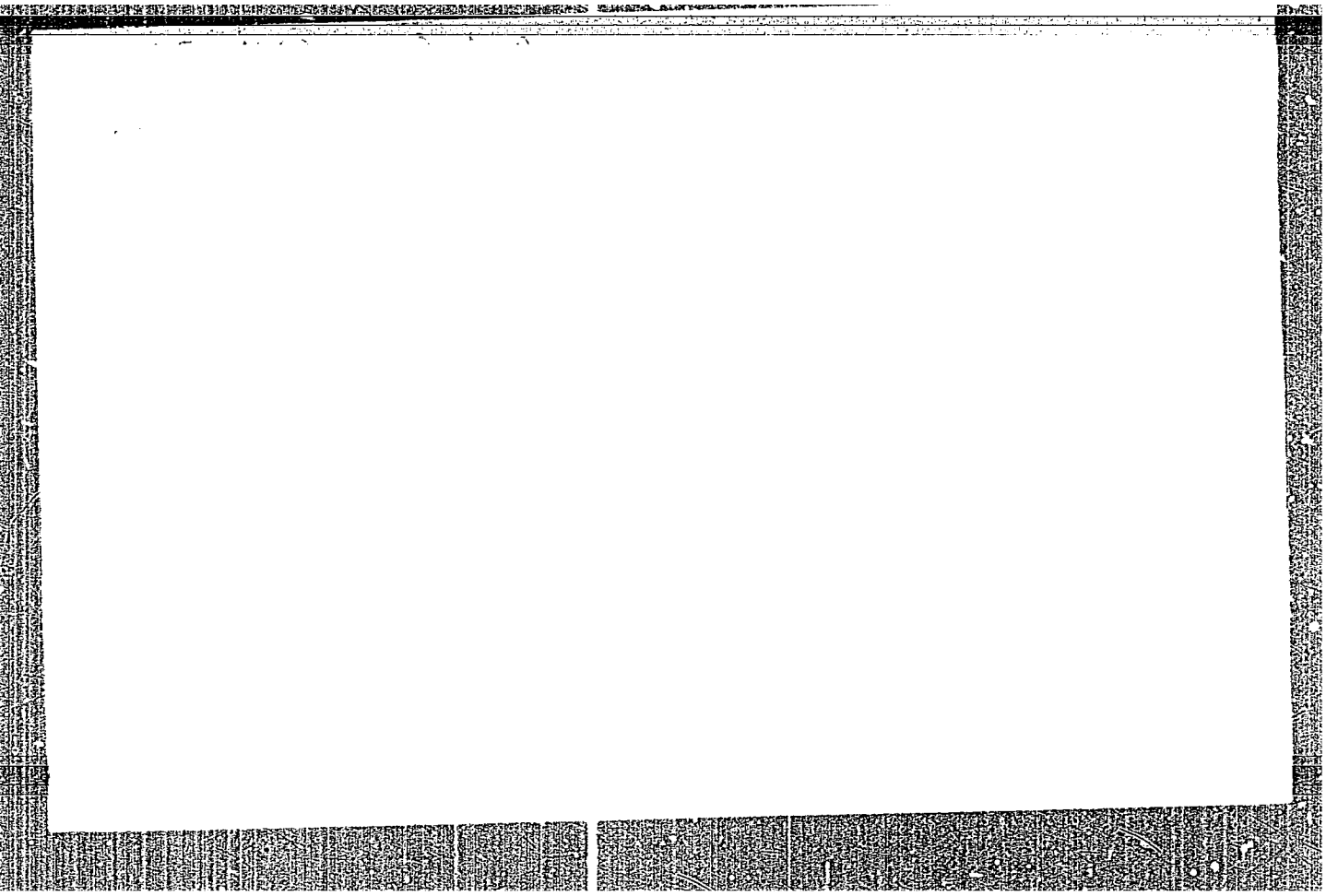
YEMEL'YANOVA, A. P.

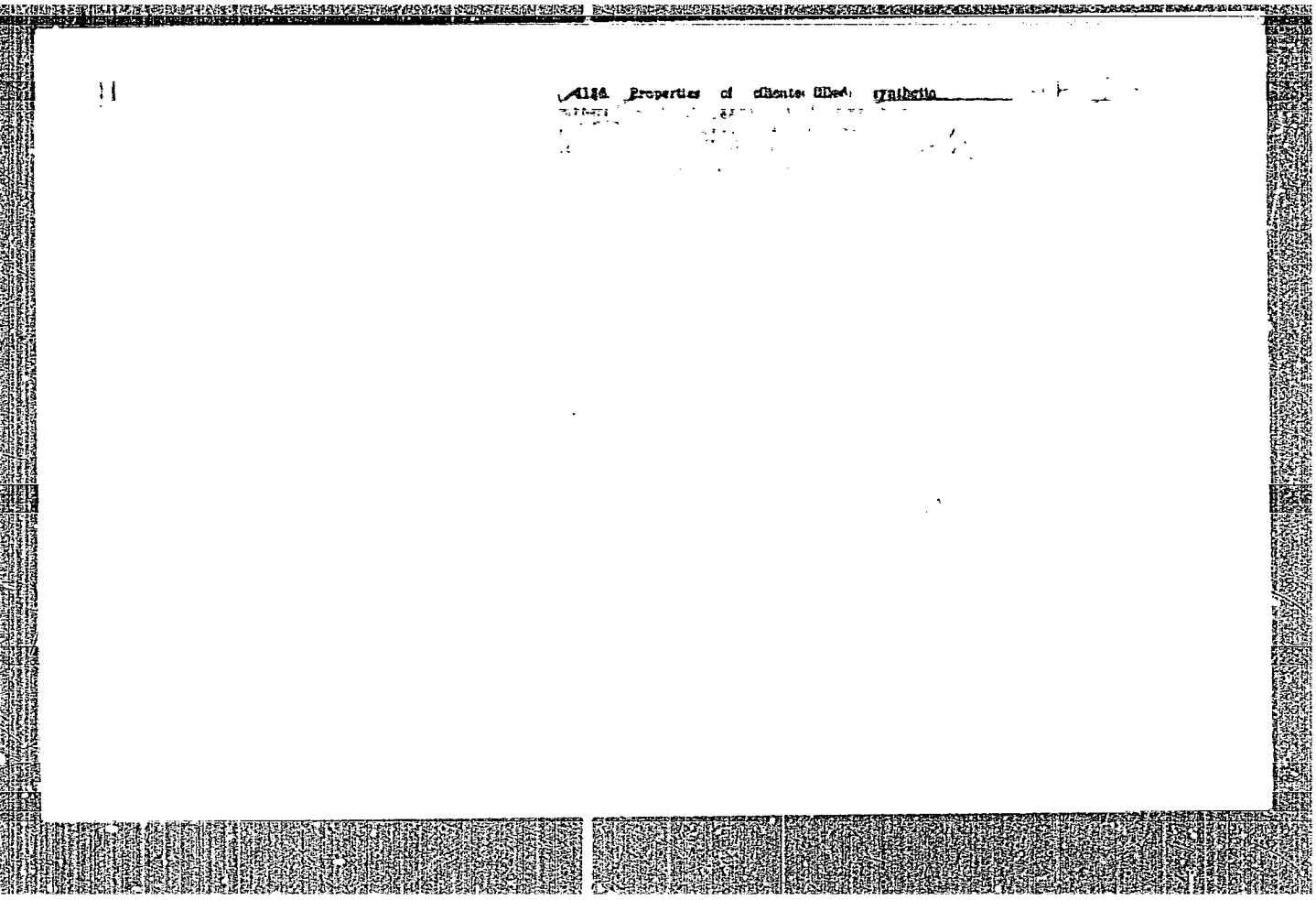
CA

27

New types of substitute sole leather. A. P. Pisarenko and A. P. Emel'yanova. *Legkaya Prom.* 7, No. 3, 10-2 (1947).—Substitutes for sole leathers were produced by impregnating waste fibers with various rubbery materials contg. petroleum polymers, "Takoil" (a soln. of polymerized unsatd. hydrocarbons in solvent naphtha), unsatd. vegetable oils, rosin, bitumen, etc. A soln. of 100 parts of "Takoil," 5 parts of a siccative (Pb acetate, Mn rosinate, etc.), and 10 parts of a rubbery mixt. was typical.
Marshall Sittig

A50-51A METALLURGICAL LITERATURE CLASSIFICATION

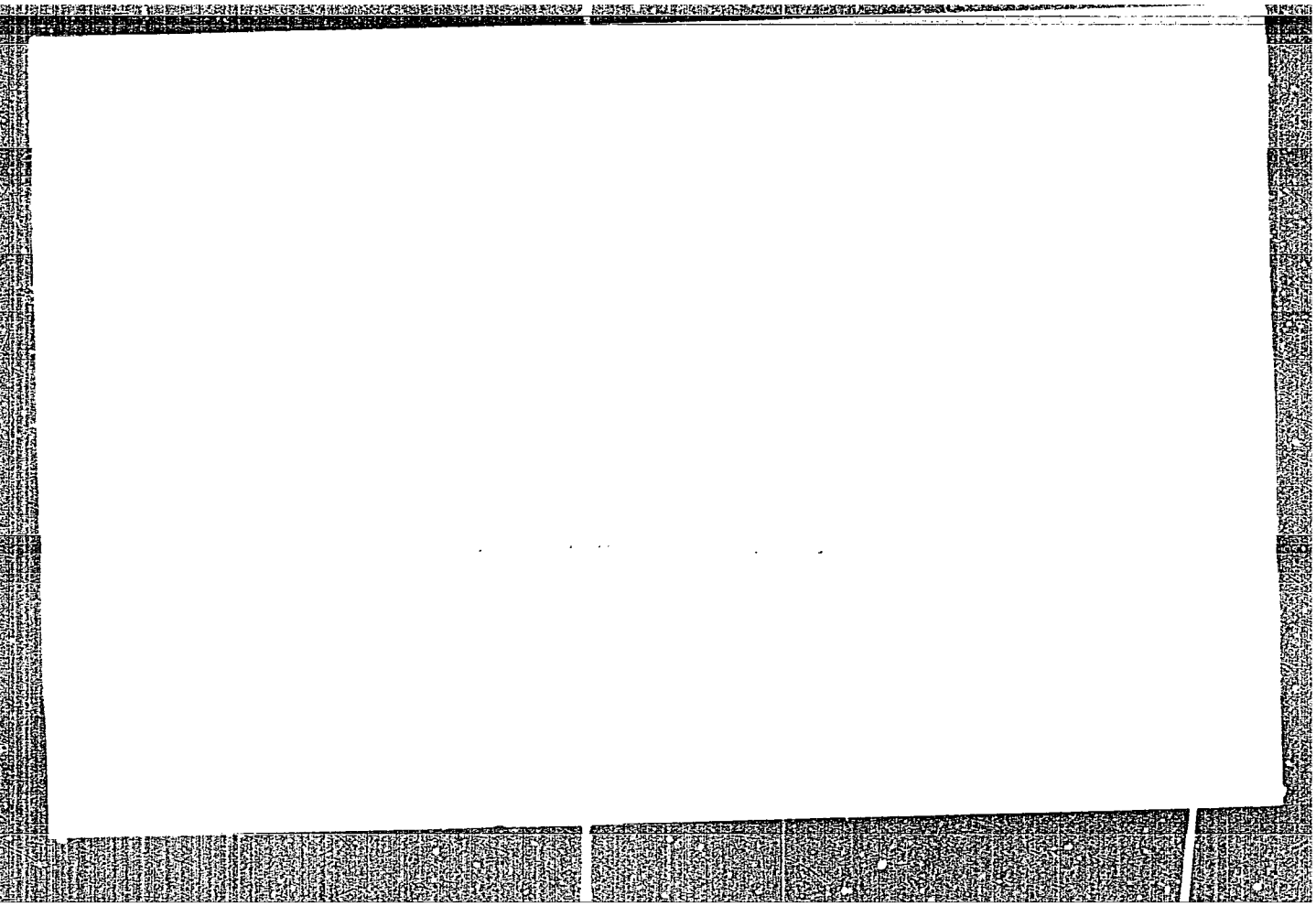




PROKOF'YEV, Ya.N.; YEMEL'YANOVA, A.P.; PISARENKO, A.P.

Using high-styrene rubbers in the manufacture of microporous soles for shoes. Kozh.-obuv. prom. no.3:19-23 Mr '59. (MIRA 12:6)

(Rubber, Synthetic) (Shoe manufacture)



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YEMEL'YANOVA, A.V.

YEMEL'YANOVA, A.V., metodist

Exercise therapy as a method for restoring motor function in neurosurgical patients. Med.sestra 16 no.6:19-22 Je '57. (MLRA 10:8)

1. Iz Nauchno-issledovatel'skogo ordena Trudovogo Krasnogo Znameni instituta neyrokhirurgii imeni akad. N.N.Burdenko Akademii meditsinskikh nauk SSSR
(EXERCISE THERAPY) (NERVOUS SYSTEM--SURGERY)

KHAR'KOVTSEV, G.N.; YEMEL'YANOVA, E.N.

Regional differentiation in wholesale prices for ferrous metals.
Sbor.trud.Otd. tekh.-ekon. issl. TSNIICHM no. 1:129-136 '63.
(MIRA 17:6)

YEMEL'YANOVA, Furtseva Anastasiya, svinarka; LANSKIKH, A., zootekhnik; YAMPOL'SKAYA, I.G., red.; KOLBICHEV, V.I., tekhn. red.

[Competing with IAroslav Chizh] Sorevnuemsia s IAroslavom Chizhom. Cheliabinsk, Cheliabinskoe knizhnoe izd-vo, 1960. 8 p. (MIRA 14:12)

1. Sovkhoz "Krasnyy Oktyabr'" Verkhne-Ural'skogo rayona (for Furtseva). (Swine breeding)

KISAROV, V.M.; KOLMAKOV, O.A.; RYABININ, S.I.; Prinimala uchastiye YEMEL'YANOVA, G.A.

Recovery of benzene from absorption gases by means of by-products of phenol manufacture via cumene. Khim.prom. no.9:691-692 S '62. (MIRA 15:11)

(Benzene) (Gases) (Phenol)

YEMEL'YANOVA, G.F., BARILENKO, V.P.

Revisions are necessary in the curriculum. Sov.zdrav. 17 no.8:3033 Ag '58 (MIRA 11:8)

1. Iz kafedry organizatsii zdravookhraneniya (zav. G.F. Yemel'yanova) Dneporpetrovskogo meditsinskogo instituta (dir. - prof. D.P. Chukhriyenko).
(PUBLIC HEALTH, educ
in Russia, need for curriculum changes (Rus))

YEMEL'YANOVA, G.F., BARILENKO, V.P.

"Sanitation, therapy, and prophylaxis provided for workers at machine-tractor stations." by R.D. Gabovich. Reviewed by G.F. Emel'ianova, V.P. Barilenko. Gig. i san. 23 no.8:87-88 Ag '58 (MIRA 11:9)

(MACHINE-TRACTOR STATIONS--HYGIENIC ASPECTS)
(MEDICINE, RURAL)

YEMEL'YANOVA, G.F.

Concern for the health of miners. Vrach.delo no.6:631-632 Je '60. (MIRA 13:7)

1. Kafedra organizatsii zdravookhraneniya i istorii meditsiny (zav. - G.F. Yemel'yanova) Dnepropetrovskogo meditsinskogo instituta.
(KRIVOY ROG--MINERS--DISEASES AND HYGIENE)

BARILENKO, V.P.; YEMEL'YANOVA, G.F.; CHERNENKO, I.N. (Dnepropetrovsk)

Activity of the Red Cross Society in the program of the departments of public health organization. Sov. zdrav. 19 no.7:39-41 '60. (MIRA 13:8)

1. Iz kafedry organizatsii zdravookhraneniya (zav. G.F. Yemel'yanova) Dnepropetrovskogo meditsinskogo instituta i Dnepropetrovskogo oblastnogo komiteta Obshchestva Krasnogo (predsedatel' I.N. Chernenko).
(PUBLIC HEALTH ADMINISTRATION--STUDY AND TEACHING)

BARILENKO, V.P.; YEMEL'YANOVA, G.F.

Accident control in agriculture. Vrach. delo no.5:131-132 My '61.
(MIRA 14:9)

1. Kafedra organizatsii zdravookhraneniya (zav. - G.F. Yemel'yanova)
Dnepropetrovskogo meditsinskogo instituta.
(AGRICULTURE--ACCIDENTS)

YEMEL'YANOVA, G.F., dotsent

Measures for further improvement of medical service and health protection of the Krivoy Rog Basin population. Vrach. delo no.7:126-127 Jl'63. (MIRA 16:10)

1. Kafedra organizatsii zdravookhraneniya i istorii meditsiny Dnepropetrovskogo meditsinskogo instituta.
(KRIVOY ROG BASIN—PUBLIC HEALTH)

YEMEL'YANOVA, G.F., dotsent (Dnepropetrovsk)

First Congress of Hygienists, Epidemiologists, Microbiologists, Infectious Diseases Specialists, and Organizers of Public Health in Bulgaria. Sov. zdrav. 22 no.7:90-91 '63 (MIRA 16:12)

YEMEL'YANOVA, G.I.; LEBEDEV, V.P.; KOBOZEV, N.I.

Catalytic decomposition of liquid ozone at low temperatures. Part 1: Kinetics of low-temperature catalysis on platinum black. Vest. Mosk. un. Ser. 2:7-9 N-D '60. (MIRA 14:2)

1. Kafedra fizicheskoy khimii Moskovskogo universiteta.
(Ozone) (Platinum)

84306

S/189/60/000/004/001/006
B002/B060

11.1120

AUTHORS: Yemel'yanova, G. I., Strakhov, B. V., Lebedev, V. P.

TITLE: Density of Liquid Ozone

PERIODICAL: Vestnik Moskovskogo universiteta. Seriya 2, khimiya, 1960, No. 4, p. 11

TEXT: Values for liquid ozone density in available literature differ as much as 8% (Refs. 1-3). A new determination was, therefore, made at -195.6°C. A certain volume was filled with 100% gaseous ozone, and the pressure was measured; ozone was then condensed, and the volume of liquid ozone was measured with a measuring tube. The average value from four measurements was 1.619 ± 0.004 g/cm^3, which is in good agreement with the most current data available. The method was checked by determining the density of liquid oxygen; the value found was 1.204 g/cm^3, as against 1.2037 g/cm^3 in Ref. 4. The errors in measurement did not exceed ±0.002%. There are 4 references: 1 Soviet, 1 German, and 2 US.

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84306

Density of Liquid Ozone

S/189/60/000/004/001/006
B002/B060

ASSOCIATION: Kafedra fizicheskoy khimii (Chair of Physical Chemistry)

SUBMITTED: March 15, 1960

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30342

S/189/61/000/006/004/005
D228/D304

11.1120

AUTHORS: Yemel'yanova, G.I., Lebedev, V.P. and Kobozev, N.I.

TITLE: Catalytic decomposition of liquid ozone at low temperatures. II The energy of activation of the low-temperature decomposition of ozone and the activity of palladium black

PERIODICAL: Moscow. Universitet. Vestnik. Seriya II, khimiya, no. 6, 1961, 31-34

TEXT: This investigation of the low-temperature decomposition of ozone and the activity of Pd black is a continuation of previous research by the authors (Ref. 1: Vestn. Mosk. un-ta, ser. khimii, no. 6,7, 1960) in which a catalytic process was discovered for the decomposition of liquid ozone on Pt black at - 195.6°. Their new data, obtained from the decomposition of ozone on Pt black at - 183° and - 195.6°, show that the mean

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Catalytic decomposition ...

apparent energy of activation of the process is 500 cal. mol.$^{-1}$. Pd black was found to be equally effective; the data for this catalyst satisfy the kinetic equation previously deduced for Pt black, and the maximum number of molecules decomposed in one second by one atom of catalyst was calculated as 1.2×10^{-2} - an unexpectedly high value for low-temperature catalytic processes. However, Ag black, CuO, Cu, NiO, Ni_2O_3, Fe_2O_3, and Fe are catalytically quite inactive. It was also established from other tests that the rate of catalysis for Pd and Pt black is in no way influenced by diluting the ozone with oxygen or nitrogen. Moreover, the experimental study of the relationship of the catalyst's activity to its quantity - at a constant concentration of ozone - indicates a certain decline in the relative activity of Pt black when its concentration exceeds 30 mg. The authors hence conclude that the decomposition of liquid ozone on Pd and Pt black is undoubtedly a heterogeno-

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catalytic process. However, further work will be undertaken to ascertain whether the transmission of the energy of the simple exothermic act of dissociation to the reacting molecules is accomplished through the catalysts crystal-lattice or in the adsorbed layer of ozone. There are 4 figures, 1 table, and 2 references: 1 Soviet-bloc and 1 non-Soviet-bloc.

ASSOCIATION: Kafedra fizicheskoy khimii (Department of Physical Chemistry)

SUBMITTED: August 3, 1960

ACCESSION NR: AT4010622 S/3051/63/000/000/0454/0459

AUTHOR: Yemel'yanova, G.I.; Lebedev, V.P.; Kobozev, N.I.

TITLE: Low-temperature catalytic decomposition of liquid ozone

SOURCE: Kataliticheskiye reaktsii v zhidkoy faze. Trudy* Vsesoyuznoy konferentsii. Alma-Ata, 1963, 454-459

TOPIC TAGS: cryogenics, ozone, liquid ozone, ozone decomposition, low-temperature ozone decomposition, catalytic decomposition, low-temperature catalyst, heat transfer, thermodynamics

ABSTRACT: Platinum, palladium, and silver black, Fe, Fe_2O_3, Cu, CuO, NiO and Ni_2O_3 were tested for use as catalysts in the decomposition of liquid ozone. Platinum and palladium proved the most active in the decomposition of liquid ozone at -195.8 and -183C. On the basis of the results with platinum and palladium as catalysts, the authors concluded that decomposition of ozone in a liquid state is a purely catalytic process in which no chain mechanism is involved, except on the metallic surface. Decisive in the decomposition is the exothermic energy transfer in the absorptive layer of ozone in the catalyst. In roentgenographic, spectroscopic, and magnetic studies of the effect of the

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ACCESSION NR: AT4010622

oxygen on the catalytic surface, the presence of oxides produced in a chemical interaction was not detected. Tests on ozone in a gaseous state at room temperature showed that the oxides, notably NiO and Ni_2O_3, are more active than Pt, Pd and Ag as catalysts. Orig. art. has: 6 chemical formulas and 3 figures.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova (Moscow State University)

SUBMITTED: 00 DATE ACQ: 25Jan64 ENCL: 00

SUB CODE: GC NO REF SOV: 013 OTHER: 001

Card 2/2

YEMEL'YANOVA, G.I.; LEBEDEV, V.P.; KOBOZEV, N.I.

Physical chemistry of concentrated ozone. Zhur. fiz. khim. 38 no.1:170-175 Ja'64. (MIRA 17:2)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.

YEMEL'YANOVA, G.I.; LEBEDEV, V.P.

Relation between the free surface and crystal size of solid and adsorption catalysts. Zhur. fiz. khim. 38 no.9:2293-2296 S '64. (MIRA 17:12)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova, khimicheskiy fakul'tet.

YEMEL'YANOVA, G.I.; LEBEDEV, V.P.

Catalytic activity of amorphous and crystalline phases. Part 4.
Zhur. fiz. khim. 39 no.2:403-409 F '65. (MIRA 18:4)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova, khimicheskiy fakul'tet.

L 9735-66 EWT(m)/EWP(j)/EWP(t)/EWP(b) LJP(b) JD/WW/JG/RM

ACC NR: AP5027171 SOURCE CODE: UR/0076/65/039/010/2380/2387

AUTHOR: Yemel'yanova, G.I.; Lebedev, V.P.; Kobozev, N.I.

ORG: Moscow State University im. M.V. Lomonosov (Moskovskiy gosudarstvennyy universitet)

TITLE: Physical chemistry of concentrated ozone. Part 25. Mechanism and kinetics of the low-temperature catalytic decomposition of liquid ozone on platinum and palladium

SOURCE: Zhurnal fizicheskoy khimii, v. 39, no. 10, 1965, 2380-2387

TOPIC TAGS: ozone, platinum, palladium, catalysis, chemical reaction kinetics, physical chemistry

ABSTRACT: The decomposition of liquid 100% ozone and its solutions in nitrogen and oxygen at -195.6C on platinum and palladium black and on adsorption platinum catalysts goes through an active chemisorbed state which is thought to involve the composition MeO_3. The transfer of the energy of the elementary exothermic event is accomplished in the layer of ozone physically adsorbed on the surface of the catalyst from one active center to the next. In the course of the catalysis, an oxygen compound of platinum of the composition MeO is formed on the surface; this compound is sufficiently stable at the temperatures

Card 1/2 UDC 541.124/.128

L 9735-66

ACC NR: AP5027171

at which the catalytic experiment is carried out, and as a result, a self-poisoning of the catalyst takes place. Consideration of this self-poisoning by means of a semiempirical method led the authors to the derivation of a kinetic equation which adequately describes the experimental data. Orig. art. has: 1 figure, 3 tables, and 17 formulas.

SUB CODE: 07 / SUBM DATE: 29May64 / ORIG REF: 013 /

Card 2/2

ACC NR: AP7012425 SOURCE CODE: UR/0189/66/000/003/0045/0047

AUTHOR: Yemel'yanova, G. I.; Lebedev, V. P. (deceased)

ORG: Department of Physical Chemistry, Moscow State University (Kafedra fizicheskoy khimii moskovskogo gosudarstvennogo universiteta)

TITLE: Poisoning isotherms in the presence of the promoting effect at low concentrations of the poison

SOURCE: Moscow. Universitet. Vestnik. Seriya II. Khimiya, no. 3, 1966, 45-47

TOPIC TAGS: catalyst poisoning, promotor, promoting effect, catalyst

SUB CODE: 07

ABSTRACT: An exponential equation describing the relative activity as a function of catalyst poison adsorbed on centers for the totality of homogeneous active sites on catalyst surface:

$$\ln \frac{A_g}{A_o} = - \frac{B_k \cdot g}{Z_k[B + (b_k - b)g]} \qquad (1)$$

where $\frac{A_g}{A_o}$ = extent of catalyst poisoning; Z_k = number of catalytically active sites; g = amount of adsorbed poison; B and b = parameters of the Langmuir

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UDC: 541.1/532+533

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ACC NR: AP7012425

adsorption equation for the poison; B_k and b_k = adsorbed parameters for the total active sites. This equation describes typical isotherms of poisoning of metallic catalysts characterized by a monotonous or abrupt drop in effectiveness of poisoning on the adsorption of the poison. The number of active sites, Z_k, is calculated according to equation (1) for the even poisoning isotherms and is the upper limit of the Z_k value. Orig. art. has: 2 figures and 2 formulas. [JPRS: 40,422]

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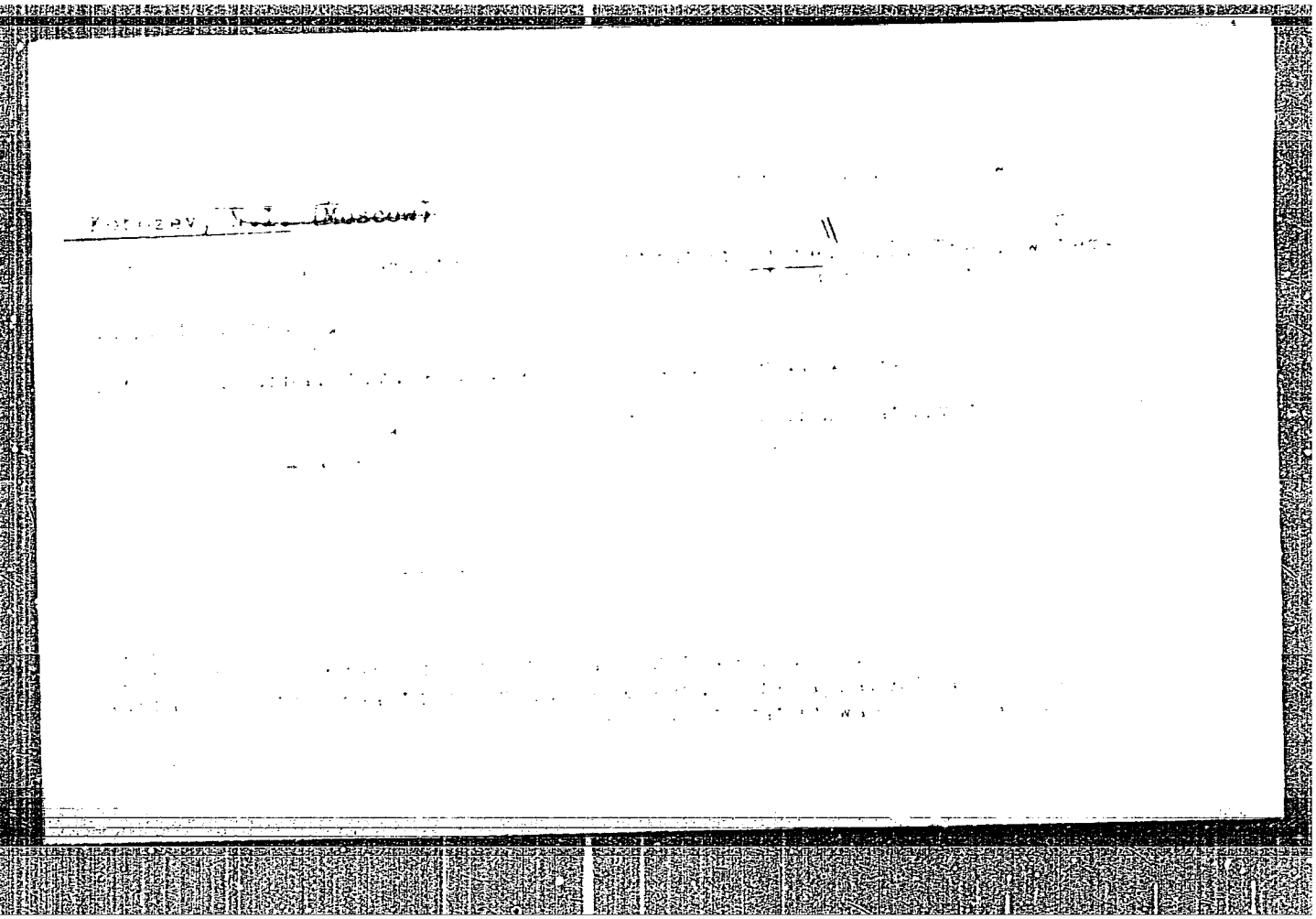

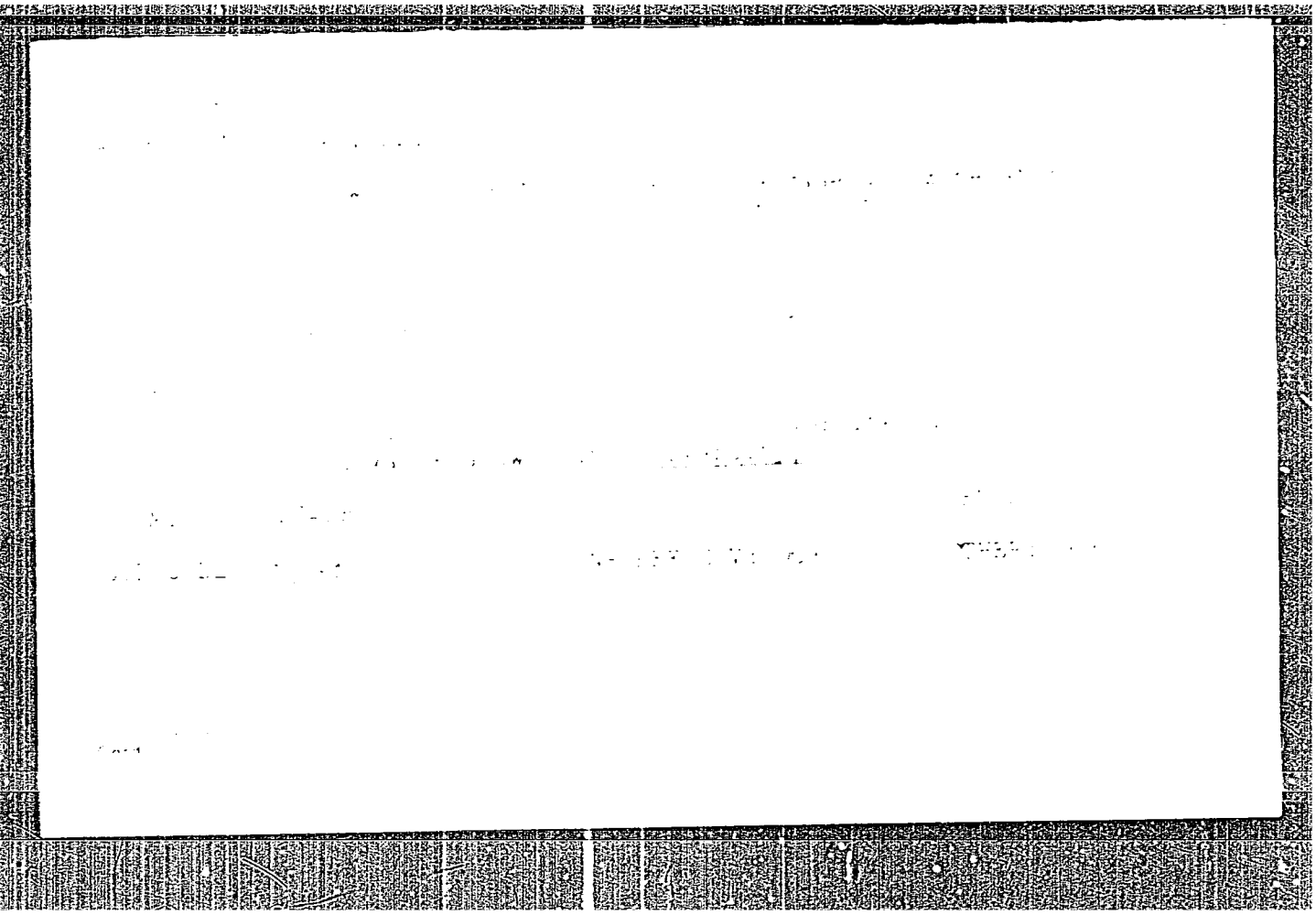

YEMEL'YANOVA, G. S.

USSR/Physics / Cosmic rays FD-995

Card 1/1 Pub. 146 - 19/20

Author : Gramenitskiy, I. M.; Yemel'yanova, G. S.; and Podgoretskiy, M. I.

Title : Problem of the effect of connected fissions in cosmic rays

Periodical : Zhur. eksp. i teor. fiz., 27, No 5 (11), 654-655, Nov 1954

Abstract : The authors analyze 820 "stars" found during an examination of 380 cm^2 of emulsion 200 microns thick exposed at an altitude of about 15 km, and discuss the observed effect of connected "stars" for distances less than 0.5 mm. They note that the effect turns out to be approximately the same as found by Leprince-Renguet and Heidman (Nature, 161, 1948) and by Li and Perkins (Nature, 161, 1948). Here the authors consider not only "binaries" but also "trinaries", in contrast to previous investigators. The authors note Zh. S. Takibayev's suggestion (Zhur. eksp. i teor. fiz., 24, 636, 1953) that pairs of photoplates moving relatively to each other be employed to determine the moment of time corresponding to the flight of charged particles through the emulsion, which would also determine the simultaneity of two events and formations of nuclear fissions spatially close. The authors believe that Zh. S. Takibayev's method would solve the problem of the effect of connected fissions. Thirteen references, 11 Western and 2 USSR.

Institution : Physics Institute imeni P. N. Lebedev, Academy of Sciences USSR

Submitted : February 18, 1954

S/081/63/000/003/027/036
B144/B186

AUTHORS: Zaychenko, V. N., Mel'nikov, L. F., Yemel'yanova, G. V.

TITLE: Electric-discharge polymerization of ethylene

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 3, 1963, 586, abstract 3T24 (Tr. Krasnodarsk. fil. Vses. neftegaz. n.-i. in-ta, no. 8, 1962, 102-109)

TEXT: The possibility is studied for obtaining solid polyethylene under the effect of an electric discharge in vacuo (5 - 50 mm Hg).. It is shown that using a cylindrical glass capacitor with a non-isolated central metal electrode as reaction vessel, a polymer (90 - 97%) forms on the electrodes in the form of a transparent or dull white film which under prolonged action of the discharge becomes brittle, loses its solubility, and darkens. Simultaneously hydrogen and saturated and nonsaturated hydrocarbons form. The effect is studied of initiating additions (saturated and aromatic hydrocarbons) and gaseous products forming in the electronic discharge on the process of ethylene polymerization (inhibition of the process). It is shown that in the

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Electric-discharge polymerization of ... S/081/63/000/003/027/036
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polymerization of ethylene in hydrocarbon solvent it is mainly the solvent that is polymerized. [Abstracter's note: Complete translation.]

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