

YEREMIN, S.A.; KIR'YANOVA, V.M.; SHCHEVELEV, M.I.

Effect of inherent dislocations in alloyed p - n-junctions on the  
duration of transients. Izv. vys. ucheb. zav.; fiz. 8 no.2:23-27  
'65. (MIRA 18:7)

1. Voronezhskiy politekhnicheskii institut.

YEREMIN, S.A.; SHADROV, A.F. (Kuybyshev)

Complete systems and bases in spaces of functions holomorphic  
in multiple Hartogs regions. Volzh. mat. sbor. no.1:65-71 '63.  
(MIRA 19:1)

was studied in the context of the following: (1) the role of the

**"APPROVED FOR RELEASE: 09/01/2001**

**CIA-RDP86-00513R001962720013-0**

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**CIA-RDP86-00513R001962720013-0"**



YEREMIN, S.A.; SHEVELEV, M.I.

Reply by the authors. Izv.vys.ucheb.zav.; prib. 7 no.6:122 '64.  
(MIRA 18:2)

YEREMIN, S.A.; SHCHEVELEV, M.I.

Device for measuring pulse characteristics of semiconductor diodes. Izv. vys. ucheb. zav.; prib. 7 no.1:149-152 '64.  
(MIRA 17:9)

1. Voronezhskiy politekhnicheskiy institut. Rekomendovana kafedroy poluprovodnikovoy elektroniki.

MIKHAYLYUK, T.P.; YEREMIN, S.F., red.; LAPIDUS, M.A., red.;  
OKOLELOVA, Z.I., tekhn. red.

[Work practice of production administrations] Opyt raboty  
proizvodstvennykh upravlenii. Moskva, Sel'khozizdat, 1963.  
334 p. (MIRA 16:12)  
(Agricultural administration)



YEREMIN, S.K., insh.

Mechanical clamp. Transp.stroi. 10 no.5:53 M '60.  
(MIRA 13:7)

(Hoisting machinery)

YEREMIN, S.K., insh.

Portable hydraulic track liner. Transp.stroi. 10 no.7:52  
J1 '60. (MIRA 13:7)

(Railroads--Track)

YEREMIN, S.K., inzh.

Excavator for self-propelled chassis. Trakt.i sel'khozmasb. 30  
no.10:31 0 '60. (MIRA 13:9)  
(Excavating machinery)

BELOV, B.I., USTINOVA, Ye.T.; YEREMIN, S.K.

Use of some thermoplastic resins for the preparation of nonwoven fabrics with the adhesion method. Izv.vys.ucheb.zav.; tekhn.tokst. prom. no.3:98-102 '63. (MIRA 16:9)

1. Moskovskiy ordena Trudovogo Krasnogo Znameni institut narodnogo khozyaystva imeni G.V.Plekhanova.  
(Nonwoven fabrics) (Resins, Synthetic)

DOROFEYEV, Vitaliy Mitrofanovich; LEVIN, Veniamin Yakovlevich.  
Prinipali uchastiye: YEREMIN, S.N., inzh.; KONDRUSEV, V.S.,  
inzh.; LAKSHTOVSKIY, A.A., kand. tekhn. nauk, retsenzent;  
SKUBACHEVSKIY, L.S., inzh., red.; SHEYNFAYN, L.I., red.;  
GARNUKHINA, L.A., tekhn. red.

[Testing ram-jet engines] Ispytaniia vozdušno-reaktivnykh avi-  
gatelei. Moskva, Gos. nauchno-tekhn. izd-vo Oborongiz, 1961.  
220 p. (MIRA 15:2)

(Airplanes--Ram-jet engines)

YEREMIN, T.

Inexhaustible possibilities. Prof.-tekh.obr. 22 no.4:25-27 Apr '65.  
(MIRA 18:5)

1. TSekhovoy organizator Kurskogo elektroapparatnogo zavoda.

YEREMIN, V.

Labor. force. Mst. ugl. 6 no. 6:18-19 Je '57.

(MLRA 10:8)

1. Zamestitel' nachal'nika Otdela rabochikh kadrov Ministerstva  
ugol'noy promyshlennosti SSSR.

(Coal miners)

VOROB'YEV, A., inzhener; YEREMIN, V., inzhener.

Training machine operators for the coal industry. Mast. uel. 3  
no.6:3-4 Je '54. (MIRA 7:7)  
(Coal mines and mining) (Mining engineering--Study and  
teaching)



YEREMIN, V., mekhanik (Chelyabinsk).

~~XXXXXXXXXX~~  
Device for removing the wheel hub from the Moskvich automobile.  
Za rul. 14 no.5:18 Ag '56. (MIRA 10:1)  
(Automobiles--Apparatus and supplies)

Y E R E M I N , V .

AUTHOR: Yeremin, V., Instructor

27-10-19/21

TITLE: Technical Competition (Tekhnicheskaya olimpiada)

PERIODICAL: Professional'no - Tekhnicheskoye Obrazovaniye, 1957, # 10,  
inner side of rear cover (USSR)

ABSTRACT: The Agricultural Mechanization School # 13 in the Kirov Oblast' arranged a technical competition to increase the knowledge of the tractor "ДТ-54", and combines "С-4" and "ЛТ-7", which yielded good results.

AVAILABLE: Library of Congress

Card 1/1

22 (1)

SOV/27-59-3-34/37

AUTHOR: Yeremin, V., School Instructor

TITLE: An Instructive Meeting (Pouchitel'naya vstrecha)

PERIODICAL: Professional'no-tekhnicheskoye obrazovaniye, 1959, Nr 3,  
p 32 (USSR)

ABSTRACT: The author describes a meeting which the students of the Vozhgaly Technical School No 1 (Kirov Oblast ) held with the Chairman of the Kolkhoz "Krasnyy Oktyabr'" Pëtr Alekseyevich Prozorov, Hero of Socialist Labor. The kolkhoz has at present over 46,000 hectares of land, including 28,000 hectares of arable land, 80 tractors, 45 automobiles, many combines and other machinery.

ASSOCIATION: Vozhgal'skoye tekhnicheskoye uchilishche No 1, Kirovskaya oblast' (Vozhgaly Technical School No 1, Kirov Oblast ).

Card 1/1

YEREMIN, V.

Study room for studying tractors. Prof.-tekh. obr. 17 no.7:19-20  
Jl '60. (MIRA 13:8)

1. Prepodavatel' uchishcha mekhanizatsii sel'skogo khozyaystva  
No.1 (Kirovskaya oblast').  
(Tractors--Audio-visual aids)

~~YEREMIN, V.~~, preodavatel'

Important topic. Prof.-tekh. obr. 19 no.6:6 Je '62. (MIRA 15:7)

1. Uchilishche mekhanizatsii sel'skogo khozyaystva No.1,  
Kirovskaya obl.

(Tractors)

YEREMIN, V., преподаvatel'

Excursion class. Prof.-tekh.obr. 21 no.11:18-19 N '64  
(MIRA 18:2)

1. Vozhgal'skoye sel'skoye professional'no-tekhnicheskoye  
uchilishche No.1, Kirovskaya obl.

YEREMIN, V. I.

PA 43/43T21

USSR/Engineering

Mar 1948

Furnaces  
Coal

"Substituting Other Grades of Coal for Zhurinsk Coal,"  
V. I. Yerin, Engr, GlavEnergo, MChM, 3 pp

"Stal" No 3

Ural Metallurgic Plants can use Grade SS coal from the  
"Ziminka" shaft of the Prokop'yevskUgol and Shaft No  
3 of KaganovichUgol instead of Zhurinsk coal for gas-  
generating stations for the fireproofing and rolling  
shops. However, tests must still be conducted to de-  
termine changes which must be made before Martin fur-  
nace plants can make the changeover.

43T21

...MIN, V. I.

PA 42/49T77

USSR/Minerals  
Lignite  
Coal Gas

Apr 49

"Experimental Gasification of Karaganda Lignite,"  
V. I. Yerevin, V. I. Kostin, Engineers, 6 pp  
"Za Ekonomiyu Topliva" Vol VI, No 4

Karaganda lignite is a satisfactory gas-generating  
fuel. During prolonged storage, Karaganda lignite  
rapidly breaks up into bits unsuitable for gasi-  
fication. Higher indices were obtained in gasi-  
fication of Karaganda lignite than in gasification  
of Chelyabinsk coal. One deficiency of Karaganda  
42/49T77

USSR/Minerals (Contd)

Apr 49

coal, as a gas-generating fuel, is the small  
difference between the temperature of the start of  
ash deformation and the melting point (20° C).

42/49T77



SOV/137-59-3-5484

Translation from: Referativnyy zhurnal. Metallurgiya, 1959, Nr 3, p 78 (USSR)

AUTHOR: Yeremin, V.I.

TITLE: Designs of Furnaces for Fluidized-bed Roasting and Trends of Further Work in This Field (Konstruktsiya pechey dlya obzhiga materialov v kipyashchem sloye i dal'neysheye napravleniye rabot v etoy oblasti)

PERIODICAL: V sb.: Materialy Soveshchaniya po vopr. raboty pechey tsvetn. metallurgii i razvitiya pirometallurg. protsessov. Moscow, 1957. pp-68-87

ABSTRACT: A description is given of designs of various alternate arrangements of the following main units of furnaces for roasting in the state of fluidized suspension: The air-distributing unit (a comparison is made of existing nozzles), the loading devices, the water-cooling devices for elimination of excess heat from the fluidized-solids bed, and the units for unloading of scoria from the furnace. The selection of materials used for lining and future trends in the design of fluidized-bed furnaces are also discussed.

Yu. O.

Card 1/1

GLADILIN, A.A.; GLUKHOV, D.S.; YEREMIN, V.I.; ZVEREVA, N.F.; LAPIN, K.N.;  
MAMONOVA, A.S.; MARTYNOV, M.K.; CHIRKOV, N.Ye.; MIKHAL'CHIKOV,  
P.I.; POLYACHKIN, M.A., red.; ANTONOV, V.P., tekhn. red.

[Economy of Penza Province; a statistical collection] Narodnoe  
khoziaistvo Penzenskoi oblasti; statisticheski sbornik. Penza,  
1958. 190 p. (MIRA 11:11)

1. Penzenskaya oblast'. Statisticheskoye upravleniye. (for all except  
Mikal'chikov and Antonov).

(Penza Province--Statistics)

*Jeremi* ✓-1

А. И. Корнетов  
Анализ спектров колебаний  
9 июня  
(с 18 до 22 часов)

В. И. Гурьев,  
С. В. Сидоров  
Генератор импульсов типа податочный контур.

В. И. Юрченко,  
И. Е. Харченко,  
Л. В. Афанасьев  
Вопросы связи с экраном электронно-лучевой трубки  
методом фотоаппарата и кинематографа

А. А. Галкин,  
Д. А. Тарнопольский  
Новые системы телепередачи и приема

В. А. Давыдов,  
Л. А. Чепелев,  
В. И. Шурбанов  
Применение фототрубки в ГИИ и телепередачах с  
использованием телеаппаратуры

36

18 июня  
(с 10 до 16 часов)

С. В. Гурьев,  
В. И. Сидоров

Вопросы связи с экраном электронно-лучевой трубки  
методом фотоаппарата

М. В. Артемьев

Определение предельной разрешающей способности  
электронно-лучевой трубки по двум методам  
структурной разрешающей способности

И. Г. Маринин,  
И. И. Курочкин

Численные методы расчета для телепередачи  
методом фотоаппарата

М. О. Галкин,  
М. И. Шурбанов,  
В. С. Калашников,  
В. И. Маринин

Контроль качества телепередачи методом  
структурной разрешающей способности

19 июня  
(с 10 до 22 часов)

37

report submitted for the Confidential Meeting of the Scientific Technological Society of  
Radio Engineering and Electrical Communications in A. S. Popov (VSEVE), Moscow,  
8-12 June, 1959

YEREMIN, V.I.

The BK-1425 tower crane. Biul.tekh.-ekon.inform. no.8:44-45  
'59. (MIRA 13:1)

(Cranes, derricks, etc.)

YEVNEVICH-CHEKAN, O.V.; YEREMIN, V.I.

Generator of sine-squared pulses. Elektroviáz' 14 no.11:21-25 H  
'60. (MIRA 13:12)  
(Television--Testing) (Oscillators, Electric)

DUBININ, A.M., kand.tekhn.nauk; YEREMIN, V.I., kand.tekhn.nauk; ZAYTSEV, K.A.,  
inzh.; TATARNIKOVA, N.A., kand.tekhn.nauk; TOPCHIYEV, G.M., kand.  
tekhn.nauk

New components for high-voltage measuring devices. Vest.elektroprom.  
33 no.2:44-49 F '62. (MIRA 15:2)  
(Electric measurements) (Cathode ray tubes)  
(Electric meters)

L 1352-66 EWP(j)/EWT(m) RM

ACCESSION NR: AP5024396

UR/0206/65/000/015/0080/0080  
678,743.22-426

AUTHOR: Kiya, M. V.; Rotenberg, I. P.; Khramova, Z. M.; Kichotova, Ya. M.;  
Zapol'skaya, K. I.; Lebedeva, V. S.; Kupriyanova, K. I.; Karmanakaya, M. A.;  
Kiselev, M. P.; Yerevin, V. I.; Lopatentova, N. A.

TITLE: A method for producing polyvinyl chloride foam. Class 39, No. 173403

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 15, 1965, 80

TOPIC TAGS: polyvinyl chloride, foam plastic

ABSTRACT: This Author's Certificate introduces a method for producing polyvinyl chloride foam by mixing polyvinyl chloride resin with a plasticizer and additives and then saturating the resultant mass with inert gas under pressure and heating it in a high-frequency current field. The processing is made independent of the moisture-content of the resin by vacuum evaporation treatment of the plastic mass before saturation with the inert gas.

ASSOCIATION: Vladimirekiy nauchno-issledovatel'skiy institut sinteticheskikh smol (Vladimir Scientific Research Institute of Synthetic Resins)

SUBMITTED: 02Jan63  
NO REF SOV: 000

ENCL: 00  
OTHER: 000

SUB CODE: NT

Card 1/1 KC

S/169/62/000/005/014/093  
D228/D307

AUTHORS: Yeremin, V. K., Klenchin, N. N., Udris, K. P. and  
Stuichevskiy, N. I.

TITLE: Geologic surveying and geophysical operating procedure  
in conditions of enclosed regions

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 5, 1962, 23, ab-  
stract 5A179 (V sb. Geol., metodika i tekhn. razved-  
ki, labor. raboty, (5), Alma-Ata, 1961, 19-28)

TEXT: In conditions of enclosed regions geophysical research me-  
thods lead in the general complex of geologic operations and begin  
with regional investigations. Seismic, gravimetric, electric and  
magnetic prospecting, accompanied by drilling, are used in this  
stage. Complex areal investigations at a scale of 1:200,000 in  
sections, outlined by the regional survey, represent the next stage  
of depth mapping. The investigational complex includes: aeromagne-  
tic and aerelectric prospecting, gravimetric prospecting, electric  
prospecting by the  $\beta\beta\beta$  (VEZ) and  $\Delta\beta\beta$  (DEZ) methods, geologic sur-

Card 1/2



Geologic surveying and ...

S/169/62/000/005/014/093  
D228/D307

veying, drilling operations, and geochemical investigations. Complex geologico-geophysical searches, including the obligatory execution of gravimetric and magnetic prospecting operations, are made in perspective areas, subject to mapping on a scale of 1:50,000. The choice of other geophysical and geochemical methods, and also the volume of drilling operations, is governed by the concrete geologic conditions and by the problems of seeking useful minerals. [Abstracter's note: Complete translation.]

Card 2/2

YESENOV, Sh.Ye.; YEREMIN, V.K.

Study of closed areas in the Kazakh S.S.R. Izv. AN Kazakh. SSR.  
Ser.geol. no.3:3-17 '62. (MIRA 15:7)  
(Kazakhstan--Geology, Economic)

BAZHANOV, V.S.; GALITSKIY, V.V.; YEREMIN, V.K.; KOSTENKO, N.N.; MEDOYEV, G.TS.;  
TETYUKHIN, G.F.

Resolutions of the Second Kazakhstan Interdepartmental Conference  
on the Quaternary Period and Geomorphology of Kazakhstan. Izv.AN  
Kazakh.SSR. Ser.geol. no.5:115-119 '62. (MIRA 15:12)

1. Akademiya nauk Kazakhskoy SSR (for Bazhanov, Galitskiy, Medoyev).
2. Ministerstvo geologii i okhrany nedr Kazakhskoy SSR (for Teremin).
3. YnKGU (for Kostenko). 4. Sredneaziatskiy nauchno-issledovatel'skiy institut geologii i mineral'nogo syr'ya, Tashkent (for Tetyukhin).  
(Kazakhstan--Geology, Stratigraphic--Congresses)  
(Kazakhstan--Geomorphology--Congresses)

YEREMIN, V.L., inzh.

Assembling reinforced concrete culverts. Put' i put. khoz.  
no.5:20 My '59. (MIRA 12:8)  
(Culverts)

YEREMIN, V.L.

We use sectional reinforced concrete constructions. Put' 1 put.khoz.  
7 no.1:13-14 '63. (MIRA 16:3)

1. Glavnyy inzh. tunnel'no-mostovogo otryada No.2, stantsiya Kirovakan,  
Zakavkazskoy dorogi.  
(Precast concrete constructions) (Railroads-Buildings and structures)

YEREMIN, V. M. (Vet.)

"Localization of larva of cavity gadflies in the area of esophagus."

SO: Veterinariya 27 (7), 1950, p. 54

Turkmen Sovkhoz Astrakhan Trust

YEREMIN, V. M.

Smallpox - Prevention

Single injection of sheep with STI vaccine and aluminum hydroxide formol formol vaccine for smallpox. Kar. 1 zver. 5 No. 4, 1952.

9. Monthly List of Russian Accessions, Library of Congress, December 1952. Unclassified.

YEREMIN V.M.

USSR/Diseases of Farm Animals - General Problems.

R-1

Abs Jour : Ref Zhur - Biol., No 11, 1958, 50144

Author : Yerinin, V.M.

Inst : -

Title : Lameness in Sheep and Methods of Its Control.

Orig Pub : Karakulovodstvo i zvorovodstvo, 1957, No 4, 62

Abstract : In the sand covered regions of Turkmenia lameness in sheep was observed, caused by the occlusion of the exit duct of the lanolin gland (located in the cleft of the hoof) by minute sand particles forming a plug. Such lameness is easily eliminated by the sand plug being squeezed out.

Card 1/1

- 2 -



ANASTASIYEV, B.I., inzh.; YEREMIN, V.M., inzh.; KOZLOV, D.T., inzh.; MIROV,  
B.M., inzh.; SAPOZHNIKOV, V.A., inzh.; ROMANOV, V.G., inzh.

Automatic unit for measuring pipe length. Mekh. i avtom.proizv.  
19 no.3:7-9 Mr '65. (MIRA 18:4)

YEREMIN, V. J.

PHASE I BOOK EXPLOITATION

SOV/5822

Alekseyev, Semen Mikhaylovich, Yakov Vladimirovich Balkind, Aleksandr Mironovich Gershkovich, Veniamin Semenovich Yerebin, Aleksandr Solomonovich Povitskiy, and Naum L'vovich Umanskiy

Sovremennyye sredstva avariynogo pokidaniya samoleta (Modern Facilities for the Emergency Abandonment of an Airplane) Moscow, Oborongiz, 1961. 450 p. Errata slip inserted. 4000 copies printed.

Reviewer: A. G. Brunov, Engineer; Ed.: A. I. Sokolov, Engineer; Ed. of Publishing House: A. G. Belevtseva; Tech. Ed.: P. V. Shcherbakov; Managing Ed.: S. D. Krasil'nikov.

**PURPOSE:** This book is intended for engineering and technical personnel in the aircraft industry, scientific workers, and flying and technical personnel of the Soviet Air Force.

**COVERAGE:** Based on non-Soviet sources, the book reviews briefly the development of flyers' escape equipment, describes the construction of ejection seats, and gives design and calculation.

Card 1/12

Modern Facilities (Cont.)

SOV/5822

data for ejection seats and ejection-seat parachutes. Information is included on the calculation of the trajectory of the ejected seat, its stabilization, and the aerodynamic loads involved. Attention is given to methods of escaping from aircraft flying at high speeds and at high and low altitudes. Information on problems connected with oxygen equipment, protective clothing, and testing facilities is also included. No personalities are mentioned. The authors thank A. G. Brunov, P. D. Tkachev, and N. I. Aleksandrova, Engineers, for valuable suggestions; and N. A. Lobanov, Candidate of Technical Sciences, for writing Subheading 9 of Ch. III. There are 34 references: 31 Soviet (5 translations), and 3 English.

TABLE OF CONTENTS:

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Ch. I. General Information on Modern Escape Facilities for Aircraft Crews in Distress	5
Card 2/12	

ALEKSEYEV, Semen Mikhaylovich; BALKIND, Yakov Vladimirovich; GERSHKOVICH, Aleksandr Mironovich; YEREMIN, Veniamin Semenovich; POVITSKIY, Aleksandr Solomonovich; UMANSKIY, Naum L'vovich; Prinyal uchastiye LOBANOV, N.A., kand. tekhn. nauk; BRUNOV, A.G., inzh., retsenzent; SOKOLOV, A.I., inzh., red.; BELEVTSOVA, A.G., red. izd-va; SHERBAKOV, P.V., tekhn. red.

[Modern means for abandoning an airplane in an emergency] Sovremennye sredstva avarijnogo pokidaniya samoleta. Moskva, Gos. nauchno-tekhn. izd-vo Oborongiz, 1961. 450 p. (MIRA 14:8)  
(Pilot ejection seats) (Parachuting)

YEREMIN, Valentin Ustinovich; GLUKHEN'KIY, T.T., red.

[Treatment of patients with chronic inflammatory diseases of the liver and biliary tract at the Truskavets Health Resort] Lechenie bol'nykh khronicheskimi vospalitel'nymi zabolevaniami pecheni i zhelchnykh putei na kurorte Truskavets. Kiev, Gosmedizdat USSR, 1964. 51 p.

(MIR 17:8)

YEREMIN, Valentin Ustinovich; GLUKHEN'KIY, T.T., red.; POTOTSKAYA, L.A.,  
tekhred.

[Treating liver diseases at Truskavets] Lechenie zabolevani  
pecheni na kurorte Truskavets. Kiev, Gos.med.izd-vo USSR, 1960.  
50 p. (MIRA 14:2)  
(LIVER--DISEASES) (TRUSKAVETS--MINERAL WATERS)

USSR/Physical Chemistry - Kinetics. Combustion. Explosives. Topochemistry. B-9

Abs Jour: Referat Zhur - Khimiya, 4, 1957, 11216

Author : III. A. D. Stepukhovich and G. I. Kats  
IV. A. D. Stepukhovich and G. P. Vorob'yeva  
V. A. D. Stepukhovich and L. V. Derevenskikh  
VI. A. D. Stepukhovich, L. S. Stal'makhova, Yeremin, V. V.  
VII. A. D. Stepukhovich, L. V. Derevenskikh

Title : Kinetics and Mechanism of Decomposition of Hydrocarbons.  
III. Kinetics and Mechanism of Thermal Decomposition of Divinyl at Low Temperatures.  
IV. Kinetics and Mechanism of Decomposition of Isobutane in the Presence of Isobutylene and Propylene as Inhibitors  
V. Kinetics of Thermal Decomposition of Gaseous Paraffins in the Presence of Added Divinyl  
VI. Kinetics of Thermal Decomposition of Gaseous Paraffins in the Presence of Acetylene  
VII. Kinetics and Mechanism of Decomposition of Gaseous Alkanes in the Presence of Allene

Orig Pub: Zhurnal fiz. khimii, 1954, 28, No 7, 1174-1185; No 8, 1361-1370; No 10, 1720-1724; No 11, 1678-1681; 1955, 29, No 12, 2129-2132

Card : 1/4

USSR/Physical Chemistry- Kinetics. Combustion. Explosives. Topo-chemistry. B-2

Abb Jour: Referat Zhur - Khimiya, No 4, 1957, 11216

Abstract: III. The velocity constant of divinyl decomposition, calculated in accordance with the equation of the reactions of second order, varies linearly, at 570-620° and 2-30 mm Hg pressure, depending on  $1/p_0$  ( $p_0$  -- initial pressure). Calculated were mean duration of life of divinyl molecule in activated state,  $5 \cdot 10^{-9}$  seconds, the number of kinetically active degrees of freedom 20, and dissociation of divinyl conforms to the Arrhenius-Frost equation and is interpreted as a chain reaction undergoing spontaneous inhibition by decomposition products. Additions of divinyl accelerate decomposition of  $C_2H_6$  at 620°. Accelerative action of divinyl reaches a limit at 12%

IV. By the method of inhibiting additives (RZhKhim, 1953, 8215) a study was made of thermal decomposition of isobutane at pressure of 10 mm Hg and temperatures of 548 and 573°. Addition of 0.5% slows down the decomposition sharply, on increase of the addition from 1 to 7% effectiveness of its action decreases, and with 7-10% saturation is reached (first order velocity constant acquires constant value). Under the same conditions inhibition by isobutylene is more effective than by propylene.

Card : 2/4



USSR/Physical Chemistry - Kinetics. Combustion. Explosives. Topochemistry B-9

Abstr Jour: Referat Zhur - Khimiya, No 4, 1957, 11216

Experimental data on inhibiting action of additives fit the equation:  $1/W - W_0 = A + BC$  (1), wherein  $W$  -- reaction velocity,  $W_0$  -- residual velocity,  $A$  and  $B$  -- constants,  $C$  (add) -- concentration of additive, which proves the chain nature of the decomposition. The primary effect is decomposition of isobutane molecule at C-C bond. Inhibiting action of olefins is explained by removal of H atom by active radical from molecule of additive with formation of inactive unsaturated radicals. By means of equation (1) were calculated velocity constants of the reaction of chain termination at the wall and at molecules of additive. Activation energy of inhibiting reactions brought about by isobutylene and propylene is, respectively, 5.6 and 8.5 kcal/mole, that of the reaction of termination at wall, 14.7 kcal/mole.

V. Study of kinetics of thermal decomposition of propane, butane and isobutane, in the presence of divinyl, with initial pressure of decomposing hydrocarbons  $\sim 10$  mm Hg, and at temperatures of 510-593°. Additions of divinyl, which is a product of cracking of hydrocarbons, do not inhibit decomposition of these hydrocarbons. Absence of inhibiting

Card : 3/4

USSR/Physical Chemistry - Kinetics. Combustion. Explosives. Topochemistry. B-9

Abs Jour : Referat Zhur - Khimiya, No 4, 1957, 11216

action of divinyl is correlated with greater durability of C-H bond, in  $\text{CH}_2$  groups, at the double bond carbon, in comparison with durability of C-H bond in methyl groups of propylene of isobutylene.

VI. Study of kinetics of thermal decomposition of propane and butanes in the presence of 1-20%  $\text{C}_2\text{H}_2$  at pressure of decomposing hydrocarbons ~10 mm and temperatures of 500-600°. Additions of  $\text{C}_2\text{H}_2$  do not inhibit rate of decomposition. Increased values of decomposition velocity constant of propane at pressures below 10 mm, in the presence of  $\text{C}_2\text{H}_2$ , are due to the fact that  $\text{C}_2\text{H}_2$  impedes diffusion of active centers to the walls. Thermal calculations have shown the possibility of a reaction between atomic hydrogen and  $\text{C}_2\text{H}_2$ , with formation of highly reactive vinyl radical which is stable under cracking conditions

VII. Additions of allene inhibit cracking of  $\text{C}_3\text{H}_8$  and iso- $\text{C}_4\text{H}_{10}$  but do not affect decomposition of  $\text{C}_4\text{H}_{10}$ . Mechanism of inhibition resides in addition of H atoms to allene molecule with formation of little active allyl radicals. Absence of inhibition in the case of  $\text{C}_4\text{H}_{10}$  is due to the fact that increase of latter occurs essentially with formation of  $\text{CH}_3$  radical. Communication II, see RZhKhim, 1957, 393.

Card : 4/4

YEREMIN, V.V., elektromekhanik

Some shortcomings of the ZhR-5 radio transmitter. Avtom., telem. i svyaz' 7 no.2:43 F'63. (MIRA 16:3)

1. Orskaya distantsiya signalizatsii i svyazi Kuybyshevskoy dorogi.  
(Railroads—Electronic equipment) (Railroads—Communication systems)

YEREMIN, Ya.

Electromechanical smoothing instrument. Stroitel' no.6:15 Je  
'61. (MIRA 14:7)

1. Instruktor proizvodstvennogo otucheniya tresta No.6 Omskogo  
sovnarkhoza.

(Grinding and polishing)

GORODETSKIY, N.I., kand. ekonom. nauk; YEREMOV, Ya.Ye.; SHMARGONER, Ye.A.

Growth of labor productivity in the coking plants of the  
Dnieper Economic Council. Koks i khim. no.1:61-64 '64.  
(MIRA 17:2)

1. Dnepropetrovskiy khimiko-tekhnologicheskiy institut  
(for Gorodetskiy, Yermov). 2. Dnepropetrovskiy koksokhimi-  
cheskiy zavod (for Shmargoner).



PROCESSES AND PROPERTIES INDEX

2

ep

3 Inversion of the ammonia equilibrium. E. N. Et'rimin and N. I. Kobosev. *Acta Physicochim. U. R. S. S. R.* 161-61(1955) (in German); *J. Phys. Chem. (U. S. S. R.)* 7(1956).—On the basis of heat-capacity data of Bryant (C. A. 27, 3880), E. and K. obtain for the ammonia reaction  $\Delta F^\circ = -18,343 + 34.775 T \log T - 0.017044 T^2 + 0.00000000 T^3 - 48.88 T$ . Up to 1000° this agrees well with the equation used by Maated (C. A. 13, 1050) but at higher values it gives no "inversion" for the yield of NH<sub>3</sub>. The inversion exptly. found by Maated at high temp. is quantitatively attributed to a reaction of the H atoms formed at these high temps. with the N<sub>2</sub> mols. in the cooling zone at about 1500-1000°, giving apparent but false high values for NH<sub>3</sub> formed at high temps. F. H. Rathmann

METALLURGICAL LITERATURE CLASSIFICATION

FROM SOURCE

871231 Oct 09V 151

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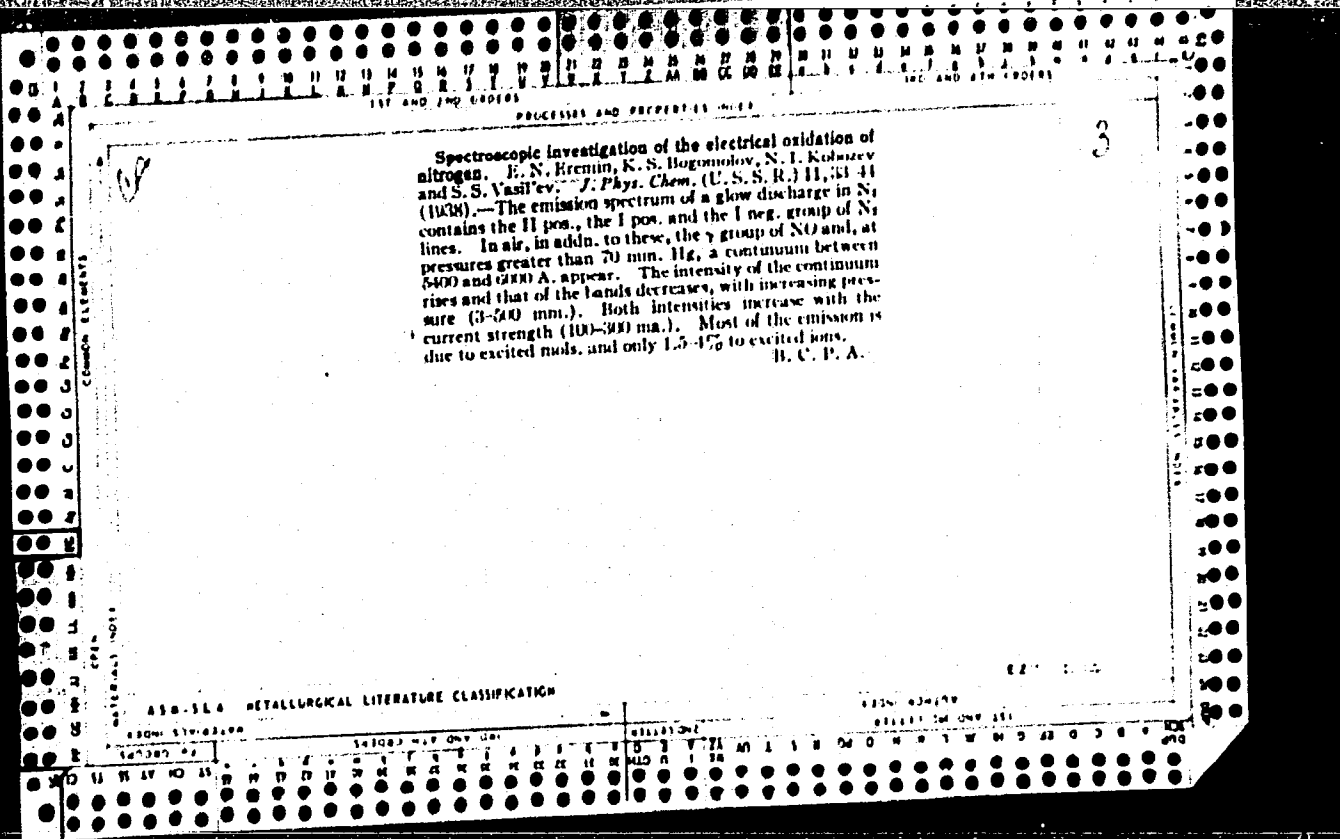




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Nitrogen oxidation in a high-frequency glow discharge.  
 H. B. N. Premin, B. S. Vasil'ev and N. I. Koloziev.  
*J. Phys. Chem.* (U. S. S. R.) **6**, 48-61; *Acta Physicochim.*  
*U. R. S. S.* **6**, 231-54(1957); cf. preceding abstr.  
 -At from 70 to 180 mm. pressure and 70 w., a  
 high-frequency ( $2.7 \times 10^6$  Hz) discharge is 3 times as  
 efficient as a 50-Hz discharge. Above 180 w., the  
 low-frequency discharge is the more effective. A com-  
 parison of the effects of  $2.7 \times 10^6$ ,  $5 \times 10^6$ ,  $7 \times 10^6$  and  $10 \times 10^6$  Hz  
 frequencies shows that the effect is the same in all cases  
 and hence not due to chem. resonance effects. No dif-  
 ference in effect was observed when either internal or  
 external electrodes were used. At higher wattages the  
 max. yield is obtained at higher relative concns. of  $O_2$ .  
 Electron temp., as detd. from the spectra of the dis-  
 charges is higher at 70 w, high frequency than at low  
 frequency and is higher at low wattage than at high  
 wattage, and higher at low pressure than at high pressure.  
 F. H. Rathmann

ASS-SLA METALLURGICAL LITERATURE CLASSIFICATION  
 1959M 57181500



Activation characteristics of the thermal cracking of methane.  
N. I. Kobzarev and E. N. Lyudskanov (Compt. rend. Acad. Sci. U.R.S.S.,  
1941, 20, 223-226).—The kinetics of the cracking of  $\text{CH}_4$  at low  
pressures, and when mixed with  $\text{H}_2$ , have been investigated. De-  
crease of pressure accelerates the cracking processes:  $2\text{CH}_4 \rightarrow$   
 $\text{C}_2\text{H}_6 + 2\text{H}_2$  and  $\text{C}_2\text{H}_6 \rightarrow \text{C}_2\text{H}_4 + \text{H}_2$ . Dilution of  $\text{CH}_4$  fourfold has  
approx. the same effect as a nine-fold decrease of pressure. The  
kinetic consts. obey the Arrhenius equation over a wide temp.  
range.

Lab. Kinetics + Catalysis, Moscow State U.

PROCESSES AND PROPERTIES INDEX

**Formation of acetylene in the electrocracking of methane.** 1. Static experiments. E. N. Erem'in, M. Z. Altshuler, Z. I. Kir'yashkina, and V. V. Igouin. *J. Applied Chem. (U.S.S.R.)* 20, 5-22(1947)(in Russian).— The balance and the products of cracking of natural gas (80.81 to 91.87 vol.-% CH<sub>4</sub>, 2.81-2.51 C<sub>2</sub>H<sub>6</sub>, 5.02-3.2 N<sub>2</sub>) in an elec. arc, between W wire and brass-tube electrodes were investigated in a closed spherical Pyrex flask of vol.  $v = 12$  l. or 0.1, under reduced initial pressures  $p$  of 35, 75, 100, and 150 mm. Hg at currents  $i$ , of 0.3, 0.6, and 0.9 amp.; electrode spacing  $l = 15, 30,$  and  $60$  mm. (1) In terms of the duration  $\tau$ (sec.) of the arc, the concn.  $A$  of C<sub>2</sub>H<sub>2</sub> (in vol.-%) in the product passes through a max., highest (1.1 to 18%), corresponding to a yield of about 70% with respect to the initial CH<sub>4</sub> under  $p = 35$  mm.; higher  $p$  lower  $A_{max}$ , (e.g. to 14.5% and 12.4% at  $p$  100 and 150);  $l$  30) and lengthen the time  $\tau_{max}$  necessary to attain  $A_{max}$  (1.5-fold increase between 35 and 100 mm.), but there is no direct proportionality. At higher  $p$ , smaller  $A_{max}$  correspond to smaller values of the total cracking  $\theta = 100 \times \frac{\beta(C_{2H_2})}{c}$  [where  $c =$  content of CH<sub>4</sub> (+ C<sub>2</sub>H<sub>6</sub>) in the initial gas,  $\beta =$  coeff. of expansion (after cooling) due to the reaction =  $\frac{\rho(\text{final})}{\rho(\text{initial})}$ ], and to smaller values of the "useful cracking"  $\sigma = 100 \times \frac{2\beta(C_{2H_2}) + (C_{2H_2})}{c - \beta(C_{2H_2})}$  (giving the percentage of CH<sub>4</sub> reacted, converted into C<sub>2</sub>H<sub>2</sub> + C<sub>2</sub>H<sub>4</sub>), but to larger values of "cracking to carbon" =  $100\theta(1-\sigma)$ ; the latter process is the result of a decoump. of the C<sub>2</sub>H<sub>2</sub> formed; the equality of the rates of formation and decoump., which detrs. the max., is understandably reached at an  $A$  the lower the higher  $p$ . (2) Under 35 mm.,  $A_{max}$  does not appreciably depend on  $p$  and  $l$  but  $\tau_{max}$  is directly proportional to  $p$  and inversely to  $l$ ; under 100 mm.,  $A_{max}$  depends on  $\tau$ : with  $v/l = 2.1/15$  mm. and 0.1/30 mm.,  $A_{max} = 10.0$  and 10%, resp., while with  $v/l = 2.30,$   $A_{max} = 11.8$ . Under 150 mm.,  $\tau_{max}$  still varies directly with  $p$  and inversely with  $l$  but no longer proportionally.  $A_{max}$  again is greatest with  $v = 2.1, l = 15$  mm., smallest with  $v = 2, l = 30$ . (3) Variation of  $A$  from 0.3 to 0.9 at const.  $v, l$  (6),  $p$  35 and from 0.3 to 0.6 at const.  $v, l$  (3),  $p$  100, produced only a very slight lowering of  $A_{max}$  at the higher  $i$ ;  $\tau_{max}$  appears to be approx. inversely proportional to  $i$ , e.g. 10.3 and 0.6, at  $p$  35,  $\tau_{max} = 10$  and 5 sec., at  $p$  100,  $\tau_{max} = 30$  and 15 sec. Essential conclusions are: (a) in spherical reactors, high  $A$  (18%) can be attained in relatively long  $\tau$  (about 2 min.), as against the very short  $\tau$  (0.4-0.10001 sec.) imposed in tubular vessels; (b) the true rate of the elec. cracking reaction is independent of  $v$ , proportional to  $l$  and to  $i$ ; (c) in spherical reactors, the gas leaving the arc zone has a final mean  $A$  resulting from mixing through convection currents; (d) from the expl. kinetic curves, an increase of  $A$  from 7 to 14% (under  $p$  35,  $v, l$  15, 0.3) requires 9.5 sec., its decrease from 14 to 7 (through decoump.), 400 sec.; thus, the mean rate of formation of C<sub>2</sub>H<sub>2</sub> is 48.4 times its rate of decoump.; under  $p$  100 and 150, the ratios are 25.2 and 16.7, resp.; i.e., higher  $p$  accelerates the decoump. (4) Plotted against  $v, \theta$  reaches a const. max. in about .01 sec. and does not

A 13.1.6 DETAILING LITERATURE CLASSIFICATION

8 2 7 2 1 1

I. 08290-67 EWT(m)/EWP(t)/ETI IJP(c) JD  
ACC NR: AP6032452 SOURCE CODE: UR/0129/66/000/009/0009/0011

AUTHOR: Chachin, V. N.; Yerevin, V. Ye.

ORG: Physicotechnical Institute, AN BSSR (Fiziko-tekhnicheskiy institut, AN BSSR)

TITLE: Effect of ultrasonic vibrations on the cooling capacity of a quenching medium

SOURCE: Metallovedeniye i termicheskaya obrabotka metallov, no. 9, 1966, 9-11

TOPIC TAGS: quenching medium, cooling capacity, quenching medium cooling capacity, ultrasonic vibration, steel hardenability, METAL HARDENING, HARDNESS

ABSTRACT: Preliminary experiments with a copper specimen showed that ultrasonic vibrations applied to a quenching medium intensifies its cooling capacity. Subsequently, the effect of ultrasonic vibrations on steel hardenability was investigated. It was found that the surface hardness of specimens quenched in oil irradiated with ultrasound was much higher than that of specimens quenched without ultrasound (see

Card 1/2

UDC: 621.789:621.78.01.063/065

L 08290-67  
ACC NR: AP6032452

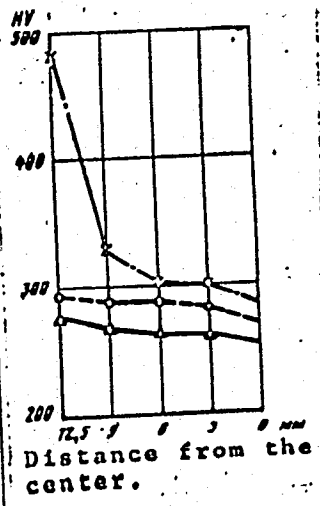


Fig. 1. Hardenability of cylindrical specimens of type 45 steel

\_\_\_\_\_ Quenching in undisturbed oil;  
 - - - - - quenching in agitated oil;  
 - . - . - quenching in oil agitated by  
 ultrasound.

Fig. 1). It was concluded that the cooling rate and, hence, the hardenability of steel can be controlled by ultrasound. Orig. art. has: 3 figures.

SUB CODE: 11, 13/ SUBM DATE: none/ ORIG REF: 004/ OTH REF: 003

Card 2/2 15

SHNEERSON, A.L.; YEHMIN, Ye.N.

Nature of the yellow-green emission in the oxidation of nitrogen in  
the electric discharge. Zhur.Fiz.Khim. 26, 1493-1503 '52.(MLRA 5:12)  
(CA 47 no.13:6250 '53)



YEREMIN, YE. N.

USSR/Physical Chemistry - Electrochemistry, B-12

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 61195

Author: Yeremin, Ye. N., Lyudkovskaya, B. G.

Institution: None

Title: On the Nature of Activation During the Reaction of Oxidation of Nitrogen in Electric Discharge

Original Periodical: Tr. Gos. n.-i. i proyekt. in-ta azot. prom-sti, 1953, No 2, 98-110

Abstract: A study of the influence of pressure (P) and current intensity (i) on "equilibrium stationary concentration" (ESC) of NO during synthesis of NO from air in glowing discharge. With  $i = 175$  ma ESC of NO at first increases sharply with P and then having reached a maximum (8.05% at 200 mm Hg) decreases gradually. At the same P and i mixture consisting of 47.5%  $O_2$  and 51.9%  $N_2$  gives an ESC of NO of 11.4%. With  $P = 200$  mm Hg ESC of NO increases with i from 50 to 500 ma and at 500 ma reaches 1.8%. It is shown that with increase of i and P, ESC of NO first increases linearly with increase

Card 1/2

VEDEMINI U-11

YEREMIN, Ye. N.

Category: USSR / Physical Chemistry  
Thermodynamics. Thermochemistry. Equilibrium. Physico-  
chemical analysis. Phase transitions.

B-8

Abs Jour: Referat Zhur-Khimiya, No 9, 1957, 29885

Author : Yeregin Ye. N., Mal'tsev A. N.

Inst : Not given

Title : Thermodynamically Equilibrated Concentrations of Nitrogen Oxide

Orig Pub: Zh. fiz. khimii, 1956, 30, No 5, 1179-1181

Abstract: On the basis of most recent data concerning bond energy of N, O and NO and the function  $(F^{\circ} - H^{\circ})/T$  for  $N_2$ ,  $O_2$ , NO, N and H, equilibrium of the reaction  $N_2 + O_2 \rightleftharpoons 2NO$  was calculated, without (1), and with taking into account (2) the reactions  $N_2 \rightleftharpoons 2N$  and  $O_2 \rightleftharpoons 2O$ . Calculations were carried out in the interval 1000-5000° K, for air and stoichiometric mixture of  $N_2$  and  $O_2$ , at P of 1 atmosphere and 50 mm. In the case of (2), in contrast with (1), the curve representing the dependence of equilibrium concentration of NO on the temperature has a maximum the height and position of which depend upon the pressure.

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**"APPROVED FOR RELEASE: 09/01/2001**

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APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001962720013-0"

64-58-2-2/16

AUTHOR:

Yeremin, Ye. N.

TITLE:

Attempts to Produce Acetylene by Electrocracking of Natural Methane in an Enlarged Plant  
(Opyty po polucheniyu atsetilena elektrokrekingom prirodnogo metana na ukрупnennoy ustanovke)

PERIODICAL:

Khimicheskaya Promyshlennost', 1958, Nr 2, pp. 9-16 (USSR)

ABSTRACT:

In the course of earlier laboratory works, on which occasion Ye. N. Yeremin and others (ref 1) began the corresponding list of references, an enlarged experimental plant for work in vacuum was constructed in one of the experimental plants of the Glavkauchuk under the direction of N. I. Kobozeva, S. S. Vasil'yeva and with the collaboration of A. R. Sarychev, O. A. Borisova and others. The effect of the discharge amperage on the electrocracking process was investigated. The used gas had in percent by volume 94.3-90,8 % CH<sub>4</sub>, 2.5-2.8% C<sub>2</sub>H<sub>6</sub>, 0-0.7 % O<sub>2</sub> and 3.2 - 5.7% N<sub>2</sub>.

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The schematic representation of the plant shows the drum-

Attempts to Produce Acetylene by Electrocracking of Natural  
Methane in an Enlarged Plant

64-58-2-2/16

shaped reactor (460 l) constructed by Ye. N. Pitskhelaur with the three (arranged at  $120^\circ$ ) electrodes (6600 Volt) which has a water jacket at its lower part as well as a gas drainage through a water cooled system. Methane enters the reactor through a line leading through the electrodes equipped with manometer and diaphragm. A given diagram shows the electrode with double water cooling and the centrally arranged gas tube. The cracked gas mixture is sucked off the plant by a vacuum pump through a water scrubber (filled with Raschig-rings). Schematic representations of the electrode arrangements of the reactor as well as of the arrangement of the electric measurement apparatus are given. From the results of analyses and electrical measurements the coefficient of expansion of the reaction gas, the total cracking and the cracking to acetylene were computed. The experiments were carried out at 42, 56, 75, 100 and 150 mm Hg. From the results of measurements can be seen that the qualitative parameters of the cracking are functions

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Attempts to Produce Acetylene by Electrocracking of Natural Methane in an Enlarged Plant

64-58-2-2/16

of specific energy, and that the amperage as well as the electrode distance influences only the efficiency of the plant. The methane cracking process seems to be selfinhibiting, the inhibition probably caused by the hydrogen formed in the reaction product. The best quality parameters were obtained in the cracking at 42-46mm Hg. and an amount of specific energy of 3 kWh/Nm<sup>3</sup>. The dependence of the quality parameters of cracking on the specific energy is determined by means of the kinetic sum scheme which had been suggested for cracking processes already earlier by N. I. Kobosev and his collaborators (ref 3). A deduction of the first kinetic order is used for all reactions carried out and in this a similarity with the explanations by S. S. Vasil'yev is observed. According to a mathematical deduction the "theoretical" curve of function of the total cracking and of specific energy were registered and compared with that of the experimental results, both agreeing with a certain experimental value. From the consideration:

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Attempts to Produce Acetylene by Electrocracking of Natural Methane in an Enlarged Plant

64-58-2-2/16

made and the results obtained it is concluded that the electrocracking of methane to acetylene is, from the physico-chemical point of view, more complete than the electro-thermal production of acetylene from calcium carbide. Finally it is maintained that according to a comparison of the results obtained the qualitative parameters of electrocracking are independent from, or little dependent on the pressure in the case of a corresponding regime of the process. There are 5 figures, 3 tables and 9 references, 6 of which are Soviet

AVAILABLE: Library of Congress

1. Methanes--Fractionation
2. Acetylene--Production
3. Electric discharges--Performance
4. Methanes--Test results

Card 4/4

YUREMIN, Ye.N.

Experiments on the manufacture of acetylene from natural methane  
by an electric discharge using an enlarged apparatus. Khim. prom.  
no.2:73-80 Nr '58. (MIRA 11:5)  
(Methane) (Acetylene) (Cracking process)

SOV/55-58-6-30/31

AUTHORS:

Gerasimov, Ya. I., ~~Yeremin, Ya. K.~~, Kiselev, A. V., Lebedev, V. P., Skuratov, S. M., Topchiyeva, K. V., Shakhparonov, M. I.

TITLE:

Training and Education of Teachers of Higher Schools, and of Scientists and Researchers (O putyakh podgotovki prepodavateley vysshey shkoly i nauchnykh rabotnikov)

PERIODICAL:

Vestnik Moskovskogo universiteta. Seriya matematiki, mekhaniki, astronomii, fiziki, khimii, 1958, Nr 6, pp 235 - 238 (USSR)

ABSTRACT:

According to the opinion of the authors the actual training and education of qualified specialists in the field of natural sciences suffers from certain drawbacks: They first go through a three-years' stage as candidates. This kind of activity is in no way a guarantee for thoroughly penetrating into all necessary fields of theoretical and experimental work in the domain of physics and physical chemistry, and of the other sciences related therewith. Besides the time is too short for defending and proving again the truth of the scientific investigations carried out. It is obvious that the brevity of time prevents the candidates from ascending in their investigations from a perfunctory to a more scientific level. There is no possibility of selecting certain more interesting themes,

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Training and Education of Teachers of Higher  
Schools, and of Scientists and Researchers

SOV/55-58-6-30/31

and the like. Finally the time is too short for giving the candidate a sufficient pedagogical training. Consequently, it is suggested to replace the term of three years for candidates by a five years' term for assistants-on-trial during which time the practical work and the seminars will be conducted according to pedagogical principles and the scientific investigations will be carried out in accordance with the plans of the Chair. The examination on the special scientific training can only be passed, if the assistant-on-trial adduces the proof of having made a number of particular scientific reports, and of having passed the examination on the fundamentals of marxism and leninism, as well as that of foreign languages. After having completed his trial term and having successfully passed the final examination, he may become candidate lecturer at his own or at any other school. By a well-controlled guidance of the assistant-on-trial, an excellent selection is warranted of first-class men of science. Besides, this system will successfully further and advance the scientific work of the assistants-on-trial. The authors believe that the chief result of this

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Training and Education of Teachers of Higher  
Schools, and of Scientists and Researchers

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reorganisation will be a good training both in the scientific  
sector and, in the pedagogical field, and will therefore be  
the best way of forming first-class higher school instructors.

Card 3/3

3-58-7-3/36

AUTHORS: Gerasimov, Ya.I., ~~Yeremin, Ye.N.~~ Kiselev, A.V., Skuratov, S.Y.,  
Topchiyeva, K.V., Professors; Shakhparonov, M.I., Doctor of  
Chemical Sciences and Lebedev, V.P., Dotsent

TITLE: The National Economy Needs Physico-Chemists (Narodnomu kho-  
zyaystvu nuzhny fiziko-khimiki)

PERIODICAL: Vestnik vysshey shkoly, 1958, Nr 7, pp 14-16 (USSR)

ABSTRACT: The authors stress the necessity of creating special faculties  
on physico-chemistry in universities. At present, faculties  
train chemists whose knowledge of physics is rather limited.  
The student is not trained in a special branch of chemistry,  
and the shortage of time does not allow him to develop his  
knowledge of practical methods.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet imeni Lomonosova  
(The Moscow State University imeni Lomonosov)

Card 1/1

GERASIMOV, Ya.I.; YEREMIN, Y.M.; KISELEV, A.V.; LEBEDEV, V.P.; SKURATOV,  
S.M.; TOPCHIYEVA, K.V.; SHAKHPARONOV, M.I.

Methods of preparing scientific workers and teachers of insti-  
tutions of higher education. Vest.Mosk.un.Ser.mat.,mekh.,astron.,  
fiz.,khim. 13 no.1:235-238 '58. (MIRA 12:4)  
(Science--Study and teaching)



SOV/76-32-10-14/39

5(4)

## AUTHORS:

Yeremin, Ye. N., Kobozev, N. I., Lyubkovskaya, B. G.

## TITLE:

The Conversion of Methane to Acetylene in the High-Voltage Arc  
(Prevrashcheniye metana v atsetilen v vysokovol'tnoy duge)  
I. The Effect of Pressure (I. Vliyaniye davleniya)

## PERIODICAL:

Zhurnal fizicheskoy khimii, 1958, Vol 32, Nr 10, pp 2315-2323  
(USSR)

## ABSTRACT:

The experimental data were obtained at the Gosudarstvennyy institut azotnoy promyshlennosti (State Institute of Nitrogen Industry). According to earlier papers (Refs 1-3) it may be assumed that a silent discharge of the type occurring in the Siemens ozonizer does not lead to an acetylene formation. In the papers by Ye. N. Yeremin, M. Z. Al'tshuller, Z. I. Kir'yashkina and V. V. Igonin (Ref 5) and A. B. Tsentsiper (Ref 6) it was found that discharges at low pressure and low amperages are not efficient. D. K. Koller (Ref 4), who also worked with a glow discharge, found 90-100 mm to be the optimum pressure at an amperage of 100 mA. N. P. Bozhko et al. (Refs 7-9) showed that in a discharge in the high-voltage arc at a pressure of 35 mm up to 17 Vol% acetylene may be obtained in the reaction

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SOV/76-32-10-14/39

## The Conversion of Methane to Acetylene in the High-Voltage Arc. I. The Effect of Pressure

products. In the experiments by Ye. N. Yeremin (Refs 10,16) it was found that the course of the reaction does not depend on the amperage but on the "Specific Energy". The latter concept was introduced by S. S. Vasil'yev, N. I. Kobozev and Ye. N. Yeremin (Ref 11) and was also used by D. K. Koller (Ref 4) as "Parameter q". A kinetic evaluation of the results obtained by Rudder and Biederman (Biderman) (Ref 13) by the authors of the present paper showed that a 12-fold acceleration in the conversion is obtained by a drop of the pressure from 760 to 88 mm (1500°). Investigations were carried out in the high-voltage arc at different pressures, especially from 70 mm to somewhat above 1 atmosphere absolute pressure in a reactor the diagram of which is given. The analyses of the Saratov gas used and the reaction products were carried out by means of the gas analyzer VTI. A drop in pressure considerably improves the conversion. At a pressure of 70-100 mm and the value  $U/v \approx 3,5$  the percentage of acetylene in the gas reaches the value 16,6 and the general cracking -0,73 at an energy consumption of 11,2 kilowatt-hour/cm<sup>3</sup> C<sub>2</sub>H<sub>2</sub>. It was found that the "Limiting Concentration" mentioned by N. P. Bozhko does not amount to 4%

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SOV/76-32-10-14/39

The Conversion of Methane to Acetylene in the High-Voltage Arc. I. The Effect of Pressure

at atmospheric pressure but that a concentration of 12% acetylene may be obtained with a minimum consumption of energy. The experimental results obtained were evaluated from the kinetic point of view by means of the method proposed by Yeregin (Ref 16). The pressure drop to 70-100 mm doubles the efficiency of the high-voltage arc in the reaction investigated. There are 3 figures, 2 tables, and 16 references, 12 of which are Soviet.

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

SUBMITTED: May 4, 1957

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SOV/76-32-11-12/32

5(4)

AUTHOR:

Yeremin, Ye. N.

TITLE:

On the Problem of the Kinetics of the Electrocracking of Methane (K voprosu o kinetike elektokrekinga metana)

PERIODICAL:

Zhurnal fizicheskoy khimii, 1958, Vol 32, Nr 11, pp 2543-2549 (USSR)

ABSTRACT:

S. S. Vasil'yev, N. I. Kobozev, and Ye. N. Yeremin (Ref 5) pointed out that the course of the reaction in the discharge zone may be expressed as a function versus the flow rate of the gas. A comparison of the experimental results by S. S. Vasil'yev (Ref 7) with the calculation results by A. B. Tsentsiper (Ref 11) obtained for the values  $k_1 c_0 / U$  shows a certain agreement so that it may be assumed that the value  $k_1 c_0 / U$  determines the limiting energy yield of methane. It was found that the amount of the reacting hydrocarbon is proportional to the energy consumed in the discharge, as well as to the residual amount of the hydrocarbon initially used. The electrocracking may be regarded as a reaction of first order. The constant of the rate of reaction is directly proportional to

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SOV/76-32-11-12/32

On the Problem of the Kinetics of the Electrocracking of Methane

the discharge capacity and is inverse proportional to the initial amount of the hydrocarbon. The concept of the energetic efficiency of the discharge with respect to the electrocracking of methane (amount of the hydrocarbon/energy) is introduced as kinetic characteristic feature of the process. It was found that the energetic efficiency of active discharge forms (with respect to  $\text{CH}_4$ ) practically does not depend on the geometrical dimensions of the discharge, the current density and the dilution of the gas used in the beginning of the process with hydrogen, but that it decreases with an increase in pressure. Similar observations were also made by A. B. Tsentsiper (Ref 11) with other hydrocarbons. There are 1 figure, 1 table, and 15 references, 10 of which are Soviet.

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

SUBMITTED: May 4, 1957

Card 2/2

5(4)

AUTHORS:

Yeremin, Ye. N., Kobozov, N. I.,  
Lyudkovskaya, B. G.

S07/76-32-12-17/32

TITLE:

The Conversion of Methane Into Acetylene in a High Voltage  
Arc (Prevrashcheniye metana v atsetilen v vysokovol'tnoy duge)  
II. The Effect of Hydrogen (II. Vliyanie vodoroda)

PERIODICAL:

Zhurnal fizicheskoy khimii, 1958, Vol 32, Nr 12,  
pp 2767 - 2771 (USSR)

ABSTRACT:

The contradictory results of earlier experiments are discussed (Refs 2 to 11). The investigation was carried on to determine the effect of hydrogen admixture on the methane cracking in an electric arc. Experiments were carried out by means of an alternating current high voltage arc at atmospheric pressure; the methane and hydrogen ratios were 69.4:27.2, 59.1:37.2 and 48.8:48.4. It was found that the general cracking of methane increases at a hydrogen admixture of up 37%, while the acetylene concentration and the chemical energy yield (0.184 m<sup>3</sup>/kWh) remain unchanged. In practice, this means that acetylene may be produced in the same apparatus with both pure methane and methane

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The Conversion of Methane Into Acetylene in a High  
Voltage Arc. II. The Effect of Hydrogen

SOV/76-52-12-17/32

containing a hydrogen admixture. Under these test conditions hydrogen acted as an inert diluent without active influence on the methane transformation. There are 2 figures, 1 table, and 12 references, 7 of which are Soviet.

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

SUBMITTED: May 4, 1957

Card 2/2

5(4)

AUTHORS:

Ushakova, G. S., Yeremin, Ye. N.

SOV/76-33-1-42/45

TITLE:

The Formation of Ozone From Dissociation Products of CO<sub>2</sub>  
in the Glow Discharge (Obrazovaniye ozona iz produktov  
dissotsiatsii CO<sub>2</sub> v tleyushchem razryade)

PERIODICAL:

Zhurnal fizicheskoy khimii, 1959, Vol 33, Nr 1, p 233 (USSR)

ABSTRACT:

The formation of ozone from CO<sub>2</sub> in the glow discharge has been observed some time ago (Ref 1); although, so far, no quantitative determinations have been carried out. In the case under discussion a discharge tube of the type Vud, with aluminum electrodes, was used and the reaction products were frozen. A 250 ma-current and a 2.4 - 2.5 kv-potential were used. In order to reduce the dissociation of CO<sub>2</sub> (Ref 1) and because of the danger of an explosion undried CO<sub>2</sub> was used. A yield of 5.35 mol% O<sub>3</sub>, with regard to the CO<sub>2</sub> amount, was obtained.

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The Formation of Ozone From  
Dissociation Products of CO<sub>2</sub> in the Glow Discharge

SOV/76-33-1-42/45

Since no maximum was observed it is assumed that the maximum yield, under the conditions given, has not been obtained. If the time of CO<sub>2</sub> presence in the discharge zone is extended the O<sub>3</sub> yield is reduced (Fig). There are 1 figure and 1 reference.

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

SUBMITTED: July 29, 1958

Card 2/2

SOV/76-33-7-25/40

5(4)

AUTHORS:

Mal'tsev, A. N., Yeremin, Ye. N., Vorob'yeva, I. N.

TITLE:

On Steady Concentrations of Nitrogen Oxide in Discharge. II. Experiments With Air and a Narrow Tube

PERIODICAL:

Zhurnal fizicheskoy khimii, 1959, Vol 33, Nr 7, pp 1618 - 1624 (USSR)

ABSTRACT:

In a previous paper (Ref 1), the dependence of the steady concentration of nitrogen oxide (I)  $[\%NO]_{\infty}$  on the amperage in production from air during smoldering discharge was investigated in a wide vessel at different pressure. In the present case, the authors checked the same dependence on  $[\%NO]_{\infty}$  in a reaction tube at an atmospheric pressure of between 50 and 300 torr. (I) was synthesized within a range of electric discharge by means of a circulation apparatus described already earlier (Ref 1). A quartz tube was used as a reaction tube (Fig 1) which was 3 mm thick within the range of discharge (diameter of the range: 32 mm). Measurement results indicate that there are two kinds of dependences of  $[\%NO]_{\infty}$  on amperage present: 1) At 50 and 100 torr the steady (I)-concentration first increases, and then apparently approaches a final value; 2) At 200 and 300 torr

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On Steady Concentrations of Nitrogen Oxide in  
Discharge. II. Experiments With Air and a Narrow Tube

SOV/76-33-7-25/40

$[\% \text{NO}]_{\infty}$  passes, after a sharp rise, through a maximum. In the present tube, the concentrations of (I) are higher than in that mentioned in reference 1; at 100 torr they attained 11.3%, the highest value ever attained in direct synthesis from air. Thus, the non-thermal nature of activation of the reaction is confirmed. Measurements of the dependence of  $[\% \text{NO}]_{\infty}$  on the product of amperage and pressure (ip) showed a nature similar to that described in reference 1. The voltage of discharge was measured by means of S-95 and S-96 voltmeters, compared with measurements on NOM-6 and NOM-10 measuring transformers; the results agreed well with one another. It was found that the relative longitudinal potential gradients are four times lower than in the reactor (Ref 1). The experimental results obtained are explained from the standpoint of a chain decomposition of (I). There are 5 figures and 6 references, 5 of which are Soviet.

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

SUBMITTED: January 10, 1958  
Card 2/2

S/189/60/000/004/002/006  
B002/B060

11.1190  
AUTHORS:

Nekrasov, L. I., Kobozev, N. I., Yeregin, Ye. N.

TITLE:

1/ Low-temperature Reactions of Atoms and Radicals.  
Contribution I. Synthesis of Hydrogen Peroxide From Water  
Vapor

PERIODICAL:

Vestnik Moskovskogo universiteta. Seriya 2, khimiya, 1960,  
No. 4, pp. 12 - 18

TEXT: Attempts were repeatedly made in the past to produce hydrogen peroxide by electric-glow discharge in water vapor, and to achieve a high concentration of it by freezing out with liquid nitrogen. The authors of the present paper conducted an investigation into the dependence of the yield on feed, water vapor pressure, construction and cooling temperature of the traps, arrangement of the channels between discharge tube and traps, and the intensity of discharge. A report is made here of the influence exerted by construction and temperature of the traps. The following conditions were chosen: water vapor pressure 0.5 torr, amperage 0.135 a, voltage 1000 to 1200 v. A scheme of the apparatus is shown

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Low-temperature Reactions of Atoms and Radicals. S/189/60/000/004/002/006  
Contribution I. Synthesis of Hydrogen Peroxide B002/B060  
From Water Vapor

(Fig. 1). The usual form of trap (Fig. 2, a) proved to be absolutely unsuitable, since mainly water separated in the feeding channel. Better results were achieved when the cooled trap was bulged out, and the channel reached only onto the nitrogen level (Fig. 2, b and v). The best results were achieved when the feeding channel reached as far as below the nitrogen level and was warmed by water flowing through at room temperature to avoid ice formation (Fig. 2, g and d). The strict observance of these conditions afforded a 25% molar yield and 60% concentration of hydrogen peroxide. Several diagrams (Figs. 3 to 5) illustrate the dependence of yield on the rate at which the water vapor is fed to the system. No formation of hydrogen peroxide was observed at  $-70^{\circ}\text{C}$ . There are 5 figures and 21 references: 7 Soviet, 7 US, 1 German, 1 Japanese, 1 French, 2 Canadian, and 2 British.

✓C

ASSOCIATION: Kafedra fizicheskoy khimii (Chair of Physical Chemistry)

SUBMITTED: April 17, 1959

Card 2/2

YEREMIN, Yevgeniy Nikolayevich; KOROBTSOVA, N.A., red.; MASLENNIKOVA,  
T.A., tekhn. red.

[Elements of gas electrochemistry] Elementy gazovoi elektro-  
khimii. Moskva, Izd-vo Mosk. univ., 1961. 77 p.  
(MIRA 14:12)

(Electrochemistry)

84243

S/076/60/034/009/001/022  
B015/B05611. 1120  
AUTHORS:Kobozev, N. I., Yeremin, Ye. N., Terekhova, M. G., and  
Mal'tsev, A. N.

TITLE:

Physical Chemistry of Concentrated Ozone. IX. Study of  
Ozone Adsorption on Silica Gel at Various Temperatures

PERIODICAL:

Zhurnal fizicheskoy khimii, 1960, Vol. 34, No. 9, pp. 1893  
-1899

TEXT: The adsorption of ozone on silica gel at low temperatures (from  $-80^{\circ}$  to  $-150^{\circ}$  C) was investigated by saturating the silica gel in the gas flow at constant temperature until adsorption equilibrium was established, and the adsorbed gas quantity was then determined by gas analysis. The ozone-oxygen mixture was produced in a silent electrical discharge; the duration of adsorption amounted to 1 - 6 h as a function of the experimental temperature, and the rate of flow of the gas was 43-45 l/h. The experiments were carried out in a circulating apparatus (Fig. 1). The silica gel was in an adsorber cooled with liquid nitrogen (Figs. 2, 4). The latter was cooled in a cryostat (Fig. 3), whereas for

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84243

Physical Chemistry of Concentrated Ozone.  
IX. Study of Ozone Adsorption on Silica Gel  
at Various Temperatures

S/076/60/034/009/001/022  
B015/B056

the purpose of desorption, the cryostat was heated. The results of measurement show (Table 1) that ozone adsorption on silica gel rises to 7 to 8 times its amount with a temperature drop from  $-120^{\circ}\text{C}$  to  $-150^{\circ}\text{C}$ . Ozone desorption may thus be attained by a slight increase of temperature, or an effective separation of concentrated ozone with the aid of an adsorption-desorption cycle. For the temperatures of  $-120^{\circ}$ ,  $-130^{\circ}$ ,  $-140^{\circ}$ , and  $-150^{\circ}\text{C}$  the adsorption isothermal lines were obtained (Fig. 5), and it was found that they differ in appearance as well as according to the character of the dependence of adsorption on an increase of the ozone content in the equilibrium mixture. There are 5 figures, 2 tables, and 4 non-Soviet references: 3 German and 1 Swiss.

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

SUBMITTED: July 15, 1958

Card 2/2



YEREMIN, Ye.N.

Kinetics of reactions in electric discharges. Vest.Mosk.un.  
Ser. 2:khim. 16 no.3:3-20 My-Je '61. (MIRA 14:10)

1. Kafedra fizicheskoy khimii Moskovskogo gosudarstvennogo  
universiteta.

(Chemical reaction, Rate of)  
(Electric discharges through gases)

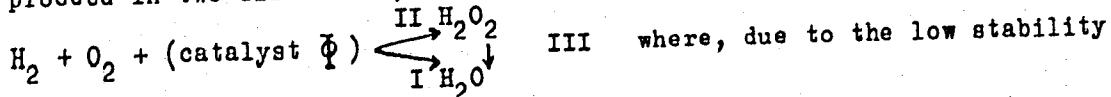
S/076/61/035/002/005/015  
B124/B202

AUTHORS: Pospelova, T. A., Kobozev, N. I., and Yeremin, Ye. N.

TITLE: Catalytic synthesis of hydrogen peroxide from its elements on palladium. I. Conditions for the production of hydrogen peroxide.

PERIODICAL: Zhurnal fizicheskoy khimii, v. 35, no. 2, 1961, 298-305

TEXT: A comparison of the free formation energies of water and hydrogen peroxide from their elements (-56.56 kcal for liquid water, and -28.23 kcal for liquid H<sub>2</sub>O<sub>2</sub>) shows that on catalysis the H<sub>2</sub>-O<sub>2</sub> reaction may proceed in two directions, i.e.,



of the H<sub>2</sub>O<sub>2</sub> molecules in the presence of the catalyst H<sub>2</sub>O<sub>2</sub> and water are decomposed thus causing the masking of the second process. For this reason the authors studied the optimum conditions for the synthesis of

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Catalytic synthesis of hydrogen peroxide...

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H<sub>2</sub>O<sub>2</sub> from the elements on palladium on the one hand and its decomposition at the same catalysts on the other. The detonating gas was catalyzed in a kinetic vessel of Shpital'skiy type. The time dependence of the H<sub>2</sub>O<sub>2</sub> yield was studied on palladium black in a mixture of KCN (0.001 N) and sulfuric acid (0.1 N) as well as on aluminum gel (%Pd = 5.47). The gas mixture consisted of 20% hydrogen and air; the activity of the catalyst was measured from the absorption of 2 cm<sup>3</sup> of the mixture. The experimental results are given in Fig. 1. They indicate that in both cases (mainly in Pd/Al<sub>2</sub>O<sub>3</sub>) the H<sub>2</sub>O<sub>2</sub> yield is strongly reduced with time although the absorption of the mixture continues ( $\Delta V$  increases). In this case, the initial yield exceeds 80% on Pd black, i.e., almost pure H<sub>2</sub>O<sub>2</sub> is formed. Hence H<sub>2</sub>O<sub>2</sub> is formed as primary product of the catalysis of detonating gas. Its catalytic decomposition causes the formation of water. The authors studied the effect of a number of acids, mixtures of KCN with different acids, ammonia and Hg<sup>2+</sup> solutions in H<sub>2</sub>SO<sub>4</sub> (Table 1). Without introduction of catalyst poisons only water is formed. The most efficient inhibitor of H<sub>2</sub>O decomposition is plumbic acid, followed by dilute HCl; the effect of the other acids is weaker while NH<sub>3</sub> and Hg<sup>2+</sup> solutions

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Catalytic synthesis of hydrogen peroxide...

inhibit both, formation and decomposition of  $H_2O_2$ . In this case, the acids do not enter an irreversible reaction and their decrease in quantity in the reaction is caused by absorption on the catalyst (Table 2). It was found that a) the stabilizing effect of HCN (Fig. 3) and HCl (Fig. 4) is especially marked at low concentrations and that it passes through an optimum; b) the optimum synthesis of  $H_2O_2$  is achieved at a stoichiometric ratio of  $H_2:O_2 = 1$ , c) the  $H_2O_2$  yield increases with increasing temperature. (Table 4), and d) the acid carriers  $SiO_2$  and  $WO_3$  give higher  $H_2O_2$  yields than the amphoteric  $Al_2O_3$  (Table 5). The following scientists are mentioned: N. I. Kobozev and V. L. Anokhin (Ref. 3: Z. phys. Chem., Abt. B, 13, No. 1-2, 1931), M. V. Polyakov and collaborators (Ref. 4: Zh. fiz. khimii, 7, 453, 1933; 8, 954, 1934; 6, 1241, 1249, 1932; Acta phys.-chim. URSS, 2, 211, 1935), N. D. Zelinskiy and M. B. Turova (Ref. 6: Ber. 18, 1884, 1885), P. M. Stadnik (Ref. 9: Dokl. AN SSSR, 87, 1952; Zh. fiz. khimii, 28, 1954), N. A. Bakh (Ref. 11: Trudy Bakha, no. 1, Abt. 2, Kap. 1, 1937), S. Levina and R. Rozentreter (Ref. 13: Zh. fiz. khimii, 13, 1939), A. I. Shlygin (Ref. 14: Uch. zap. Kazakhsk. un-ta, 13, 1951), D. V. Sokol'skiy and collaborators (Ref. 15:

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