

USSR .

Effect of impurities on the rate of reaction of mercury acetate and hydrogen sulfide. M. P. Kanunnikov (Belarus Branch Acad. Sci. U.S.S.R., Ufa; *Zh. Fiz. Khim.*, 17, 1384-1388 (1955); cf. *Lepin, C.A.* 44, 6270c. The rate of reaction (ρ) was det'd. of Hg acetate (I) with H₂S at 21° in the presence of traces of Pd, Hg sulfide (II), H₂O, or benzene by means of a thermostated high-vacuum app. in which a charge contg. 0.1 g. of powd. I, placed in a sorption-type balance, was subjected to the action of H₂S at a pressure of 200 mm. Hg. Solid impurities were mixed with the charge; gaseous ones were added to the inflowing H₂S. The ρ was det'd. from the change in wt. of the charge. The value of ρ in the presence of stated amts. of Pb, II, H₂O, or benzene is shown graphically as a function of time. The initial reaction is accelerated (to a max. rate) in the presence of Pb, II, and benzene, and decelerated in the presence of H₂O or of Pd contg. H₂S or H₂. It is suggested that in the reaction zone mol. H₂S is in equil. with active intermediate products of catalytic decompu. Pb, II, and H cause displacement of the equil., whereas H₂O and benzene change the properties of the reaction medium. J. W. L., Jr.

CH
 7087

KARUNDIKOU, V.H.

~~KANUNIKOV, E. A.~~

Automatic discharge of cylindrical thickeners. Shor.inform. po obog.
1 brik. ugl. no.2:40-42 '57. (MIRA 11:5)
(Coal preparation--Equipment and supplies)
(Automatic control)

KANUNNIKOV, V.B., inzh.; ROVNYAKOV, I.I.

Automation of a drying unit. Mekh.i avtom.proizv. 18 no.3:
12-13 Mr '64. (MIRA 17:4)

KANURNIKOV, V.F.

Ventilating the electrolysis division of an electrolytic
manganese works. Sbor.trud.NIIST no.9:65-73 '61. (MIRA 15:8)
(Manganese--Electrometallurgy) (Metallurgical plants)

KANUNNIKOV, V.

USSR/ Electronics - Voltmeters

Card 1/1 Pub. 89 - 26/30

Authors : Kanunnikov, V.

Title : Tube voltmeter

Periodical : Radio 6, 53 - 54, Jun 1955

Abstract : Report offers a general description of an ohmmeter consisting of a DC-tube voltmeter, tube and current stabilizer. The potentiometer is used in securing the required anode current and the necessary limits for its control. The tube voltmeter, representing a balanced cascade consisting of two cathode repeaters, makes it possible to measure the voltage of any given polarity relative to the ground. Other characteristics of the tube voltmeter are listed. Table; circuit diagrams.

Institution :

Submitted :

~~KANUNIKOV, V.N.; SHORIN, K.N.~~

Universal "ferrometer" used for measuring magnetic fields in synchro-
trons. Prib. i tekhn. eksp. no. 3:22-25 N-D '56. (MLBA 10:2)

1. Fizicheskiy institut im. P.N. Lebedeva AN SSSR.
(Electronic instruments) (Magnetic fields--Measurement)
(Synchrotron)

Handwritten: K.N.

BELYAK, A.Ya.; VIKSNER, V.I.; KANUNNIKOV, V.N.; CHERENKOV, P.A.; YABLOKOV, B.N.

Special features of the 280 Mev synchrotron operated by the Institute
of Physics, U.S.S.R. Academy of Sciences. Atom.energ.supplement
no.4:57-72 '57. (MIRA 10:10)

(Synchrotron)

3(1), 9(0)

SOV/112-59-5-9453

Translation from: Referativnyy zhurnal. Elektrotehnika, 1959, Nr 5, p 142 (USSR)

AUTHOR: Kanunnikov, V. N.

TITLE: Electronic Time Relay for Determining the Error in Measuring the Duration of Meteor Flight

PERIODICAL: Byul. Vses. astron.-geod. o-va, 1958, Nr 21, pp 41-44

ABSTRACT: A time relay is described that secures single flashes of a neon lamp of 0.05-10 sec duration. The relay comprises a cathode-coupled monostable multivibrator designed with one 6N8 tube, one MN-3 neon lamp, two switches, and a potentiometer for measuring flash duration. Two illustrations.

Bibliography: 4 items.

B.A.K.

Card 1/1

21.9000

75330
SOV/57-20-10-7/13

AUTHORS: Kanunnikov, V. N., Fateyev, A. P.

TITLE: On Calculation of the Magnet of a Circular Synchrocyclotron

PERIODICAL: Zhurnal tekhnicheskoy fiziki, 1959, Vol 29, Nr 10, pp 1223-1234 (USSR)

ABSTRACT: The paper discusses changes in the density of magnetizing current in the magnet of a circular synchrocyclotron with distributed windings. The method of magnetostatic potential φ is first applied to an ideal case of an infinite winding, and distortions taking place in an actual magnet are then considered. The magnetostatic potential of an ideal case is represented as a harmonic function $\varphi(r, z)$, where r is the radius from the center of the synchrocyclotron in the average plane, and z is a point on the axis of coordinates, with Bessel functions under the sign of the integral of the equation. After using the Kelvin transformation, an expression for the density of magnetizing current is given. The integration of this equation gives the law of changes of ampere-turns $I(r)$. When the magnetizing tu : are

Card 1/3

On Calculation of the Magnet of a Circular Synchrocyclotron

75330

SOV/57-29-10-7/18

not continuously distributed, distortions occur. In order to evaluate these distortions the magnetic field must be considered for a case when the density of magnetizing current is given a priori. To this purpose the study considers a magnet with an airgap increasing in proportion to the increase of the radius. Having set a certain density of magnetizing current an equation is derived for the magnetostatic potential for the particular case. The paper then discusses field distortions due to the finite dimension of the windings when there are spaces on the magnet, without any winding on it, and when the edges have their effect. In such a case the component of the field that underwent the change must be compensated by a supplementary winding on the magnet's yoke. An expression is written giving the magnitude of the component of the current which must be compensated. A field distortion is also discussed when the actual distribution of current density differs from that assumed a priori. Expressions for the distortion of the field index are given for a constant airgap for cases of distortion on one pole only and for distortion of the average magnetic plane. The compensatory windings must be arranged so as to give a uniform field distrib-

Card 2/3

On Calculation of the Magnet of a Circular Synchrocyclotron

1958
309/54-10-7/13

ution on the particular part of the magnet. Curves are given showing the change in field distortion obtained after the distortions have been compensated. Kolomenskiy, A. A., assisted in the study. There are 3 figures and 4 Soviet references.

ASSOCIATION: Physics Institute for High Energy (Fizicheskii Institut imeni P. N. Lebedeva), Moscow

SUBMITTED: December 11, 1958

Card 3/3

82906

S/120/60/000/02/037/052

E032/E414

21,2100

AUTHOR: Kanunnikov, V.N.

TITLE: Design Calculations for Magnets with Distributed Windings

PERIODICAL: Pribory i tekhnika eksperimenta, 1960, Nr 2, pp 136-139 (USSR)

ABSTRACT: The magnetic field of accelerators with strong focusing and constant magnetic field is subject to a number of specific requirements. It must increase rather rapidly with radius according to the law $H \sim r^{-n_0}$ and have an azimuthal period of $2\pi/N$. Moreover, the field index $n = -(r/H)(\partial H / \partial r)$ and the number of elements N , must be chosen so as to satisfy the conditions for the stability of betatron oscillations of the particles. The most rational method of producing such magnetic fields is to use magnets with distributed windings. For example, the magnetic system of the ring phasotron consists of $2N$ sectors and the direction of the field in adjacent sectors is opposite. In order to obtain such a field distribution the height of the air gap and the azimuthal width of the sectors and intervals must be made

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82906

S/120/60/000/02/037/052

E032/E414

Design Calculations for Magnets with Distributed Windings

proportional to the radius. The radial increase in the field can in that case be obtained by a suitable distribution of the density of the magnetizing ampere-turns. The form of this distribution can be obtained by solving the Laplace equation for the scalar magnetic potential. Since the law of change in the magnetic field should be maintained to a high degree of accuracy, while in a real magnetic system the required distribution of ampere-turns is satisfied only approximately, the problem arises as to what is the permissible magnitude of the deviations from this distribution and what methods can be employed to correct the possible distortions of the magnetic field. The present paper gives a method for estimating the permissible deviations of the magnetizing current density for given distortions of the magnetic field. A solution is given of a number of typical problems which are met with in the design of magnets with distributed windings. It is assumed that the magnetic permeability of the material

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S/120/60/000/02/037/052
E032/E414

Design Calculations for Magnets with Distributed Windings

of the poles is infinitely large and the current layer on their surface infinitely thin. The calculation is concerned with the simplest two-dimensional problem of unbounded poles and a constant air gap. The geometry of such a magnet and the system of coordinates employed are shown in Fig 1. The solution of the Laplace equation for the scalar magnetic potential subject to boundary conditions which are obvious from the above assumptions and from Fig 1, is of the form given by Eq (1) and (2). Using these formulae with a given current density distribution $\delta_{1,2}(r)$ (amp/cm), one can determine the magnetic field at any point in the air gap with the aid of the relation $H = -\text{grad } \varphi$. It is assumed that the current density distribution $\delta_{1,2}(r) = \delta_0(r)$, necessary to obtain the required field distribution $H_{z0}(r,0)$, is known. These distributions are ideal and the real distributions are in fact $\delta = \delta_0 + \Delta\delta$, $H = H_0 + \Delta H$. A relation is then sought between the relative distortion of the current density $\alpha_\delta = \Delta\delta/\delta_0$ and the relative distortion of the

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S/120/60/000/02/037/052
E032/E414

Design Calculations for Magnets with Distributed Windings


magnetic field $a_H = \Delta H/H_0$. The other distortions are defined similarly. In order to determine the above relation between the current and field distortions, the change in the potential $\Delta \phi$ due to the deviation of the current density Δj can be calculated using Eq (1) and the superposition principle. The distortion in the magnetic field distribution is calculated in this way for the following two simple cases: (1) the deviations of the current density on both poles are sinusoidal and given by Eq (8), where the length of the winding is $2r_0$; (2) symmetric system of windings with a constant current density and defined by Eq (11). The results for the last two cases are given by Eq (9) and (10) and Eq (13), respectively. The final section is concerned with the distortions of the median magnetic plane. These are calculated with the aid of Eq (1) and (3). The amplitude of the relative distortion of the median magnetic plane due to the presence on one of the poles of a harmonic component

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82906

S/120/60/000/02/037/052
E03E/E414

Design Calculations for Magnets with Distributed Windings

of the current density is given by Eq (14). A local correction of the position of the median magnetic plane can be obtained with the aid of special windings producing only a radial component in the median plane of the gap. These coils are in the form of a symmetric system analogous to that defined by Eq (11) but with the current in the upper and lower poles in opposite directions. A calculation of the radial component of the magnetic field in the plane of symmetry of the air gap leads to Eq (15) and hence, using Eq (3), the displacement of the median magnetic plane due to the coil can be calculated. Acknowledgment is made to A.A.Kolomenskiy for his interest in this work. There are 1 figure and 8 references, 5 of which are Soviet, 2 English and 1 French. 

ASSOCIATION: Fizicheskiy institut AN SSSR (Physics Institute AS USSR)

SUBMITTED: February 16, 1959

Card 5/5

ACCESSION NR: AP4002277

S/0139/63/000/005/0118/0123

AUTHOR: Kanunnikov, V. N.

TITLE: On the methods of designing magnetic systems for constant-field circular accelerators

SOURCE: IVUZ. Fizika, no. 5, 1963, 118-123

TOPIC TAGS: constant field accelerator, distributed winding accelerator, accelerator magnetic circuit, strong focusing accelerator, accelerator magnetic field, distributed winding design, distributed winding field, gradient, high energy accelerator, particle accelerator, circular accelerator

ABSTRACT: For given parameters the method of calculating the magnetic field of a pole piece, the distributed windings, and the magnetic circuit of a constant field synchrocyclotron type circular accelerator has been outlined. In spherical coordinated ρ, ϕ , the field distribution is assumed to be given by

$$H|_{\phi=0} = H_0 \left(\frac{\rho}{\rho_0} \right)^n \cdot f(\varphi),$$

$$n = \text{const} > 0, \text{ and } f(\varphi) = f\left(\varphi + \frac{2\pi}{N}\right).$$

Card 1/2

ACCESSION NR: AP4002277

The solution of the scalar magnetic potential is derived for the general three-dimensional geometry, and for practical estimates the two-dimensional solution is given. The winding distribution is discussed in a form where it can represent an infinitely thin current sheet on the surface of iron poles with infinite permeability. The effect of finite permeability on the field strength is then analyzed under three categories: the radial decay of magnetic field, the finite resistivity of the core, and the residual field from hysteresis losses. Orig. art. has: 24 formulas.

ASSOCIATION: Fizicheskii institut imeni P. N. Lebedeva AN SSSR (Institute of Physics AN SSSR)

SUBMITTED: 02Jul62

DATE ACQ: 02Dec63

ENCL: 00

SUB CODE: PH

NO REF SOV: 005

OTHER: 005

Card 2/2

L 9923-63 EWT(m)/BDS/ES(w)-2--AFFTC/ASD/ESD-3/SSD--Pab-4--IJP(C)
ACCESSION NR: AP3000016 5/0057/63/033/005/0592/0602

AUTHOR: Kamunnikov, V. N.

TITLE: Problems in design of the magnet for an annular synchrocyclotron 19

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 33, no. 5, 1963, 592-602

TOPIC TAGS: cyclotrons, magnets, accelerators

ABSTRACT: A number of new problems arise in designing magnets for annular synchrocyclotrons, the field of which is characterized by a number of distinctive features. Some of the design problems have been considered earlier by the author (PTE, No. 2, 1960 and ZhTF, 29, 1228, 1959). In the present paper the author derives expressions for the shape of the profiled pole pieces and the winding distribution for a real azimuth dependent field by the method of solution of the pertinent three-dimensional Laplace equation. Also considered are some new problems associated with design of magnets with distributed windings; there are deduced equations for the effective magnetic flux and the stray flux; there is found the approximate azimuthal dependence of the field; the effect of the

Card 1/2

L 9923-63

ACCESSION NR: AP3000016

finite value of the permeability on the field distribution is evaluated; indications are given regarding the design of auxiliary windings for smooth regulation of the field index over the working region of the magnet. "The author is grateful to Prof. A. A. Kolomenakiy for his interest and support in the work." Orig. art. has: 31 display equations and 6 figures.

ASSOCIATION: none

SUBMITTED: 03May62

DATE ACQ: 12Jun63

ENCL: 00

SUB CODE: PH

NR REF SOV: 006

OTHER: 004

lm/ *ja*
Card 2/2

L 1223-66 EWT(m)/EPA(w)-2/EWA(m)-2 IJP(c) GS S/0000/64/000/000/0653/0657
ACCESSION NR: AT5007945

39
25
PFI

AUTHOR: Kanunnikov, V. N.; Kolomenskiy, A. A.; Ovchinnikov, Ye. P.; Troyanov, Ye. F.; Fateyev, A. P.; Yablokov, B. N.

TITLE: Some results of the work on starting the symmetrical electron ring-phasotron at FIAN

SOURCE: ¹⁹ International Conference on High Energy Accelerators. Dubna, 1963. Trudy. Moscow, Atomizdat, 1964, 653-657

TOPIC TAGS: electron accelerator, synchrotron

ABSTRACT: The Physics Institute im. P. N. Lebedev, AN SSSR, is developing new accelerators of the ring-phasotron type. The principal idea of the development is to replace the growth of the magnetic field in time, which holds true in the case of synchrotron-type accelerators, by its growth in space in correspondence with the growth of the particles' energy. This permits increasing the intensity of the beam of accelerated particles, and also, by utilizing the accumulation of particles in a constant field, realization of the method of counter collisions of relativistic particles. As has been clear from the very beginning of the work, the complexity and novelty of the problem could not permit the work to be limited to theo-

Card 1/3

L 4223-66
ACCESSION NR: AT5007945

6

retical investigations. It was decided to construct a comparatively small accelerator, the symmetrical 30-Mev electron ring-phasotron, ensuring the simultaneous acceleration of two electron beams moving in opposite directions. This accelerator has to serve as a sufficiently flexible and resourceful basis for experiments on the creation of strong-current accelerators and accumulators. It was planned, in particular, to investigate with it various injection alternatives, accelerator regimes, and also the process of storing one and two counter beams. The principal results of the theoretical and experimental works completed in connection with the development of this accelerator have been published (V. N. Kanunnikov, et. al., Proc. International Conference on High Energy Accelerators, CERN, 1959, p. 89). The present report describes the main difficulties which were overcome in the initial period of starting the installation, and notes the results obtained up to the present moment. The principal parameters of the ring-phasotron are discussed, as well as the measurement and correction of its magnetic field. The characteristics of the beam during static operation are investigated. "The authors wish to thank for their participation workers of various organizations, especially the associates of the Physics Institute: V. S. Voronin, L. N. Kazanskiy, D. D. Krsil'nikov, A. N. Lebedev, S. S. Semenov, and of the Scientific-Research Institute of Electro-

Card 2/3

L 4223-66

ACCESSION NR: AT5007945

Physical Equipment: N. A. Monoszon, B. V. Rozhdestvenskiy, K. M. Kozlov, A. M. Stolov, V. A. Titov, V. B. Zalmanson, Ye. A. Dmitriyev. Orig. art. has: 7 figures.

ASSOCIATION: Fizicheskiy institut imeni P. N. Lebedeva, AN SSSR (Physics Institute, AN SSSR)

SUBMITTED: 26May64

ENCL: 00

SUB CODE: NP.

NO REF SOV: 004

OTHER: 001

Card 3/3

PP

EWI(4)/SEC(k)-2/SEC-4 Po-4/Pg-4/Pg-4/Pk-4/Pl-4

10/0120/65/000/002/0160/0163

ATTACH: YERONIA, V. O.

TITLE: High-speed transistorized magnetometer 1?

Summary: tekhnika eksperimental'naya

magnetometer, transistorized magnetometer, high speed magnetometer

magnetometer utilizing a transistorized circuit, designed at the Academy of Sciences of the USSR for

by measuring the current in the measuring coil, the negative feedback of the measured field. The

Card

L 48333-65

ACCESSION NR: AP5011889

and about 6 mm in height. The toroidal excitation winding consists of 50 turns, with an amplitude of 20 amp, at 100 cps. The ferrite core has a diameter of 10 mm. The core is wound with a 0.1 mm diameter wire. The device is used for measuring the magnetic field in the range of 0-100 gauss. The response time of the device is 10⁻⁶ sec. Its output, proportional to the field intensity, is a 0-220-mamp direct current. Orig. art. has: 4 figures and 1 table.

ASSOCIATION: none

DATE: 13Feb64

ENCL: 01

SUB CODE: EC, ES

NO REF SOV: 004

OTHER: 001

ATD PRESS: 3250

Card 2/3

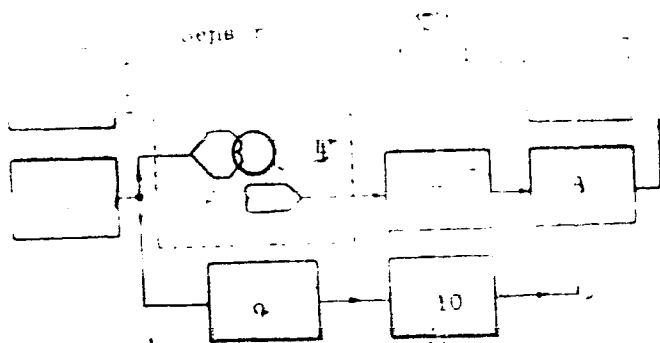


Fig. 1. Magnetometer

- 1 - Power supply; 2 - excitat. winding;
- 3 - core; 4 - signal generator; 5 - signal winding;
- 6 - amplifier of second harmonic; 7 - phase detector;
- 8 - phase shifter; 9 - doubler; 10 - d-c amplifier.

Card 1-2

L 00015-66 EWT(m)/EPA(w)-2/EWA(m)-2 IJP(e)

ACCESSION NR: AP5021367

UR/0120/65/000/004/0217/0218
621.384.6398

26
24
B

AUTHOR: Kazanskiy, L. N.; Kanunnikov, V. N.

TITLE: Pulsed system of inductive acceleration for annular synchrocyclotrons

19.55

SOURCE: Priboiy i tekhnika eksperimenta, no. 4, 1965, 217-218

TOPIC TAGS: particle acceleration, electron accelerator, MEV accelerator

ABSTRACT: The induction acceleration in electron annular synchrocyclotrons permits the production of a high mean particle beam intensity due to the constancy of the control magnetic field. An inductive system may be found useful also during numerous experiments investigating the acceleration and storage of large currents. The present article describes such a pulsed system of inductive electron acceleration with 50 cps repetition frequency developed for the electron annular synchrocyclotron of the FIAN. The machine has betatron cores made of transformer steel. Difficulties caused by a low Q-factor and low coupling coefficient are overcome by the addition of the emfs from two betatron cores. The total pulse secures a fast widening of the orbit (amplitude is 1600 V, and duration 3 μ sec) and an acceleration up to an energy of 0.5 MEV (280 V, 90 μ sec) with a subsequent trapping into the high frequency operating condition. Orig. art. has: 3 figures.
Card 1/2

L 00015-66 2
ACCESSION NR: AP5021367
ASSOCIATION: Fizicheskiy institut AN SSSR, Moscow (Physics Institute, AN SSSR) 6
SUBMITTED: 01 Jul 64 ENCL: 00 SUB CODE: NP
NO REF SOV: 002 OTHER: 001

mlr
Card 2/2

L 20713-66

ACC NR: AP6007827

SOURCE CODE: UR/0120/66/000/001/0143/0146

AUTHOR: Voronin, V. S.; Kanunnikov, V. N.

27
B

ORG: Institute of Physics, AN SSSR (fizicheskiy institut AN SSSR)

TITLE: Multichannel current stabilizer

SOURCE: Pribory i tekhnika eksperimenta, no. 1, 1966, 143-146

TOPIC TAGS: current stabilization, synchrotron

ABSTRACT: A new multichannel current stabilizer is intended for supplying five windings (270, 11, 1.1, 10, 0.1 amp) of a strong-focusing ring-type synchrotron (FIAN). One common source — a self-excited d-c generator — is used for supplying all five channels; the shunt-field rheostat is replaced with a transistor. At low voltages the transistor resistance is very low, and the field circuit is practically shorted. As the current flowing through the transistor increases, its differential resistance, too, increases; the field current becomes independent of the generator voltage. By using a control current equal to a few per cent field current, the generator voltage can be regulated within its entire range, from its residual-field

2

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UDC: 621.316.721.1.024

L 20713-66

ACC NO: AP6007827

value to its nominal value. On the above principle, a stabilizer with a PN-290, shunt-wound, 115-v, 287-amp, d-c generator was built and tested. Current-regulation in each channel, 10-120%; stabilization power, 10 kw; stabilizer consumption, 60 w; a current stability of $\pm 0.05\%$ was attained by using direct-coupled Si-transistor amplifiers and temperature compensation. "In conclusion, the authors wish to thank A. A. Kolomenskiy for his help in carrying out the project, and N. S. Shilkin for his participation in building the device." Orig. arts has: [03]
3 figures.

SUB CODE: 18, 09 / SUBM DATE: 24Dec64 / ORIG REF: 002 / OTH REF: 002

ATD PRESS: 4223

Card 2/2

OK

L 06995-67 EWT(m) LJP(c)
ACC NR: AP6021528 SOURCE CODE: UR/0089/66/020/006/0513/0514

AUTHOR: Kolomenskiy, A. A.; Kamunnikov, V. N.; Kazanskiy, L. N.; Ovchinnikov, Ye. P.; Papadichev, V. A.; Semenov, S. S.; Fateyev, A. P.; Yablokov, B. N.

ORG: none

TITLE: Starting of a new accelerator - symmetrical annular FM synchrotron of the Physics Institute im. P. N. Lebedev AN SSSR

38
35
B
19
19

SOURCE: Atomnaya energiya, v. 20, no. 6, 1966, 513-514

TOPIC TAGS: electron accelerator, synchrotron/ KF electron accelerator

ABSTRACT: This is a brief report of the starting of a new experimental symmetrical annular FM synchrotron (KF installation). It is a strong-focusing accelerator with constant magnetic field, in which the time variation of the magnetic field is replaced by a radial increase of the field in accordance with the growth of the particle energy. The accelerator was proposed by one of the authors (Kolomenskiy, ZhETF v. 33, 298, 1957; Atomnaya energiya v. 3, 492, 1957) and its construction is described in detail elsewhere (V. N. Kamunnikov et al., in: Trudy Mezhdunarodnoy konferentsii po uskoriatelyam, Dubna, 1963 [Transactions of International Conference on Accelerators, Dubna, 1963] Atomizdat, 1964, p. 653). The article describes briefly the magnet, the initial operation, the accelerating system, the electron injection, and some of the preliminary results. The authors thank V. S. Voronin, D. D. Krasil'nikov, A. N. Lebedev, O. A. Smirnov, V. M. Gapanovich, N. V. Platonov, G. T. Ponomarev, V. A. Ryabov, Ye.

Card 1/2

UDC: 621.384.612.4

L 00993-07

ACC NR: AF6021528

3

F. Troyanov, G. I. Kharlamova, L. N. Chekanova, and the technicians' and mechanics' group for help with the starting of the accelerator, and Professor N. A. Dobrotin for interest in the work. Orig. art. has: 2 figures.

SUB CODE: 18/ SUBM DATE: 31Mar66/ ORIG REF: 004/ OTH REF: 001

Card 2/2 JC

~~KANUNIKOV~~, Yu., inshener (Kaliningrad); LAZAREV, Yu., inshener
(Kaliningrad)

New marine radar equipment. Mer.flet 17 no.8:31 Ag '57.
(MIRA 10:10)

(Great Britain--Radar in navigation)

KANUNNIKOV, Yu., kapitan 2-go ranga

Practical manual for the use of ship radar systems ("Practical manual on the use of ship radar systems for navigation and prevention of ship collisions in high seas" by M.N. Malaksianov and others. Reviewed by IU Kanunnikov). Mor.flot 21 no.2:46-47 F '61. (MIRA 14:6)

(Radar in navigation)

(Malaksianov, M.N.)

KSENZ, Stanislav Petrovich; KANUNNIKOV, Yuriy Fedorovich; MALAKSIANOV,
Mikhail Nikolayevich; NIKOL'SKIY, Vsevolod Ivanovich;
KILACHATUROV, Ye.A., tekhn. red.

[Avoiding breakdown in ship radar systems; repairing ship
radar devices at sea] Ustranenie neispravnostei sudovykh radio-
lokatorov; remont morskikh navigatsionnykh RLS v more. Moskva,
1^{ed}-vo "Morskoi transport," 1962. 228 p. (MIRA 15:8)
(Radar in navigation)

KSENZ, S., inzh.; KANUNNIKOV, Yu., shturman dal'nego plavaniya; BURKOV,
V., radiotekhnik

Emergency starting block for the radar station "Neptune." Mor.
flot 22 no.2:20-21 F '62. (MIRA 15:4)
(Radar in navigation)

KANUNNIKOV, Yu.F., kapitan 2-go ranga

The badge "For a Long-Distance Cruise." Mor. sbor. 48 no.6:67
Je '65. (MIRA 18:6)

L 36138-66 EWT(m)/EWP(v)/T/EWP(t)/ETI/EWP(k) IJP(c) JD/HM

ACC NR: AT6016764

(N)

SOURCE CODE: UR/2776/65/000/042/0077/0084

47
49
A11

AUTHOR: Aleksandrova, T. K.; Kanunnikova, A. M.

ORG: none

TITLE: Rolling of titanium-iron bimetal

SOURCE: Moscow. Tsentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii, Sbornik trudov, no. 42, 1965. Proizvodstvo bimetallov (Production of bimetals), 77-84

TOPIC TAGS: metal cladding, bimetal, titanium, iron, hot rolling

ABSTRACT: The object of this investigation was to obtain bimetal strips up to 0.1 mm thick on using armco iron and VT1-1 titanium. Comparative rolling at normal and elevated temperatures was performed. The assembled and welded strips were hot-rolled in a two-high mill or cold-rolled in a strip mill, and annealed to increase their plasticity. These experiments demonstrated the possibility of the hot pack rolling of bimetal titanium-iron strip at temperatures of ~700°C contrary to the established opinion that the optimal temperatures of such rolling are 950-1000°C; the strength of adhesion between iron and Ti then remains adequate provided that: the gas content of Ti is confined to 0.068% O, 0.0084% H, 0.044% N; the welded surfaces of Ti and iron are thoroughly cleaned with a brush just prior to their rolling; and iron is annealed at 600-650°C in order to maximally adjust its plasticity to that of titanium prior to rolling. Mechanical tests of the hot-rolled bimetal strip were satisfactory :

Card 1/2

L 36138-66

ACC NR: AT6016764

twisting and bending of specimens through an angle of 180°C produced no exfoliation. Subsequent cold rolling of the specimens resulted in a strip 0.1-0.3 mm thick which, after annealing, displayed satisfactory plasticity. The possibility of obtaining 0.1 mm thick cold-rolled bimetal strip by combined rolling of titanium strip and iron strip was confirmed. Orig. art. has: 7 figures, 2 tables.

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

Joining of Dissimilar Metals 1/1

Card 2/2 1/1

L 36142-66 EWT(m)/EWP(w)/EWP(t)/ETI/EWP(k) IJP(c) JD/HW/WB/EM/JT

ACC NR: AT6016768 (N) SOURCE CODE: UR/2776/65/000/042/0127/0132

AUTHOR: Aleksandrova, T. K.; Balakina, I. A.; Kanunnikova, A. M.

ORG: none

TITLE: New All-Union State Standard for hot-rolled corrosion-resistant laminated steel plate

SOURCE: Moscow. Tsentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii. Sbornik trudov, no. 42, 1965. Proizvodstvo bimetallov (Production of bimetal), 127-132

TOPIC TAGS: SCIENTIFIC STANDARD, chromium steel, nickel steel, low alloy steel, bimetal, metal cladding, industrial condition / Kh18N10T steel, Kh18N9T steel, Kh17N13M2T steel, OKh13 steel, 16GS low alloy steel, 09G2S low alloy steel, 09G2 low alloy steel

ABSTRACT: Owing to the sharp expansion of the output of laminated stainless steel plate beginning with 1960, it became necessary to establish a special GOST (All-Union State Standard) for this plate. This new GOST (GOST 10885-64, issued in 1964) specifies the technical conditions and requirements for the fabrication of laminated steel plate and sheets 4 to 160 mm thick, with the cladding layer being represented by the

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ACC NR: AT6016768

the Cr-Ni¹⁸ and Ni¹⁸ steels ¹⁸Kh18N10T, ¹⁸Kh18N9T, ¹⁸OKh13 and ¹⁸Kh17N13M2T as well as by nickel, and the base layer, by low-alloy steels 16GS, 09G2S, 09G2 and 10Kh5ND, along with simple carbon steels of the St. class. The new GOST also includes such innovations as the determination of the tenacity of the welding of the base and cladding layers; it is highly important to users that bimetal sheets behave like solid sheets and do not split during their cutting, stamping and other operations involved in constructing chemical and electronic apparatus from these steels: the shear strength of the cladding layer must be at least 15 kg/mm². The introduction of this new GOST will doubtless create the conditions for improving the quality and broadening the variety of the output of bimetals and offer a broader selection of laminated plate and sheets to users. Orig. art. has: 5 figures, 1 table.

SUB CODE: 13, 11, 05 01 SUBM DATE: none/ ORIG REF: 002

Joining of Dissimilar Metals

Cord 212 llb

KANUNNIKOVA, A. S.

"Natural Content of Zinc in Food Products." Sub 19 Nov 51,
Second Moscow State Medical Inst imeni I. V. Stalin.

Dissertations presented for science and engineering degrees
in Moscow during 1951.

SO: Sum. No. 480, 9 May 55

12

KANUNNIKOVA, Z. A.

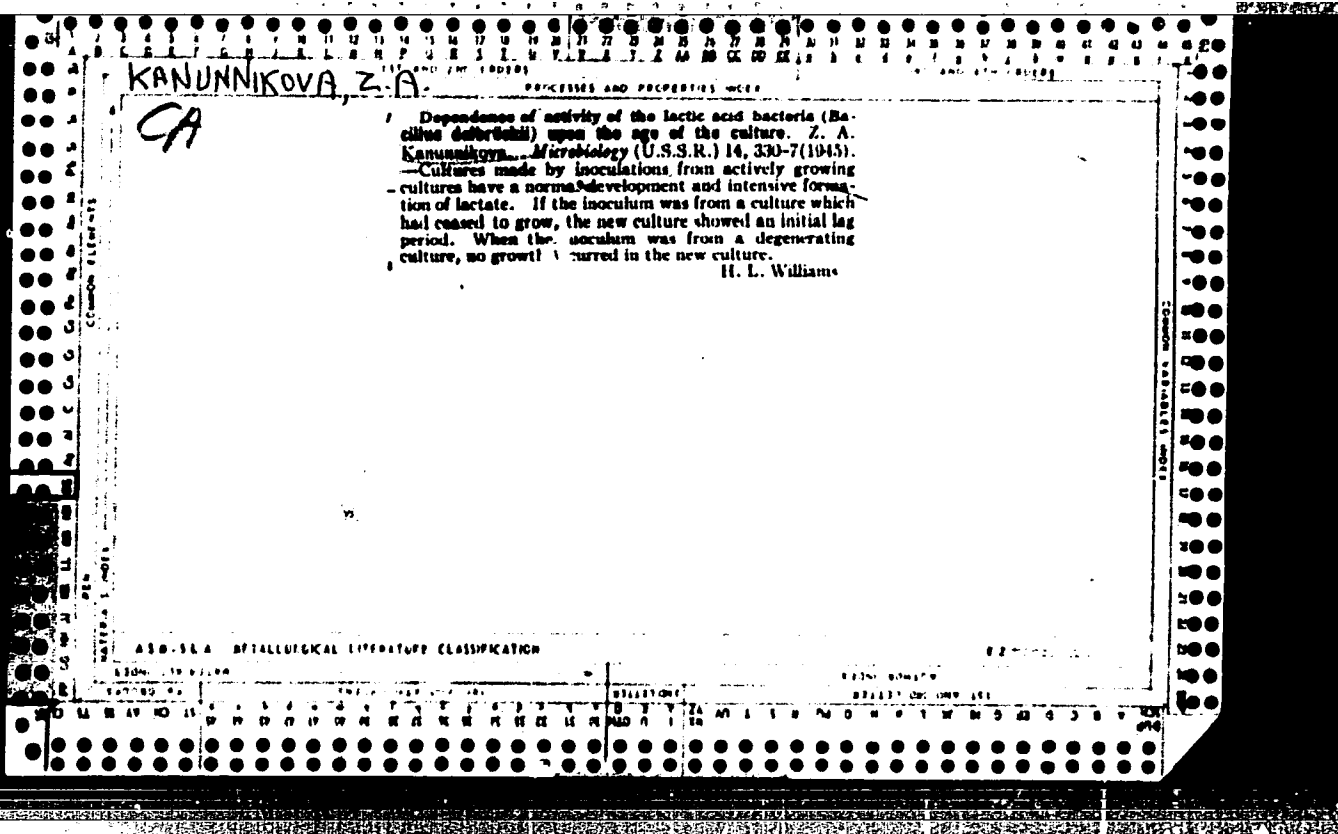
Processes and Properties

The influence of different concentrations of sodium chloride on the decomposition of butter by microorganism and the formation of some enzymes. Z. A. Kanunnikova. *Izv. vuz. biol. (U. S. S. R.)* 43, Nov. 2-3, 117-27 (in English 127) (1990). - The presence of 1% NaCl in a medium contg. 4% butter (or sunflower-seed oil) favored the growth of *B. prodigiosum* and inhibited the growth and lipolytic activity of *Oidium lactis* and *B. aureus*. Greater concns. of NaCl depressed the decoupn. of butter. The decoupn. of sunflower oil by bacteria is accompanied by the formation of free fat acids and an increase in the sapon. no.; the I no. remains unchanged. If (NH₄)₂HPO₄ is present in the medium the I no. is decreased. With butter there is an increase in fat acids, higher s₂, and the sapon. and I nos. decrease. Under the influence of the organisms part of the butter bleaches and becomes granular and a part of it liquefies and rises to the top. The presence of NaCl depresses the formation and activity of the bacterial proteases and lipases. W. A. P.

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

KANUNIKOVA, Z. A. AND STURM, L. D.

"Distribution of microorganisms in freshwater Lacustrine deposits," Mikrobiologiya,
14, p 260, 1945.



KARUNNIKOVA Z. A.

PA 44/49169

USSR/Medicine - Microbiology Jul/Aug 48
Medicine - Delbrück's Bacillus, Action

Variation in the Physiological Activity of
Delbrück's Bacillus, Z. A. Karunnikova, Inst
of Microbiol, Acad Sci USSR, Moscow, 5 1/2 pp

Microbiologiya Vol XVII, No 4

Claims that results of studies disclosed a
fermentative activity by Delbrück's bacillus
in a suspension prepared from various cultural
growths. This activity was measured according
to acidity derived from sugar. Data revealed
that biochemical action of a cell from young
cultures is more intensive than that of old
cultures.

USSR/Medicine - Microbiology (Cont'd) Jul/Aug 48

cultures. Productivity of cells in a cultural
suspension is higher at the beginning than in a
quiescent culture. Gives four tables of experi-
mental results. Submitted 26 Feb 48.

44/49169

KANUNNIKOVA, Z. A.
USSR/Biology - Filterable Forms of Bacteria

FD-1412

Card 1/1 : Pub. 73 - 1/11

Author : Kanunnikova, Z. A.

Title : On filterable forms of lactic acid bacilli

Periodical : Mikrobiologiya, 23, 6, 641-647, Nov-Dec 1954

Abstract : The procedures used in, and results of experiments designed to isolate and culture filterable forms of *Lactobacillus delbrueckii* are described. The filterable forms obtained were oval shaped and grew well during a series of transplantations, but did not produce acid. The text is illustrated by two sketches, two graphs, and five electron photomicrographs. Two Soviet references are cited.

Institution : Institute of Microbiology, Academy of Sciences USSR

Submitted : 10 May 1954

Country : USSR
Category : Microbiology. General Microbiology. Growth and Development of the Microbial Population
Aos. Jour : Ref Zhur-Biol., No 25, 1958, No 103598
Author : ~~Kamunnikova Z. A.~~
Institut. : ~~Inst. Mikrobiologii AN SSSR, Moscow~~
Title : The Influence of Certain Environmental Factors on the Formation of Filtrable Forms of Lactic Acid Bacteria
Orig. Pub. : Mikrobiologiya, 1958, 27, No 2, 172-176
Abstract : After the action of prolonged shaking in a vibrator or of distilled water on two strains of Bact. delbrückii T³ and 95, bodies of oval shape appeared in the culture; these are called "microforms" by the author. Shaking contributes to an increase in the number of microforms. Regeneration of the microforms in filtrates of the T³ strain was obtained in only one experiment, whereas it was obtained in all the filtrates during the examination of strain 95. Increase in the number of microforms in the filtrate leads to a more frequent formation of secondary cultures. The development of microforms into the bacilloid forms was studied directly in a hanging drop. The author believes that

Card:

1/2

KANUNOV, K.N., prepodavatel'

Some characteristics in the formation of the flow of small rivers
in the Zeya-Bureya basin. Sbor. trud. Khab. avt.-dca. Inst. no.1:
59-68 162. (MIRA 18:1)

SOV/120-59-4-31/50

AUTHORS: Kanunov, M. A. and Sokovishin, V. A.

TITLE: A Laboratory Vacuum Manipulator

PERIODICAL: Pribory i tekhnika eksperimenta, 1959, Nr 4, pp 130-132 (USSR)

ABSTRACT: Apart from the essential parts, such as the vacuum-tight casing, electrodes, etc., vacuum devices usually have a glass or metal stem which is left behind when the device is sealed off. Inside the vacuum device there may be also ribbons, etc. used for deposition of a getter mirror. The present note describes methods of production of vacuum devices without some of these non-essential parts such as stems or ribbons for getter deposition. Vacuum is produced both inside and outside a device. The device is evacuated through wider openings than the usual glass or metal stem and this accelerates the evacuation process. The getter is deposited from an external source onto the hot (200-250°C) walls of the device. In this way only the getter mirror remains inside the device. The device is sealed off (in vacuo) by soldering two metal parts with an easily fusible alloy POS-61, which has a small temperature interval between softening and flow (183-193°C). If the metal parts are prevented from moving during the soldering process and

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SOV/120-59-4-31/50

A Laboratory Vacuum Manipulator

if the solder is in the form of a comparatively thin layer, the mechanical strength of the joint is very high. All these operations can be carried out in a vacuum manipulator shown schematically in Fig 2 (Fig 3 is a photograph of the manipulator). The manipulator is connected to an oil-diffusion pump with an evacuation rate of 500 litre/sec. In order to improve vacuum in the manipulator a trap in the form of a copper rod with vanes was placed in a tube 2, which connects the manipulator and the pump. The copper rod projects outside and is cooled with liquid nitrogen. The manipulator chamber is a cylinder of 220 mm diameter (1, in Fig 2). The cylinder is closed by a welded bottom 3, and it has a steel disc, 4, across its middle portion. It is possible to move vacuum devices inside the manipulator vertically as well as in the horizontal plane along an arc of 120°. A disc, 11, is attached to the upper part of the central shaft 7 and clamps 12 for holding the vacuum device casings, are attached to the disc 11. Just

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SOV/120-59-4-31/50

A Laboratory Vacuum Manipulator

above the steel disc 4 there is a platform, 15. This platform is used to support apparatus for heating of the devices and deposition of the getter. The heater is in the form of a vertical cylinder furnace with a nichrome winding and its temperature is controlled by means of a thermocouple. To ensure good contact between the casing of the vacuum device and its base during the soldering process, the base is placed on a little platform supported by a spring. To achieve exact alignment between the casing and the base a short rod 19 is used. This rod fits exactly into the holes in a special platform 18 and this fixes precisely the positions of the bases with respect to the casings. The metal parts of the casings and the bases are tinned with POS-61 solder and carefully washed. Then the casings and the bases are placed inside the manipulator, where they are heated and outgassed. After several hours of heating at 300-500°C the casings are removed from the vertical furnaces mentioned earlier. They are then moved along an arc and placed in the gettering positions. The getter mirrors are deposited by passing a current of 9-10 A through boats containing the gettering substance. After the gettering stage the casings are lifted, moved along an arc

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SOV/120-59-4-31/50

A Laboratory Vacuum Manipulator

and placed again in the vertical furnaces. The rod 19 is used to align the bases with the casings. The casings and the bases are pressed against each other and soldered together at 240°C in a vacuum of $(5-6) \times 10^{-6}$ mm Hg. Acknowledgments are made to A. S. Matveyenko, A. I. Sazanov and N. I. Orlov for their help, and to V. A. Tsukerman for his advice. There are 3 figures and 3 Soviet references.

SUBMITTED: May 13, 1958.

Card 4/4

33151

S/120/61/000/006/019/041
E032/E114

9, 2140 (1100, 1150, 1161)

AUTHORS: Lobov, S.I., and Kanunov, M.A.

TITLE: A controlled doubly triggered discharger

PERIODICAL: Pribory i tekhnika eksperimenta, no.6, 1961, 94-96

TEXT: The device described by the present authors is suitable for use as a switch for high-current (kiloamperes) pulses. It is illustrated in Fig 1 (A - anode; K - cathode; C - intermediate electrode; Π - intensifying electrode; \mathcal{B} - insulating glass ring; \mathcal{M} - screening cap). The main discharge gap between the electrodes A and K is separated by the intermediate electrode C which contains an axial aperture. The intensifying electrode Π is located inside the cathode and is insulated from it by a glass ring. The cathode carries a metal cap which prevents the disintegration of the glass. The cap also has an axial aperture. One can show, using the Paschen curve, that the breakdown potential between two electrodes is smaller than the breakdown potentials of the two halves of the same gap formed by the insertion of a third and infinitely thin electrode. In the present discharger the gaps AC and CK are connected

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E032/E114

A controlled doubly triggered

through the aperture in the thin electrode C. If the potential between A and K is adjusted to be close to the breakdown potential between A and C (K and C) with the intermediate electrode C at the mean potential, then one obtains twice the normal electrical strength. In order to operate the discharger it is sufficient to initiate a discharge through one of the two gaps (CK or CA). The discharger is shown to combine the principles of a commutator with two gaps and a triggeratron. In practice, the discharger has a working voltage of 1.5 kV. It has a length of 46 mm and a diameter of 15 mm. The delay time between the main discharge and the triggering pulse is less than 0.05 μ sec. The discharger is designed for 2-3 μ sec current pulses up to 3 kiloamps. The electrical strength between the anode and the cathode is not less than 3 kV. The breakdown voltage between Γ and K is about 1 kV. Fig.3 illustrates possible methods of connection of the discharger. In Fig.3a the triggering voltage pulse (positive) from the transformer T_p is applied to the electrode C through the blocking capacitor $C_p = 50-100 \mu F$. At the same time the voltage pulse is applied through the load Z to the electrode Γ .

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A controlled doubly triggered ...

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E032/E114

The load Z can be either a capacitance, an inductance or a resistance. In the other circuit (Fig.36) the load Z is removed and the electrode Π receives the negative voltage pulse from the other end of the transformer coil. Both circuits ensure that the gap ΠK breaks down first. This breakdown serves as a source of charged particles which are necessary to prevent a delay between the breakdown of CK and AC, and also as a starting pulse for the electrode C whose potential may increase independently of the stage of the gap ΠK . Under these conditions, the discharge across CK occurs at a voltage approximately equal to the static discharge voltage. The electrical discharge across CK occurs from the edge of the aperture in the electrode C. When this happens the electrode C is found to be at the same potential as the cathode, and the working voltage appears across AC whose breakdown potential is arranged to be close to the working voltage. It follows that as soon as CK sparks over, AC will also discharge. As a result, there is a common discharge channel between A and K through the aperture in C and the discharger fires.

Card 3/4

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33151

A controlled doubly triggered ...

S/120/61/000/006/019/041
E032/E114

Acknowledgments are expressed to V.A. Tsukerman,
P.M. Tochilovskiy and N.I. Orlov for assistance during this
work and in the preparation of prototype dischargers.
There are 3 figures and 4 references; 3 Soviet-bloc and
1 non-Soviet-bloc. The English language reference reads as
follows;

Ref.1: F.S. Coucher, J.R. Hoynes, W.A. Depp, E.J. Rider.
Bell System Techn. J., v.25, October 1946.

SUBMITTED: April 3, 1961

+

Card 4/4 4

KAMUNOVA, M. I.

A great force. Transp. stroi. 13 no.3:1-3 Mr '63.
(MIRA 16:4)

1. Sekretar' Tsentral'nogo komiteta professional'nogo soyusa
rabochikh shelesnedoreshnego transporta.

(Women in construction)

KANUPER, V. (Riga)

Highly sensitive video receivers. Radio no.3:28-30 Mr '62.
(MIRA 15:3)

(Television--Receivers and reception)

L 40935-66

ACC NR: AP6030999

SOURCE CODE: BU/0015/66/027/001/0115/0116

AUTHOR: Kanurkov, G.

17
3

ORG: Main Center for Geological Studies (Glavno upravl. za geol. prouchvaniya)

TITLE: Is the existence of goethite and lepidocrocite in Bulgaria proved?

SOURCE: Bulgarsko geologichsko druzhestvo. Spisanie, v. 27, no. 1, 1966, 115-116

TOPIC TAGS: mineralogy, physical geology ✓

ABSTRACT: The author of the note surveys statements concerning the existence of goethite and lepidocrocite in Bulgaria and concludes that most of the positive pronouncements are not well founded since they are based generally on visual observation. He proposes that the question be decided through a combined X-ray, thermographic, microscopic, and chemical investigation of the samples. [JPRS: 36,844]

SUB CODE: 08 / SUBM DATE: none / ORIG REF: 013 / SOV REF: 007
OTM REF: 001

Card 1/1 hs

0912 1975

"APPROVED FOR RELEASE: 06/13/2000

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APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000520420010-7"

KANUSTINSKIY, A.F.

Category : USSR/Atomic and Molecular Physics - Physics of the
Molecule

D-2

Abs Jour : Ref Zhur - Fizika, No 3, 1957, No 6217

Author : Kanustinskiy, I.F.

Title : Dissociation Energy of Fluorine Molecules and the Rule of
Thermochemical Logarithms.

Orig Pub : Tr. Mosk. Khim.-tekhnol. in-te, 1956, Vyp. 22, 17-20

Abstract : The author obtains the dissociation energy D of F_2 (the experimental determination of which is difficult) by tracing the variation of D over the elements that comprise its group in the periodic system. The value obtained for D , 71 Kcal/mol (at 298° K), is close to the value obtained by Birge (see Britske E.V. et al, Thermoconstants, Published by Academy of Sciences, USSR, 1949).

Card : 1/1

POLAND / Chemical Technology. Chemical Products and Their
Application. Food Industry.

I-30

Abs Jour : Ref Zhur - Khimiya, No 3, 1957, 10330

Author : ~~Kanut, F.~~

Inst : Not given

Title : The Thiamine and Riboflavin Content of Raw and Boiled Milk.

Orig Pub : Roczn. nauk rolniczych, 1955, Vol B-70, No 2, 197-205

Abstract : Raw milk contains 0.038-0.145 mg% of thiamine (average 0.0417 mg%) and 0.169-0.206 mg% (average 0.192 mg%) of free riboflavin. In boiled milk, the average content of these two substances is 0.0386 and 0.187 mg%, respectively. The boiling of milk results in the destruction of 7.43% of the thiamine and 2.6% of the riboflavin.

Card : 1/1

KRAUSE, Mieczyslaw, doc. dr.; VORERODT, Andrzej, doc. dr.; KANWISZER,
Henryka; TARMAJ, Jozef.

Attempt of histochemical localization of catecholamines in the
metencephalon. Acta physiol. Pol. 16 no.1:1-7 Ja-F'65.

1. Zaklad Fizjologii (Kierownik: doc. dr. M. Krause); Zaklad
Histologii i Embriologii Ogolnej (Kierownik: doc. dr. A. Vor-
brodt) oraz Zaklad Anatomii Prawidlowej Slaskiej Akademii
Medycznej w Zabrsu-Rokitnicy (Kierownik: prof. dr. St. Kohmann).

HARAZDA, Maria; KANWISZER, Henryka; LANGER, Jan; RZEPECKI, Wit.

Intraoperative hemorrhage in a case of pulmonary sequestration.
Oruslica 33 no.9:817-820 3 ' 65.

1. 3 Kliniki Chirurgii Klatki Piersiowej Studium Doskonalenia
Lekarzy w Zakopanem (Kierownik: prof. dr. med. W. Rzepecki)

KANWISZER, Henryka; FRENKEL, Stanislaw

Can ethionamide be used in reduced doses? Gruslica 33 no.3:
231-234 Mr'65.

1. Z Kliniki Chirurgii Klatki Piersiowej SDL [Studium Dos-
konalecia Lekarzy] w Zakopanem (Kierownik: prof. dr. med. W. Rzepicki).

KANYA, referent

**Production of coke in the Czechoslovak Republic. Koks i khim
no.2:62-63 '60. (MIRA 13:5)
(Czechoslovakia--Coke industry)**

FANYA, E.

THE PROBLEM OF LABOR PRODUCTIVITY IN REGARD TO RAILROADS.

p 12 (KÖZLEKEDÉSTUDOMÁNYI SZEMLE) BUDAPEST, HUNGARY VOL. 7 NO 1/3 JAN./MAR. 1957

SO: MONTHLY INDEX OF EAST EUROPEAN ACCESSIONS (AEEI) VOL 6 NO 11 NOVEMBER 1957

KANYA, E.

Calculation of profitableness in the complex development of transportation branches. p. 501.

KOZLEKEDESTUDOMANYI SZEMLE. Budapest, Hungary. Vol. 9, no. 11, Nov. 1959.

Monthly List of East European Accessions (EEAT), LC, Vol. ~~60, no. 2, Feb. 1960~~
Uncl. 9, no. 2, Feb. 1960

KANYA, Erno, dr.

Long-distance heat supply of Tatabanya. Epuletgepeszet 12
no.6:20/-210 D'63.

1. KAN'YANOV, N. N.
2. USSR (600)
4. Medical Instruments and Apparatus
7. Planning in pharmaceutical and medical supplies industry. Med. prom. no. 6 1952.

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

PROCESSED AND PROPERTIES INDEX

2

$\frac{d[\text{HOCl}]}{dt} = k[\text{HOCl}]^2[\text{C}_2\text{H}_3\text{O}_2]$. The presence of Cl acts catalytically and lowers the order of the reaction to the first: $-\frac{d[\text{HOCl}]}{dt} = k[K \times b][\text{HOCl}][\text{Cl}^-]$, where $[K \times b]$ is the total concn. of mol. and ionic crotonic acid. At 0°, $b = 26.3 \times 10^6$. The value of b increases with H-ion concn. and the complete kinetic equation is $-\frac{d[\text{HOCl}]}{dt} = k_1[\text{HOCl}][K([\text{HCl}] + b_1[\text{HOCl}] + b_2[\text{HCl}])]$. The energy of activation is 7570 cal. from 0° to 20° and the action const. α is 4.8×10^{10} . Pure HOCl solid was prepd. by treating Cl water with Ag_2PO_4 till free from Cl color, and then filtering. This soln. had a mol. cond. of 0.40 at 25°. 120 at 0°. F. H. Rathmann

ASS. 31.4 METALLURGICAL LITERATURE CLASSIFICATION
 ROOM 20417
 22 APR 1966

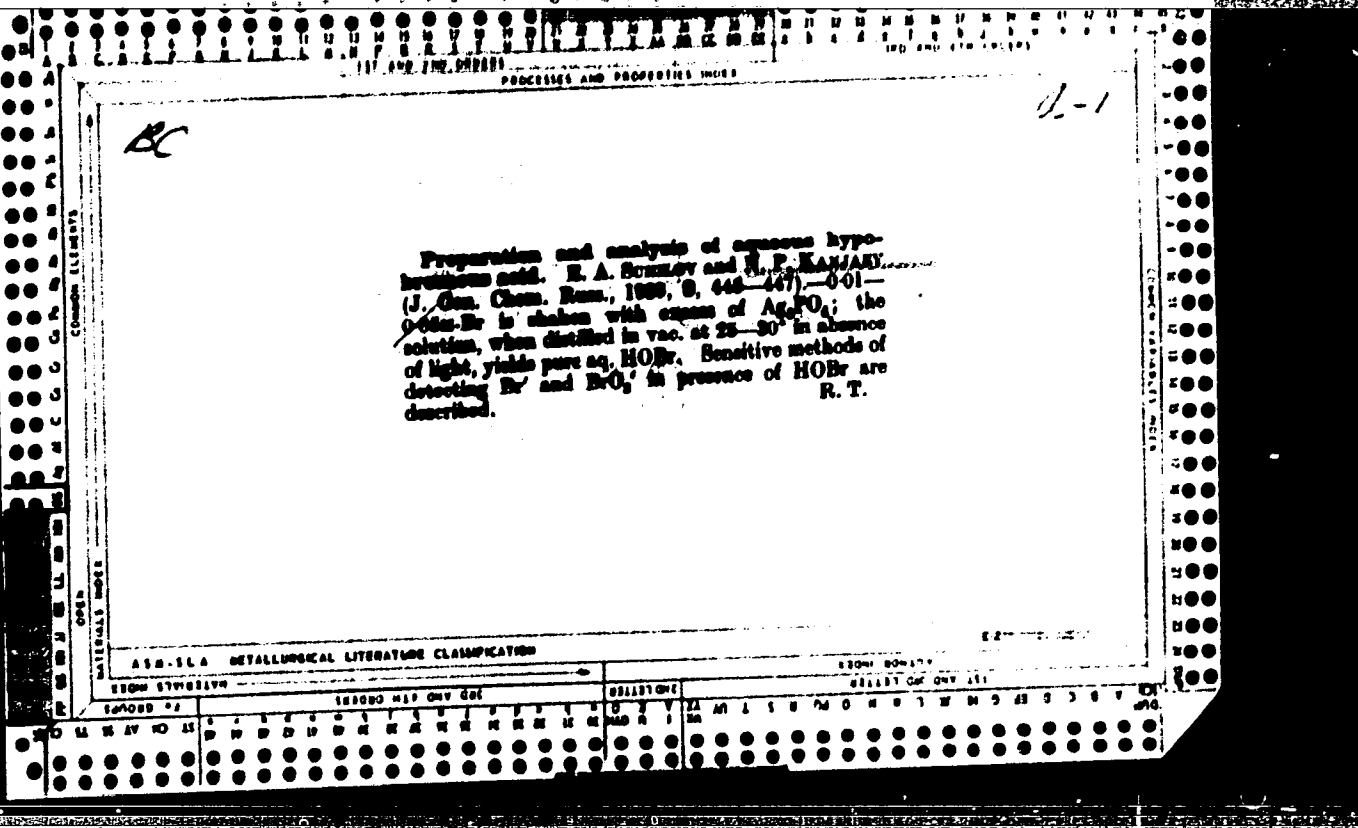
CA

PROCESSES AND PROPERTIES INDEX

2

Kinetics of the addition of hypochlorous acid to double bonds. IV. Hypochlorous acid and 2-butene-1,4-diol.
 E. A. Shlov and M. F. Kamenev. *J. Phys. Chem. (U.S.S.R.)* 10, 122-31(1967); *cf. C. A. B.*, 2072^a.—The kinetics of the reaction $\text{HOCl} + \text{HOCH}_2\text{—CH=CH—CH}_2\text{OH} \rightarrow \text{HOCH}_2\text{—CH(OH)—CHCl—CH}_2\text{OH}$ in aq. soln. at 0° shows the 3rd-order equation $d[\text{C=C}]/dt = k_1[\text{HOCl}]^2[\text{C=C}]$ where $k_1 = 980$ mol/L. min. at low concns. while at higher concns. the exponents 2 and 1 are replaced by 1.9 and 0.7, resp. HOCl acts as a pre. catalyst and the order of reaction is given by the equation $d[\text{C=C}]/dt = k_2[\text{HOCl}][\text{H}^+][\text{Cl}^-]$ where $k_2 = 4 \times 10^6$ or nearly the value for the cond. of rehydrolysis of Cl_2 , indicating that Cl_2 acts. plus a deciding role in the mechanism of the reaction. In alk. soln. the kinetics is expressed by $d[\text{C=C}]/dt = k_3[\text{HOCl}][\text{OH}^-][\text{C=C}]$ where $k_3 = 0.9, 0.03$ up to 15 mols % NaOH, and decreases at higher concns. of either NaOH or of HOCl. The complete reaction consists of consecutive stages of which the butene-2-diol-1,4 ion is one.
 F. H. Rathmann

ASD-51A METALLURGICAL LITERATURE CLASSIFICATION



PROCESSES AND PROPERTIES MODS

2

ca

Need card for this number

Kinetics of the addition of hypochlorous acid to the double bond. VI. The formation of 1,2-dichloroethane in the presence of high concentrations of chloride ion. E. A. Shilov, N. F. Konyay, M. A. Domina and P. P. Iorina. *J. Phys. Chem.* (U. S. B. R.) 13, 1242-8 (1959); cf. C. A. 54, 7708i. — The relative rates of Cl reacting with C_2H_4 to form CH_2ClCH_2OH and $(CH_2Cl)_2$ at 0° were detd. as functions of concn. of Cl and of H ions. With increasing concn. of Cl ions, formation of CH_2ClCH_2OH is favored; concn. of H ions has no effect. Addn. of $CuCl_2$ in concn. up to 1 M has practically no effect on the rate of the addn. reaction. It is assumed that in the ion-catalyzed reaction the Cl⁻ ion and one Cl atom from a Cl_2 mol. enter into the $C_2H_4Cl_2$ mol. while the other Cl atom is left behind as a Cl⁻ ion.

F. H. Rathmann

ASAC-15A METALLURGICAL LITERATURE CLASSIFICATION

6-27-72 12322

SEARCHED	INDEXED	SERIALIZED	FILED

KANYAYEV4N8P8

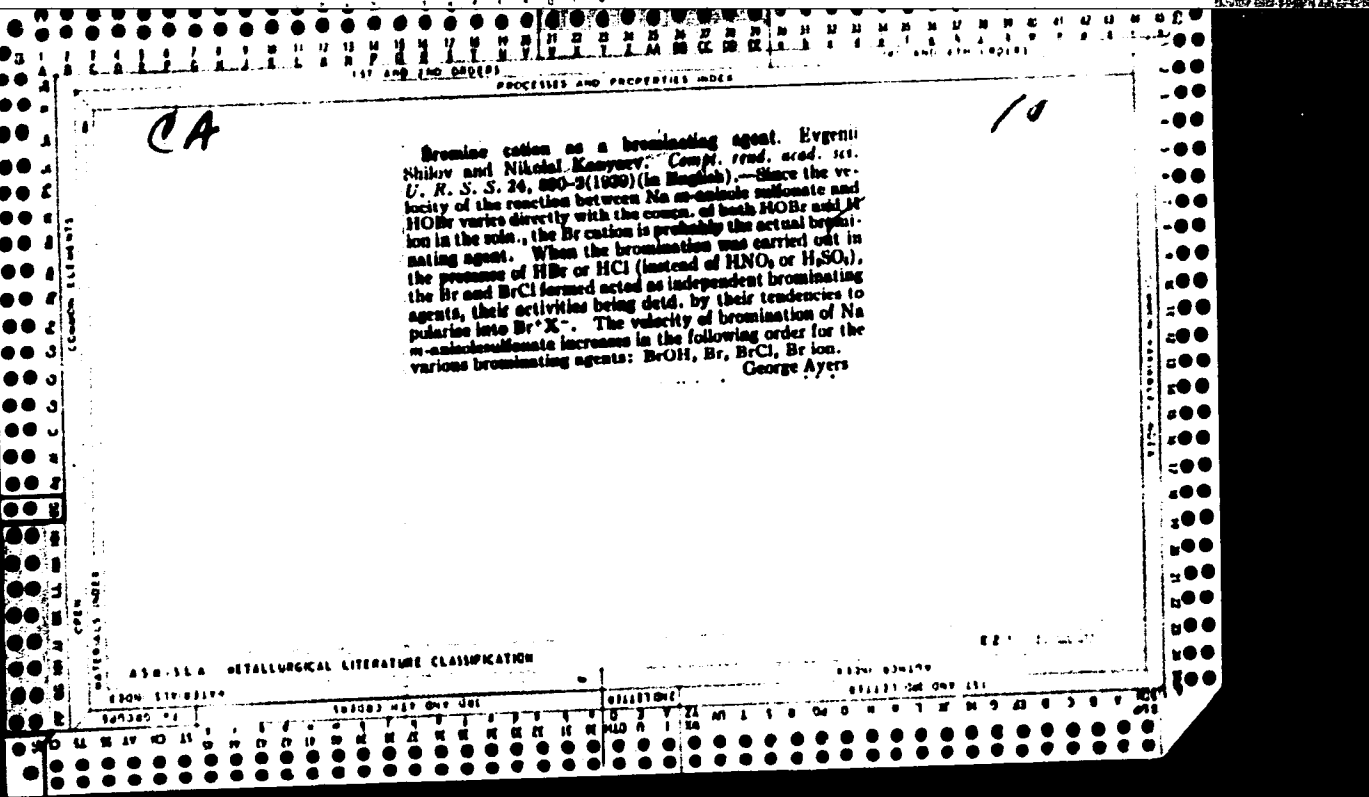
600

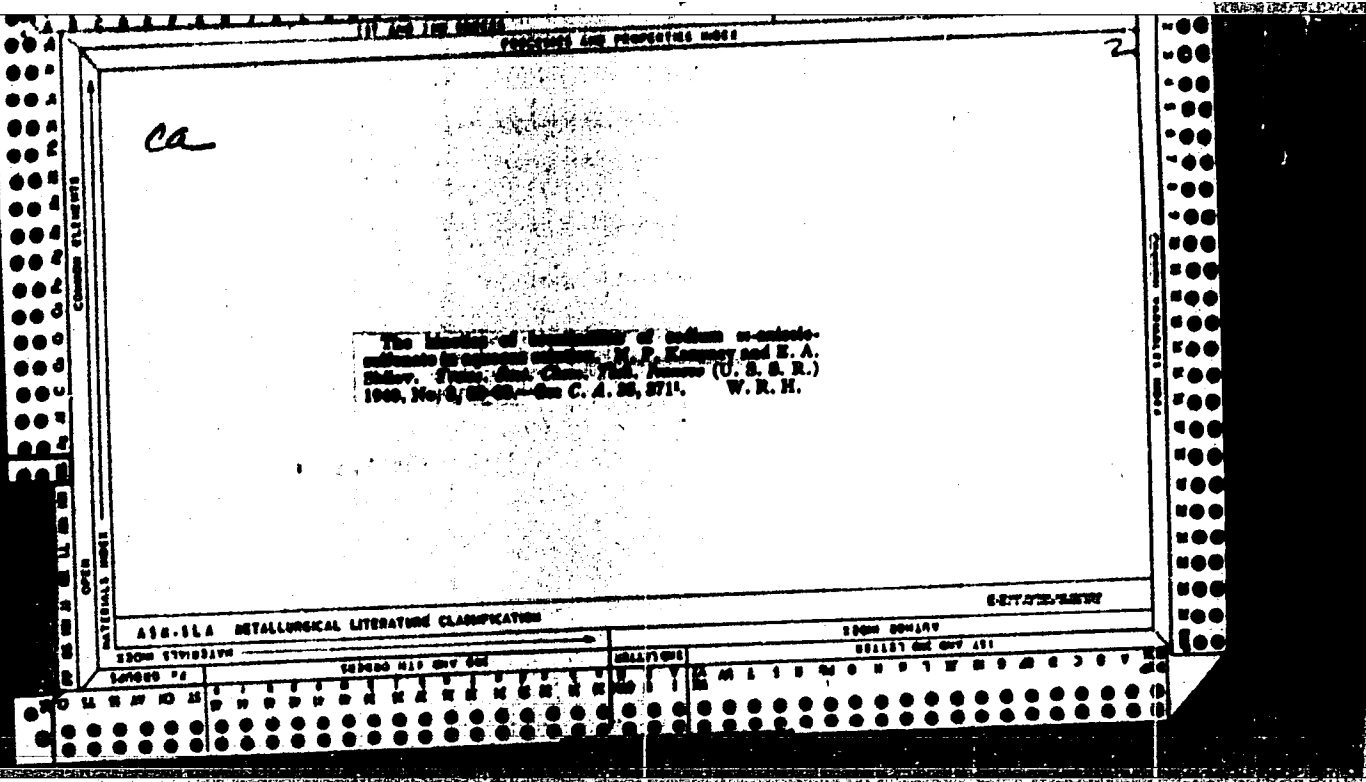
1. SHILOV, Ye. A.; KANYAYEV, N. P.

2. USSR (600)

"The Kinetics of the Addition of Hypochlorous Acid by Double Bonds" Part VI.
"The Reaction of the Formation of 1, 2-Dichloroethane under Increased Concentrations of the Chlorine Ion," Zhur. Fiz. Khim, 13, No. 9, 1939. Ivanovo, Chemical-Technological Institute, Laboratory of Organic Chemistry. Received 13 March 1939.

9. Report U-1615, 3 Jan. 1952.





KANIAEV, N. P.

"Investigations on the Synthesis of 2-Chlorethanol. I. On the Pseudocatalytic Action of Copper Salts by the preparation of 2-Chlorethanol." Shilov, E. A., Kaniaev, N. P. and Solodushenkov, S. M. (p. 791)

SO: Journal of General Chemistry (Zhurnal Obshchei Khimii) 1945, Volume 15, no. 9-10.

Inanovo Chem Tech Inst

10

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Direction of the reaction of bromination of *m*-anisole-sulfonate. N. P. Kanyunov, *J. Gen. Chem. (U.S.S.R.)* 10, 95-8(1940) (English summary).—Na *m*-anisole-sulfonate (21 g.) was treated in aq. soln., with stirring and ice-cooling, with 10 g. Br₂ in aq. soln. After neutralization with Na₂CO₃ and evapn., the resid. was treated with a small excess of PCl₅ and was poured into ice water to yield 88% bromo-*m*-anisole(sulfonyl chloride, m. 81-2° (m. 63.5-4° from petr. ether) (l). Warming with an excess of NH₄ carbonate gave the corresponding amide, m. 122-2.6° (from water). Hydrolysis with concd. HCl at 200° for 8 hrs. gave a very small amt. of mixed *o*- and *p*-isomeric acids. The site of bromination was detd. by nitrosol in p. of 1 and although *o*-*p* bromo-*m*-anisole was also obtained, it was not characterized. U. M. K.

ASB-51A METALLURGICAL LITERATURE CLASSIFICATION

FROM SYMBOLS

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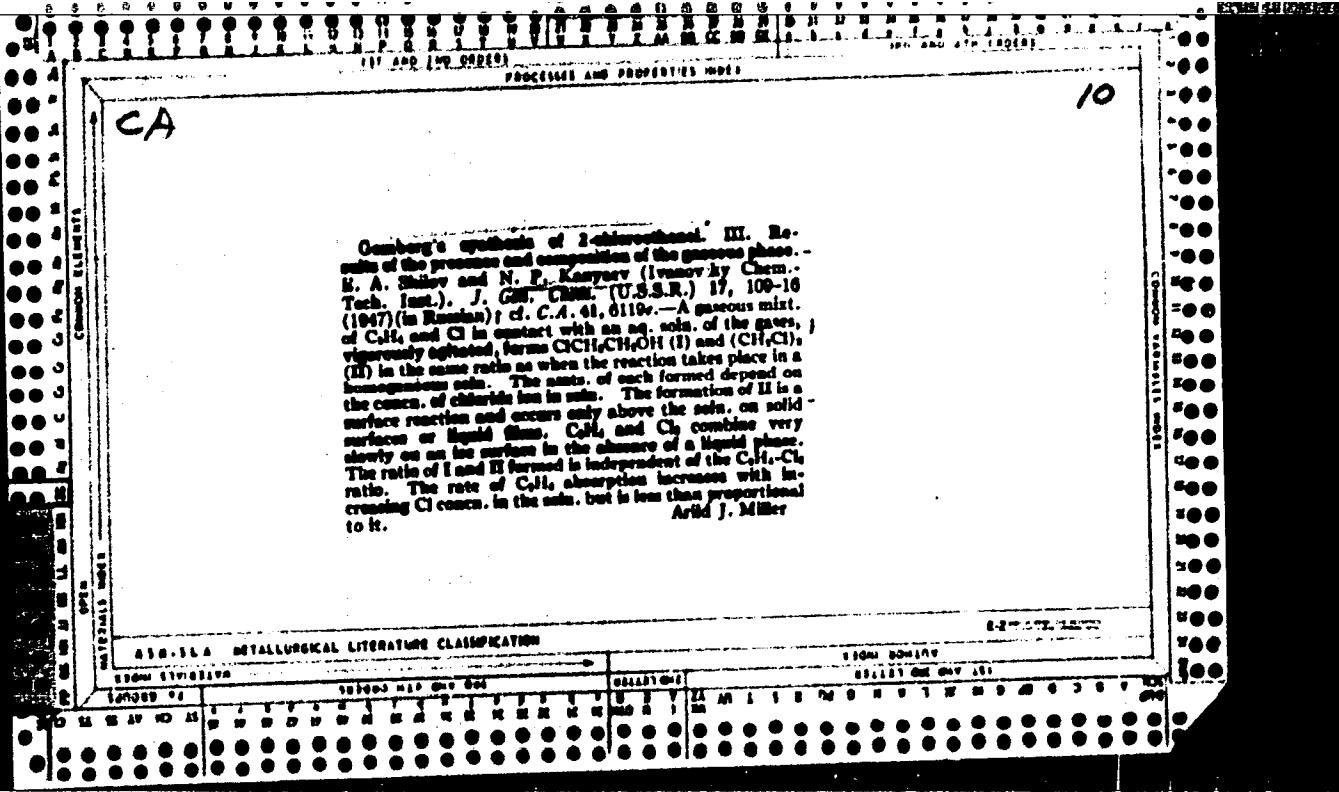
2

SYNTHESIS AND PROPERTIES INDEX

Synthesis of 2-chloroethanol. II. Temperature coefficient of the rate of Gomborg's reaction. B. A. Shilov and N. P. Kanyay (Izvestiya Chem. Tech. Inst.). *J. Gen. Chem. (U.S.S.R.)* 16, 1870-1(1946); cf. *C.A.* 40, 7152'.—The formation of 2-chloroethanol from H_2O , C_2H_4 , and Cl_2 is deriv. by diffusion at the gas-soln. interface, and since both the phys. factors detg. the reaction rate and the chem. processes are very fast (*C.A.* 23, 2937), a small temp. coeff. of reaction rate was to be expected and was confirmed by expt. A cylindrical vessel (600 cc., 4 cm. diam., 49 cm. long), with stirrer, filled with H_2O , was kept in a thermostat at $3-30^\circ$; Cl_2 and C_2H_4 were introduced at 25 cc./min. so that the gases were always in excess (at 80% absorption); test samples were withdrawn hourly and titrated with alkali; after 4 hrs., 2-chloroethanol was deriv. in the final soln. The variations of the reaction rate were of random character and showed little temp. dependence (after 4 hrs. at 3° , yield 0.211 mol. l.; at 30° , 0.216-0.234). Av. values of 4-hr. -run yields were: $3-10^\circ$ 0.221 mol. l.; $20-2^\circ$ 0.223; 30° 0.221. In this temp. interval the reaction rate is independent of temp. G. M. Kosolapoff

METALLURGICAL LITERATURE CLASSIFICATION

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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KAN^YAEV, N. P.

Shilov, E. A., and Kanigay, N. P. "The Studies on Gomberg's Synthesis of 2-Chloroethanol. III. On the Results of the Presence and Composition of Gaseous Phase." (p. 116)

SO: Journal of General Chemistry, (Zhurnal Obshchei Khimii), 1947, Vol. 17, No. 1

CA

10

Kinetics of the bromination of unsaturated compounds.
 II. Bromination of sodium butenedisulfonate in aqueous solution. N. P. Kanyayev (Chem. Technol. Inst., Ivanovo). *Zhukov. Fiz. Khim.* 24, 151 (5) (1950); cf. C.A. 35, 3719. — (C₄H₇SO₃Na)₂ (I), prepd. from (BrCH₂CH=CH)₂ in aq. soln. with HBrO or Br₂ gives NaO₂SCH₂CH=CH₂.

CHBrCH₂SO₃Na (II) and NaO₂SCH₂CH=CHBr. CH₂SO₃Na (III); in the reaction I → III NaOH forms. The rate of disappearance of HBrO or Br₂ (titrated with Na₂S₂O₃) at 0° does not fit into any simple kinetic equation. Apparently, the reaction I → III is relatively rapid, accelerated by acids, and retarded by the NaOH formed. The reaction I → II seems to follow 2 simultaneous paths, and the rate along one of these is accelerated by salts; at pH 7 (phosphate buffer) the activity of the salt increases in the order PhSO₃Na, BrONa, AcONa, (CH₃CO₂Na)₂, i.e., the salt is more active the weaker its acid. In the presence of these salts at pH 6 the reaction with HBrO is 1.9 times as rapid at 10° as at 0°. KNO₃ (0.1 N) has no effect. Br reacts about 200 times as rapidly as HBrO. In Br solns., the agents are Br₂ and Br₂⁺, whose activities are in the ratio 25:1. The similarity between the addn. of Br to a double

bond and substitution by Br in aromatic compds. is pointed out. I. J. Bikerman

KANYAEV, N. P.

3

Determination of copper in manstrol blue. N. P. Kanyayev and A. A. Sofytkov (Chem. Technol. Inst., Izraelovo). *Zhur. Priklad. Khim.* 23, 1220-1 (1952).—Tech. and purified $C_{20}H_{16}N_2Cu$ were analyzed by digestion with HNO_3 , the former yielded 10.47 and 10.31% Cu, and the latter 10.87, 11.01, 11.09, and 11.10 instead of the theoretical 11.03%. Purification consisted in dissolving the pigment in 98% H_2SO_4 , dilg. at 80-85° to 78% acid, filtering, washing with 78% H_2SO_4 , and finally with boiling H_2O . Method of analysis consisted of dissolving 1 g. of pigment in 33 ml. of concd. HNO_3 and heating until all of the HNO_3 was driven off and some phthalic acid began to come over; care must be taken to avoid ignition and any of the material creeping up along the walls is washed down with HNO_3 . The temp. was raised to red heat, the residue cooled and weighed.

I. Bencowitz

"APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000520420010-7

APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000520420010-7"

KANYAYEV, N. P.

Bromination of Unsaturated Compounds. III. Reaction of Addition of Hypobromous Acid to Allyl Trimethyl Ammonium Perchlorate, page 1173, Sbornik Statey po obshchey khimii (Collection of Papers on General Chemistry), Vol II, Moscow-Leningrad, 1953, pages 1680-1686.

Ivanovo Chemico-Technological Inst

KANYAYEV, N. P.
USSR/Organic Chemistry. Theoretical and General
Questions of Organic Chemistry.

E-1

Abs Jour : Ref Zhur - Khimiya, No. 8, 1957, 2664+2.

Author : Kanyayev, N.P.

Inst :

Title : Bromation of Unsaturated Compounds. V.
Reaction of Addition of Bromine to Allyltri-
methylammonium Perchlorate.

Orig Pub : Zh. obsheh. khimii, 1956, 26, No. 10, 2726 -
2631.

Abstract : In order to develop the foregoing work of
investigating the kinetics of addition of
HOBr to allyltrimethylammonium perchlorate
(I), the kinetics of the addition of Br₂ to
I in aqueous solution at 0 and 20° and the
influence of added salts on the yield of the
bromoxyderivative (II) were studied. The

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Ivanovs Chem Tech Inst

SOV/79-29-3-19/61

5 (3)
AUTHOR:

Kanyayev, N. P.

TITLE:

Bromination of Unsaturated Compounds (Bromirovaniya nepredel'nykh sovedineniy). VII. Kinetics and Mechanism of Bromine Addition to the Double Bond in the Presence of Bromides (VII. Kinetika i mekhanizm prisoyedineniya broma po dvoynoy svyazi v prisutstvii bromidov)

PERIODICAL:

Zhurnal obshchey khimii, 1959, Vol 29, Nr 3, pp 841-845 (USSR)

ABSTRACT:

The investigation of the kinetics of the addition reaction of bromine to the double bond in aqueous solution meets with difficulties because on this transformation two products are formed, bromohydrin and the dibromine derivative. The formation of bromohydrin is accompanied by the development of hydrogen bromide which is taking part in the course of the process and changes the reaction rate and the quantitative ratio of the above-mentioned two products. It is known from the data available in publications that the hydrogen bromide acts as strong catalyst in reactions with unsaturated compounds taking place in $CHCl_3$ and CCl_4 -solutions (Ref 1). In most cases hydrogen bromide and the bromides accelerate the affiliation of bromine in acetic acid (Ref 2) to the double bond. In water and methanol, however,

Card 1/3

Unsaturated Compounds. VII. Kinetics and Mechanism of Bromine Addition to the Double Bond in the Presence of Bromides

SOV/79-29-3-19/61

APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000520420010-7

a retarding of the reaction was observed (see publication especially in acetic acid, were dealt with (Refs 5-7). The concepts regarding this problem were varied. With a decrease in the reactivity of the double bond the part the bromide ion plays as reactant increases. The quantitative ratio between bromohydrin and dibromide in the reaction products depends not only on the concentration of the bromide ion in the solution but also on the reactivity of the unsaturated compound. The less the reactivity is, the higher the formation of dibromide. Some possible reaction mechanisms are discussed. In the experimental part of this report the investigation results regarding the affiliation reaction of bromine in the presence of bromide in aqueous solution are given in detail. There are 1 figure, 3 tables, and 10 references, 3 of which are Soviet.

ASSOCIATION:

Ivanovskiy khimiko-tekhnologicheskii institut (Ivanovo Institute of Chemical Technology)

Card 2/3

Bromination of Unsaturated Compounds. VII. Kinetics and Mechanism of Bromine
Affiliation to the Double Bond in the Presence of Bromides

SOV/79-29-3-19/61

SUBMITTED: January 6, 1958

Card 3/3

S/153/60/003/004/020/040/XX
B020/B054

AUTHOR:

Kanyayev, N. P.

TITLE:

Bromination of Unsaturated Compounds. VIII. Kinetics and Mechanism of Bromide Addition to Croton Aldehyde in Aqueous Solution

PERIODICAL:

Izvestiya vysshikh uchebnykh zavedeniy. Khimiya i khimicheskaya tekhnologiya, 1960, Vol. 3, No. 4, pp. 663 - 668

TEXT: To obtain further, not yet published data, the author studied the kinetics of bromination of croton aldehyde (CA) in aqueous solution, bromine and hypobromous acid being used as brominating agents. Kinetics and reaction mechanism with bromine are dealt with in the present paper. The yield in dibromo butyric acid aldehyde in the reaction of bromine with CA in aqueous solution, which delivers α -bromo- β -oxy-butyric acid aldehyde as principal product, is very low, even at rather high bromine concentrations: only 2% of dibromide is obtained on addition of 0.2 moles/l of NaBr to the solution. In mixtures of bromine water and

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Bromination of Unsaturated Compounds.
VIII. Kinetics and Mechanism of Bromine
Addition to Croton Aldehyde in Aqueous Solution

S/153/60/003/004/020/040/XX
B020/B054

CA, the reaction rate is illustrated by curves, which are characteristic of an autocatalytic reaction (Fig.1). Experimental results show that the CA concentration enters the kinetic equation with the factor 1, and the bromine concentration with a factor near zero. This conclusion can be drawn from experiments with H₂Br and HBr, the results of which are summarized. Data in the table show that $k_1/[H^+]$ remains fairly constant on a change of the bromine concentration to the 2-, and of the hydrogen ion concentration to more than the 20-fold. It may be assumed that the reaction proceeds simultaneously in two directions according to the equation $-d[Br_2]/dt = k_1[CA][H^+] + k_2[CA][Br_2]$, where $k_1 = 97$ and $k_2 = 6.86$ at 0°C (Table 2). The course with respect to time of the reaction rate with small initial amounts of acid (Fig.2), and with the use of HBr and HNO₃ (Fig.3), is indicated. The activation of CA is caused by addition of a proton to the oxygen of the carbonyl group, which much increases the positive charge of the β-carbon atom. Water and, later, bromine are added as nucleophilic agents to this positive

Card 2/3

KANYAYEV, N.P.

Kinetics of the addition of hypobromous acid to crotonaldehyde in an aqueous solution. *Izv.vys.ucheb.zav.; khim.i khim.tekh.* 4 no.1: 78-83 '61. (MIRA 14:6)

1. Ivanovskiy khimiko-tekhnologicheskii institut, kafedra organicheskoy khimii.
(Hypobromous acid) (Crotonaldehyde)

KANYAYEV, N.P.

Bromination of unsaturated compounds. Part 5: Kinetics and mechanism of the bromination of the ethylenesulfonate ion by hypobromous acid. Izv. vys. ucheb. zav.; khim. i khim. tekhn. 4 no. 2:225-228 '61. (MIRA 14:5)

1. Ivanovskiy khimiko-tekhnologicheskii institut. Kafedra organicheskoy khimii.
(Ethylenesulfonic acid) (Hypobromous acid)
(Bromination)

KANYAYEV, N.P.

Bromination of unsaturated compounds. Part II: Kinetics and mechanism of the bromination of ethylenesulfonate ion with bromine water. Izv.vys.ucheb.zav; khim.i khim.tekh. 4 no.5: 781-786 '61. (MIRA 14:11)

1. Ivanovskiy khimiko-tekhnologicheskii institut, kafedra organicheskoy khimii.

(Ethenesulfonic acid)
(Bromination)

KANYEVSKIY, YE. A.

PA 192T42

USSR/Chemistry - Lithium Compounds
Fluorine Compounds

Sep 51

"Energy of the Hydration of Ions. II. Calculation of Sums of Standard Energies of the Hydration of Ion Pairs," Ye. A. Kanyeviskiy, Moscow

"Zhur Fis Khim" Vol XXV, No 9, pp 1092-1097

Derived eqs on the basis of which the sums of std free energies of hydration of ion pairs (anion and cation) can be calcd. Calcd sums of std energies of hydration for 20 pairs of ions consisting of ions Li^+ , Na^+ , K^+ , Rb^+ , Cs^+ , F^- , Cl^- , Br^- , I^- .

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192T42

KAGAN, V. Z., kand.ekonomicheskikh nauk; KANYCHKINA, K. T., mladshiy
nauchnyy sotrudnik

Most important work in the field of the economics and planning
of the starch industry. Trudy TSNIIKPP no.3:233-245 '59.
(Starch industry) (MIRA 13:9)

KANYGIN, A.V.

New Lower Ordovician Ostracoda Cherskiella and Maraphonia in
the northeastern U.S.S.R. Paleont. zhur. no.1:73-83 '65.
(MIRA 18:4)

1. Institut geologii i geofiziki Sibirskogo otdeleniya AN SSSR.