

L 10610-65

ACCESSION NR: AP4045316

Boundary conditions are derived by equating the odd moments of the distribution function for the particles leaving the electrode (assumed given) to the corresponding moments of the distribution function for the particles in the body of the plasma. With the further assumption that the expansion coefficients depend only on the heat flux and the matter flux, the following equation is derived for the saturation current I_e :

$$I_e = \frac{1,75\alpha K}{\sqrt{1,5\alpha^2 K^2 + 2,6\alpha K + 1}} \sqrt{\omega} I_0$$

Here I_0 is the electron emission current, K is the ratio of the mean free path to the interelectrode distance, $a = \tau_i(\tau_i + \tau_e) / \tau_e$, where τ_i and τ_e are the ratios of the ion and electron temperatures, respectively, to the cathode temperature, and $\omega = j_0 / I_e M / m$, where j_0 is the ion emission current and M and m are the masses of the ion and electron, respectively. For the case considered here $\omega < 1$. This equation can be used to calculate the saturation current when the mean free path is not negligible compared with the interelectrode distance. Orig.art.has: 11 formulas.

ASSOCIATION: none

SUBMITTED: 00

ENCL: 00

SUB CODE: EE,ME

NR REF SOV: 001

OTHER: 001

2/2

L 10611-65 EWT(1)/EWG(k)/EPA(sp)-2/EPF(n)-2/EPA(w)-2/T/ENA Pu-4/Pz-6/Pab-24
IJP(c)/AFWL/ESD(gs)/ESD(t) AT

S/0048/64/028/009/1541/1544

ACCESSION NR: AP4045318

AUTHOR: Karmazin, V.P.; Kasikov, I.I.; Stakhanov, I.P.

TITLE: Effect of the cathode work function on the operation of a thermoelectronic converter in the diffusion regime /Report, Tenth Conference on Cathode Electronics held in Kiev 11-18 Nov 1963/

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v.28, no.9, 1964, 1541-1544

TOPIC TAGS: thermoelectric converter, cesium vapor diode, work function, theoretical physics, diffusion theory

ABSTRACT: Numerical solutions of the heat conduction and diffusion equations were found for cesium vapor diodes under various conditions, and many of the results are presented graphically. Particular attention was given to the influence of the work function of the cathode. The solutions were effected by employing known or assumed values of the electron and ion temperatures in the diffusica equation to calculate the density and potential distributions, and employing the densities and potentials thus found in the heat conduction equation to calculate the temperature distributions. This process was started with the assumption of uniform temperatures and was

L 10611-65
ACCESSION NR: AP4045318

continued until it converged. In order to calculate the effect of the cathode work function it is necessary to take into account the deviations from local thermodynamic equilibrium in the vicinity of the cathode (B.Ya.Moyzhes and T.Ye.Pikus, Fiz.tverdого tela 2,756,1960). This was accomplished by assuming that the density in the neighborhood of the cathode is reduced from its equilibrium value by the factor $(1 - i/i_0)^{1/2}$, where in the case of overcompensation (i.e., when the cathode work function exceeds the chemical potential in the plasma) i_0 and i are the cathode emission current and the diode current, respectively, and in the case of undercompensation they are the ion emission current and the ion current. It was found that the current is independent of the work function under conditions of undercompensation, but that it decreases rapidly with increasing work function under conditions of overcompensation. The work function of the cathode in the cesium vapor can be estimated from the deviations of the performance of the converter from the predictions of the equilibrium theory. The cooling effect of the electron current on the cathode was calculated, and from that the efficiency of the converter. It was found that the heat taken from the cathode by the electrons is independent of the work function except under conditions of very strong overcompensation. "The authors are deeply grateful to the late Prof. I.I.Bondarenko for valuable discussions." Orig. art.has: 5 formulas and 6 figures.

2/3

L 10611-65
ACCESSION NR: AP4045318
ASSOCIATION: none
SUBMITTED: 00 ENCL: 00
SUB CODE: EC, *EF* NR REF SOV: 002 OTHER: 000

3/3

ACCESSION NR: AP4020565

S/0057/64/034/003/0399/0409

AUTHOR: Stakhanov, I.P.; Stepanov, A.S.

TITLE: Transport equations for a three-component plasma in a magnetic field

SOURCE: Zhurnal tekhnicheskoy fiziki, v.34, no.3, 1964, 399-409

TOPIC TAGS: plasma, transport equation, three-component plasma, plasma heat conductivity, plasma viscosity, plasma thermoelement

ABSTRACT: The transport equations for heat and momentum are derived for a moderately ionized plasma in a magnetic field of arbitrary magnitude. The purpose of the calculation is to obtain transport equations applicable to the theory of plasma devices for transforming heat into electrical energy. The transport equations are derived by the method of Chapman and Enskog. The ions are assumed to be singly charged and to have the same temperature as the neutral atoms. The electron temperature may differ from the ion and atom temperature. Distant (Coulomb) collisions are taken into account in the kinetic equation by employing the collision integral of L.D. Landau (ZhETF 7,203,1937), and collisions with neutral atoms are treated from the standpoint of the elastic sphere model. The deviations of the distribution func-

Card^{1/2}

ACCESSION NR: AP4020565

tions from the Maxwellian form are expanded in series of Sonine-Laguerre polynomials of index $3/2$, and equations are derived for the expansion coefficients. All terms except those of the two lowest orders are neglected, the resulting equations are solved, and the equations for heat flux and friction forces are obtained. The viscosity tensor is calculated by the method employed by S.I. Braginskiy (ZhETF 33, 459, 1957), involving an expansion in Sonine-Laguerre polynomials of index $5/2$. There is said to be an error in Braginskiy's expression for his viscosity tensor. The entropy balance equation is derived. The rate of entropy production is suitably factored into fluxes and forces, and the corresponding Onsager equations are written. The transport equations are specialized to the case of steady motion in the absence of a magnetic field, and are compared with the equations derived by B. Mozhes and G. Pinus (FTT 2, No. 4, 1960). It is found that when Coulomb interactions are significant, the approximations employed by these authors lead to rather large errors. Orig.art.has: 45 formulas and 1 table.

ASSOCIATION: none

SUBMITTED: 16Apr63

SUB CODE: PH

DATE ACQ: 31Mar64

NR REF SOV: 007

ENCL: 00

OTHER: 002

Card 2/2

S/0057/84/034/006/1105/1106

ACCESSION NR: AP4040317

AUTHOR: Gus'kov, Yu.K.; Pashchenko, V.P.; Stakhanov, I.P.; Stumbur, E.A.

TITLE: Effect of Coulomb scattering on the operation of thermo-electronic converters

SOURCE: Zhurnal tekhnicheskoy fiziki, v.34, no.6, 1964, 1105-1106

TOPIC TAGS: Coulomb scattering, electron collision, diode, cathode, cesium, thermo-electronic converter

ABSTRACT: The electron collision frequencies obtained from the dependence of the current on the transverse magnetic field in cesium vapor thermal emission converters greatly exceed the corresponding frequencies of collision between electrons and cesium atoms. The possibility is discussed of ascribing this discrepancy to the effect of Coulomb collisions of the electrons with electrons and ions. Experimental collision frequencies in cesium vapor diodes are plotted against pressure and compared with the calculated Coulomb collision frequencies. The theoretical curve lies somewhat above the experimental points. To account for this slight discrepancy several possibilities are adduced, including the inexactness of the concept of collision

Card 1/2

ACCESSION NR: AP4040317

when applied to the case of Coulomb interaction. A cylindrical hot cathode cesium diode with 1 mm electrode spacing was operated at pressures from 0.055 to 0.24 tor. The behavior of the diode indicated diffusive conditions even at the lowest pressure where the mean free path due to collisions with cesium atoms was 1.5 mm (greater than the electrode spacing), and the Coulomb mean free path was 0.1 mm (much less than the electrode spacing). Orig.art.has: 3 formulas and 2 figures.

ASSOCIATION: none

SUBMITTED: 10Jun63

SUB CODE: ME,NP

DATE ACQ: 19Jun64

NR REF SOV: 005

ENCL: 00

OTHER: 001

Card 2/3

L 14389-65 EWT(1)/EWP(e)/EWG(k)/EWT(m)/EPA(sp)-2/EPF(n)-2/EPA(w)-2/T/
EWP(t)/EWP(k)/EWA/EWP(b) Pz-6/Pab-10/Pf-4/Pu-4 IJP(c)/AFWL/SSD/ASD(p)-3
JD/AT

ACCESSION NR: AP4042934

S/0057/64/034/008/1451/1461

AUTHOR: Gus'kov, Yu. K.; Lebedev, M. A.; Stakhanov, I. P.

TITLE: Low-voltage arc in cesium vapors

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 34, no. 8, 1964, 1451-1461

TOPIC TAGS: arc discharge, cesium vapor, glow discharge, cathode physics

ABSTRACT: Low-voltage arc discharge in cesium vapors was investigated in view of the possible practical applications of this phenomenon, particularly in thermionic energy converters. The experiments were performed with two specially constructed discharge chambers with plane electrodes; the interelectrode spacing was 6 mm in one chamber and 10 mm in the other. In one series of experiments the dependence of V_b (breakdown potential) on Pd (P is the cesium vapor pressure in mm Hg and d is the interelectrode spacing) was established at various cathode temperatures from 500 to 800C and at anode temperatures either kept constant at 800C or varying from 500 to 800C. In another series of experiments the potential differences occurring on the electrodes after the sparking of the discharge were plotted with the minimal glow potentials. Further measurements included the dependence of the

Card 1/2

L 14389-65

ACCESSION NR: AP4042934

discharge current on Pd. Volt-ampere characteristics were plotted for various temperatures and for Pd values of 0.68, 2.75 and 3.0. The potential distribution, electron temperatures, and plasma densities were investigated by the probe method. The experiments showed that the glow discharge occurs at $T_{cath} < 600C$ and the arc discharge, at $T_{cath} > 600C$. In the first case the ionization takes place in the direct vicinity of the cathode, while in the second case the emission increases rapidly and thermal ionization becomes possible. It is stated that additional experiments will be needed to determine the character of changes in electron temperatures and work functions taking place near the cathode. The authors thank Professor I. I. Bondarenko (Deceased) for his interesting discussions. Orig. art. has: 10 figures, 1 table, and 15 formulas.

ASSOCIATION: none

SUBMITTED: 10Jun63

ENCL: 00

SUB CODE: EM

NO REF SOV: 002

OTHER: 003

Card 2/2

STAKHANOV, I.P.; STEPANOV, A.S.

Current fluctuations in a thermoelectric energy converter. Zhur.
tekh. fiz. 35 no.1:132-139 Ja '65.

(MIRA 18:3)

STAKHANOV, I. P.; STEPANOV, A. S.; GUS'KOV, Yu. K.; KASIKOV, I. I.; FADICHENKO, V. P.;
MAYEV, S. A.; LEBEDEV, M. A.

"State of the investigations into physical processes in thermionic converters."

report to be presented at Intl Conf on Thermionic Electrical Power Generation,
London, 20-24 Sep 65.

report to be presented at Intl Conf on Thermionic Electrical Power Generation,
London, 20-24 Sep 65.

USSR State Comn for Applications of Atomic Energy, Moscow.

L 25704-66 EWT(1)/EWT(m)/EWP(t) IJP(c) JD/JG

ACC NR: A16006754

SOURCE CODE: UF/3158/65/000/015/0001/0018

AUTHOR: Bekmukhambetov, Ye. S.; Gus'kov, Yu. K.; Kasikov, I. I.; Lebedev, S. Ya.; Rodin, A. V.; Stakhanov, I. P.

ORG: Physics and Power Institute, State Committee on the Use of Atomic Energy, SSSR (Fiziko-energeticheskiy institut, Gosudarstvennyy komitet po ispol'zovaniyu atomnoy energii SSSR)

TITLE: Operation of a cesium diode with inert-gas impurity

SOURCE: Obninsk. Fiziko-energeticheskiy institut. Doklady, no. 15, 1965. Rabota tseziyevogo dioda s primes'yu inertnogo gaza, 1-18

TOPIC TAGS: cesium electron tube, cesium plasma, thermoelectric convertor, volt ampere characteristic, pressure effect, temperature dependence, inert gas

ABSTRACT: The investigations were motivated by the fact that when a thermoelectric converter is operated in a nuclear reactor, the fission products, a large fraction of which are radioactive krypton and xenon, may enter in the interelectrode gap of the converter, and their effect on the converter in the operation of a cesium diode may be appreciable. The tests were made with experimental tubes with flat electrodes, using a molybdenum cathode and niobium anodes. Doubly distilled metallic cesium and spectrally pure krypton and xenon were used in varying amounts. The cathode was fed with pulsating halfwave current. The cesium vapor pressure ranged from 0.1 to 3.9 mm Hg for the krypton-filled tube and 0.028 to 2 mm Hg for the xenon-filled tube. Plots were prepared of the dependence of the short-circuit current on

Card 1/2

L 23703-66

ACC NR: AT 6006754

the cathode temperature without and with the inert gases, and volt-ampere characteristics at various pressures. The introduction of the inert gases resulted in a parallel shift of the temperature dependence curves towards smaller currents, and to noticeable reduction in the output parameters of the converter. Comparison of the experimental results with calculations based on diffusion theory show in general good agreement, although some unexplained irregularities were observed in that the saturation current following addition of xenon was higher than following addition of krypton, and that the experimental currents usually were lower than the theoretical ones. These deviations are related to thermal diffusion separation of the cesium-krypton and cesium-xenon mixtures in the tube. The experiments show that addition of inert gases reduces the saturation current compared with pure cesium. The experimental saturation currents were as a rule lower than the theoretical ones by a factor 2--4. Addition of krypton reduced the saturation current more than addition of xenon. The thermal diffusion ratios were calculated for Cs-Kr and Cs-Xe mixtures in the case of low cesium densities. The values obtained for the cross sections of the interaction between cesium and xenon and krypton are 1.05×10^{-13} and 8×10^{-14} cm^2 , respectively. Direct experiments on the thermal diffusion in the mixtures of cesium and inert gases are necessary for a final interpretation of the results.

Orig. art. has: 12 figures and 12 formulas.

SUB CODE: 20/1 ORIG REF: 004/ OTH REF: 002

SUBM DATE: none

Card 2/2 *fl*

L 24316-56 SWT(1)/EPF(n)-2/E43(m) IJP(c) AT

ACC NR: ATG006756

SOURCE CODE: UR/3158/65/000/017/0001/0023

AUTHOR: Stakhanov, I. P.; Kasikov, I. I.

ORG: Physics and Power Institute, State Committee on the Use of Atomic Energy SSSR
(Fiziko-energeticheskiy institut, Gosudarstvennyy komitet po ispol'zovaniyu atomnoy energii SSSR)

TITLE: On the calculation of the volt-ampere characteristics of a thermionic converter in the arc mode

SOURCE: Obninsk. Fiziko-energeticheskiy institut. Doklady, no. 17, 1965. K raschetu vol't-ampernykh kharakteristik TEPa v dugovom rezhime, 1-23

TOPIC TAGS: thermoelectric convertor, gas discharge plasma, ionization phenomenon, electron recombination, transport equation, volt ampere characteristic, pressure effect

ABSTRACT: The authors present a calculation of the volt-ampere characteristics of a ²gas-discharge plasma, based on formulation of the transport equation in the diffusion approximation, assuming a thermal mechanism for the ionization, wherein the rate of ionization is proportional to the charge density in the plasma. Volume recombination is neglected. It is assumed that no abrupt change of the potential occurs in the plasma over the mean free path of the electrons, and all such changes occur in Langmuir layers at the electrodes. The problem is solved for an infinite plane converter. The transport equation is derived, and the integrals involved in the solution are solved by numerical methods. The validity of the assumptions made and of the approx-

Card 1/2

L 24316-66

ACC NR: AT6006756

imations employed in the calculations are discussed briefly. The equations are solved for the case of constant ion and electron temperatures. The results show that the ionization coefficient under these assumptions does not depend on the current, and the same result was obtained by accurate solution of the equations with an electronic computer. The resultant volt-ampere characteristics are plotted in dimensionless and dimensional form for different gaps, pressures, and overcompensation parameters. Plots are also presented for the pressure dependence of the short-circuit current. Orig. art. has: 10 figures, 38 formulas, and 4 tables.

SUB CODE: 1020/ 1 ORIG REF: 002

SUBM DATE: none

Card 2/2 FV

L 23916-65 EWT(1)/EPA(s)-2/EWG(k)/EPA(sp)-2/EPF(c)/EEC(k)-2/EPR/EPA(w)-2/
EEC(t)/T/EEC(b)-2/EPA(bb)-2/EWA(m)-2/EWA(h)/FS(b) Pz-6/Po-4/Pab-10/Pr-4/Ps-4/
Pt-10/Peb/Pi-4/Pk-4 IJP(c) JHB/TT/WW/AT
ACCESSION NR: AP5003247 S/0057/65/035/001/0132/0139

AUTHOR: Stakhanov, I. P.; Stepanov, A. S. B

TITLE: On the oscillations of the current in a thermoelectronic
energy converter 2

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 35, no. 1, 1965, 132-139

TOPIC TAGS: thermionic energy converter, plasma energy converter,
thermionics, oscillation, plasma, instability

ABSTRACT: A new method proposed for the investigation of oscillations in a thermoelectronic energy converter offers the advantage of explaining the formation of ion clusters and also takes into account the occurrence of collisions. Because a dispersion formula derived from the kinetic and Poisson equations becomes intractable when the distribution functions of electrons and ions in the near-cathode regions are inserted, the authors approximate f_e by two electron beams, one of them representing the electrons in a quiescent plasma and the other the perturbation caused by the passage of the current through the diode. The perturbations of the ion distribution are

Card 1/2

L 23916-65

ACCESSION NR: AP5003247

concentrated in one point, and therefore f_1 is represented by a single beam. The use of the above approximation leads to a simplified dispersion function for beam instability which shows that, in the region close to the cathode, the instability sets in at sufficiently strong electron currents, or, when the electron current is small, at strong ion current. It is in this near-cathode region that the instability engenders quasi-neutral longitudinal oscillations of the plasma in the interelectrode spacing, the phase velocity of which is of the order of the thermal ionic velocity, while the damping is determined by the collisions with neutral atoms. The frequency of these oscillations is found and is shown to be inversely proportional to the interelectrode distance if the pressure is low, and inversely proportional to the square of the interelectrode distance if the pressure is high. The results are shown to be in good agreement with experimental data. Orig. art. has: 22 formulas, 1 figure, and 1 table. [ZL]

ASSOCIATION: none

SUBMITTED: 29Feb64

ENCL: 00

SUB CODE: EC

NO REF SOV: 010

OTHER: 007

ATD PRESS: 3177

Card 2/2

L 26970-65 EWT(1)/EPA(sp)-2/EWT(m)/EWG(m)/T/EEC(t)/EPA(w)-2/EWA(m)-2 Pz-6/
Pg-4/Pab-10/Pl-4 IJP(c) RWH/AT S/0057/65/035/001/0165/0167
ACCESSION NR: AP5003257

AUTHOR: Pashchenko, V.P. / Stakharov, I.P. / Stepanov, A.S.

TITLE: On the influence of the plasma density near the electrode on the conductivity in a transverse magnetic field

SOURCE: Zhurnal tekhnicheskoy fiziki, v.35, no.1, 1965, 165-167

TOPIC TAGS: plasma, plasma density, plasma diffusion, thermoelectric converter

ABSTRACT: A magnetic field affects the conductivity of a plasma not only by altering the diffusion constant but also by influencing the density of the plasma in the neighborhood of the electrode. This latter effect is calculated in the present paper. The electron distribution function in the electrode region is computed separately for strong and weak fields; the distribution function for intermediate fields, where the electron Larmor radius is comparable with the mean free path, is obtained by interpolation. The difference between the electron temperature and the cathode temperature was neglected, and the solution of the kinetic equation without the collision term was fitted to the solution of the diffusion equation at a distance from the cathode of the order of the mean free path. The results of the calculations

Card 1/3

L 26970-65

ACCESSION NR: AP5003257

were compared with measurements performed with a mock thermoelectric converter by plotting the ratio of the saturation current to the equilibrium current (obtained by extrapolation from the low temperature region) against the strength of the applied transverse magnetic field. The apparatus and experimental techniques are described elsewhere (Yu.K.Gus'kov, V.P.Pashchenko and Ye.Ye.Sibir, Izv.AN SSSR, Ser.fiz. 28,1537,1964). Moderately good agreement between theory and experiment was obtained. The differences between the theoretical and experimental values are ascribed to the neglect of the temperature difference between the electrons and the cathode, and to a possibly incorrect determination of the overcompensation factor. The plasma density near the cathode was found to increase with increasing magnetic field and to approach the equilibrium value in strong fields. The conductivity, accordingly, decreases less rapidly with increasing magnetic field than does the diffusion constant, and under some conditions it may even increase. "The authors express their gratitude to V.D.Bondarenko for valuable assistance in setting up and performing the experiment." Orig.art.has: 7 formulas and 1 figure.

Card 2/3

L 26970-65

ACCESSION NR: AP5003257

ASSOCIATION: none

SUBMITTED: 15May64

ENCL: 00

SUB CODE: ME, EE

NR REF SOV: 006

OTHER: 000

Card 3/3

L 45166-66 EWT)1)/EWT(m)/EEC(k)-2/T/EWP(t)/ETI IJP(c) RTW/TT/JD/WW/JG/AT
ACC NR: AP6028623 SOURCE CODE: UR/0057/66/036/008/1481/1488

104
102
B

AUTHOR: Beismukhambetov, Ye. S.; Gus'kov, Yu. K.; Kasikov, I. I.; Lebedev, S. Ya.
Stakhanov, I. P.; Rodin, A. V.

ORG: none

TITLE: Operation of a cesium thermoelectric converter in the presence of an inert gas

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 36, no. 8, 1966, 1481-1488

TOPIC TAGS: thermionic energy conversion, cesium, electric arc, cesium plasma, inert gas, neon, argon, krypton, xenon

ABSTRACT: The authors have investigated the effect of the presence of Ne, Ar, Kr, and Xe on the operation of a cesium arc in the 0.5 to 1.0 mm gap between a hot molybdenum foil cathode and a niobium anode. The apparatus was sealed off at 10⁻⁷ mm Hg after having been cleansed by the usual vacuum techniques. The cesium pressure was controlled by varying the temperature of a branch tube containing metallic cesium, the temperature of the remainder of the apparatus being kept 30 to 50° C higher. The inert gas was admitted in successive doses by breaking tubes containing it. The cesium pressure was varied from 0.0275 to 3.9 mm Hg, and inert gas pressures up to 234 mm Hg were investigated. Very small additions of inert gas increased the plateau of the current-voltage characteristic by some 0.1 V, but further increase of the inert gas pressure led to deterioration of the characteristics of the converter.

Card 1/2

L 45166-66

ACC NR: AP6028623

2

The presence of the inert gas decreased the saturation current. The saturation current under different conditions was calculated with the aid of the diffusion theory of B.Ya.Moyzhes and G.Ye.Pikus (FTT, 2, 756, 1960), and the results are compared with the measured values. The measured saturation currents were usually from 2 to 10 times lower than the calculated currents. This is ascribed to increase of the inert gas concentration in the hot region between the electrodes as a result of thermal diffusion of the inert gas cesium mixture. Xenon reduced the saturation current less than did neon or krypton; this is ascribed to the fact that the atomic mass of xenon is closer than that of neon or krypton to the atomic mass of cesium. A formula is derived for the thermal diffusion ratio, and with the aid of this formula and the assumption that the observed deviations from the moyzhes-Pikus theory are due to thermal diffusion, values of the Kr-Cs and Xe-Cs cross sections were calculated from the experimental data. The Kr-Cs and Xe-Cs cross sections were thus found to be 8×10^{-14} and $1.05 \times 10^{-13} \text{ cm}^2$, respectively. The authors thank S.I.Kutashev and V.I.Klinov for assistance in constructing the apparatus and performing the measurements. Orig. art. has: 11 formulas, 6 figures and 3 tables. [15]

SUB CODE: 20
ATD PRESS: 5081

SUBM DATE: 23Aug65

ORIG. REF: 002

OTH REF: 004/

Card 2/2 *alum*

STAKHANOV, T., tekhnik, Geroy Sotsialisticheskogo Truda; YERMAKOV, P.;
MONAKHOV, N., brigadir stroitel'noy brigady; VITKENE, S.,
Geroy Sotsialisticheskogo Truda

Let's use progressive practices of the All-Union Agricultural
Exhibition. Sel'stoi. 9 no.6:3-4 S '54.
(MIRA 13:2)

1. Kolkhoz imeni Krasnykh partisan, Verkhne-Ural'skogo rayona, Chelyabinskoy oblasti (for Stakhanov).
 2. Zamestitel' predsedatelya kolkhoza Lenina, Susunskogo rayona, Novosibirskoy oblasti (for Yermakov).
 3. Kolkhoz "Bol'shevik Leninskogo rayona, Moskovskoy oblasti (for Monakhov).
 4. Zaveduyushchaya svinovodcheskoy fermoy kolkhoza "Geguzhes Pirmoyi," Pakruoyского rayona, Litovskoy SSR (for Vitkene).
- (Moscow--Farm buildings--Exhibitions)

USSR/Nuclear Physics - Hyperions and mesons

FD-2354

Card 1/2 Pub. 146 - 19/34

Author : Markov, M., and Stakhanov, V.

Title : Possible beta-decay of hyperions and k-mesons

Periodical : Zhur. eksp. i teor. fiz. 28, 740, Jun 1955

Abstract : The writers of the present note consider as an obvious established fact that Λ^0 -particles can enter the composition of complex nuclei on par with nucleons. Unknown, however, is how far the kinship of hyperions and nucleons extends (V. Stakhanov, Diploma work, Moscow State University, 1954), in every case there being certain grounds for considering the Λ^0 -particle as a nucleon situated in a certain excited state with all the consequences from this notion (V. Stakhanov, ibidem); e. g. such a nucleon could be beta-active: $\Lambda^0 \rightarrow P + e^- + \nu$. The purpose of the present note is to turn attention to the fact that in this case thanks to the high upper bound of the energy of decay one can expect small lifetimes (tau sub-beta) comparable with the observed lifetimes of Λ^0 -particles, i. e. tau sub-pi ($\Lambda^0 \rightarrow \pi^- + P$). The authors note that these ideas can be

Card 2/2

FD-2354

applied also to the case of K-mesons (M. A. Markov, Dok. Akad. Nauk SSR, 101, 449, 1955) under certain conditions (zero spin, decay with emission of Fermi particles, etc.). Three references: e. g. W. Fry and M. Swami, Phys. Rev. 96, 1954.

Institution : Physical Institute im. Lebedev, Acad. Sci. USSR

Submitted : Feb 9, 1955

VINOGRADOV, A.L., kand.tekhn.nauk, dotsent; STAKHANOV, V.A., inzh.

Electronic time relay with a voltage multiplier in the electrical system of an automatic skip hoist. *Izv. vys. ucheb. zav.; energ.* 6 no.4:110-115 Ap '63. (MIRA 16:5)

1. Kommunarskiy gornometallurgicheskiy institut. *Priznava* elektromekhanicheskoy sektsiyey nauchno-tekhnicheskoy konferentsii. (Hoisting machinery) (Electric relays)

STAKHANOV, V. M., Can Med Sci -- (diss) "Nonspecific Inhibitors
of Hemagglutination in Serums of ^{Humans} ~~Man~~ and Animals and Their Sig-
nificance for ~~the~~ Diagnosis of the Grippe." Mos, 1957. 14 pp.
(Acad Med Sci USSR), 200 copies. (KL, 7-58, 113)

ZHUK, Ye.A.; NAUMOVICH, V.M.; KHALUGA, A.K.; STAKHANOV, Yu.P.

Testing the stamping press of the Glomer system for the manufacture
of peat semibriquets. Trudy Inst. torf. AN BSSR 9:66-70 '60.

(MIRA 14:2)

(Briquets (Fuel))

(Hydraulic presses)

Stachanova, M. S.

"Sur les hydrures de nickel." by A. A. Balandin, B. V. Erofejev, K. A. Pecerakaja
and M. S. Stachanova. (p 577)

SO: Journal of General Chemistry (Zhurnal Obshchei Khimii) 1941, Vol 11, No. 3

STAKHANOVA, M. S.

"Composition and Mechanism of Formation of the Hydrides of Nickel," 1943; "Mechanism of Formation of the Hydrides of Nickel," *ibid.*, 18, No. 4, 1943; "A Study of the Dissociation of Strontianite at High Temperatures," *Iz. Ak. Nauk SSSR, Otdel. Khim. Nauk*, No. 1, 1947.

2

1ST AND 2ND ORDERS PROCESSES AND PROPERTIES INDEX

11

Dissociation of strontians at high temperatures. A. F. Kapustinikh and M. S. Shakhovskaya (D. I. Mendeleev Chem. Technol. Inst., Moscow). *Bull. Acad. Sci. U.R.S.S., (Chem. ed., chem., 1947, 11-17 (in Russian); U.S.A. 40, 4944).* Partial CO₂ pressure p at equil. over SrCO₃ was detd. between 800 and 1000° by heating in a stream of N₂ and collecting the CO₂ in alkali. Evaluation of the heat of disocn. ΔH from the free energy ΔF (i.e., from $K = 1/p$) and the heat capacities C_p calcd. by the Debye and Einstein functions, proved, understandably, unsatisfactory, these functions being inapplicable to the high temp. range. The value of ΔH was detd. with the aid of the empirical temp. dependence of C_p , using for CO₂ the formula of Kelley and Anderson (C.A. 29, 6861¹), for SrO, $C_p = 10.40 + 0.0083 T$, and for SrCO₃ the formula of Gronow and Schwiete (C.A. 28, 1890¹) for CaCO₃. These equations giving the coeffs. ΔF of the development of ΔC_p as a function of T , the measurements give the Z function, $Z = R \ln p + \Delta F_0 \ln T + 1/2 (\Delta F_1/T - 1/6 \Delta F_2/T^2) = (\Delta H_0/T) + I$. The mean exptl. values of $-Z$, at 800, 850, 900, 950, 1000, 1050, 1100°, are 18.433, 18.917, 19.312, 12.137, 10.117, 0.800, 7.600, by the method of least squares, $I = (-N) \ln(2\pi) + 1/2 \ln |D|$, i.e. $\Delta H_0 = 43000 \text{ cal./mole}$, $I = 33.203 \text{ cal./mole}$. By a different method, patterned after that of Hamell, Masov, and Brown (C.A. 33, 4054¹ (1938)), the integration of ΔF_0 was first calcd. from the entropies at 298°K., const. I was obtained with the aid of the Debye and Einstein functions, giving $I = 34.341$ and hence $\Delta H_0 \text{ (av.)} = 56050$. By averaging the results of the two methods, $\Delta H_0 = 56067$ and $I = 33.203$. With $\Delta F = -53267 + 2.203 \times 1.16 T \log T - 2.97 \times 10^{-5} \times T^2 + (50050/T) + 33.203/T$, $\Delta F_{298} = -43500 \text{ cal./mole}$ and $\Delta H_{298} = -56080 \text{ cal./mole}$, in agreement within 0.9% with the calorimetric data of K. and Desleryeva (C.A. 40, 4944¹). N. Thon

SERIALIZED

METALLURGICAL LITERATURE CLASSIFICATION

FROM SERIALS

CA

2

The heat of formation of beryllium carbonate. A. F. Kapustin and M. S. Stokhanova (Mendeleev Inst. Chem. Technol., Moscow). *Doklady Akad. Nauk S.S.S.R.* 87, 578-7(1947); *Chem. Zvest.* 1947, II, 487.— To study the disson. potential of BeCO_3 the com. salt was dehydrated in a current of N_2 at 130° . The disson. pressure of the $\text{BeCO}_3 \cdot 4\text{BeO}$ thus obtained was measured by the dynamic method at 200, 250, and 450° . From these data the heat of formation of BeCO_3 by the reaction $\text{BeO} + \text{CO}_2 = \text{BeCO}_3$ was $H_{298} = -5.6$ kcal. Using the values of Richowsky and Ranzini for the heat of formation of CO_2 from graphite and O_2 , the heat of formation of BeCO_3 from the elements was calcd. For $\text{Be} + \text{C}$ (as graphite) + $1.5 \text{ O}_2 = \text{BeCO}_3$, $H_{298} = -235$ kcal. M. G. Moore

STANIANOVA, N. S.

STANIANOVA, N. S. -- "Thermal Investigation of Carbonates of the
Secondary (Basic) Group in the Periodic System of D. I. Mendeleev."
On 31 Dec 62, Moscow Order of Lenin Chemicotechnological Inst imeni D. I.
Mendeleev. (dissertation for the Degree of Candidate in Chemical
Sciences).

SO: Vechnaya Moskva January-December 1962

STAKHANOVA, Mrs.

USSR A ✓ Thermochemistry and atomic structure. VII. The study of the group II (alkaline earth) carbonates. A. F. Kapustinskii and M. S. Stakhanova. *Bull. Acad. Sci. U.S.S.R., Div. Chem. Sci.* 1954, 501-10 (Engl. translation). —See *C.A.* 49, 7358f. H. L. H.

STAKHANOVA, M. S.

USSR/ Chemistry Physical chemistry

Card : 1/1 Pub. 40 - 2/27

Authors : Kapustinskiy, A. F., and Stakhanova, M. S.

Title : Thermochemistry and the structure of atoms. Part 7. Investigation of carbonates, elements of the second (basic) group of the Mendeleev system

Periodical : Izv. AN SSSR. Otd. khim. nauk 4, 587 - 597, July - August 1954

Abstract : By studying the heats of solution of Mg and Ba in acid and thermal dissociation of Be and Sr-carbonates, the authors were able to determine the standard heats of formation as well as the heats and free energies of thermal dissociation of Be, Mg, Sr and Ba-carbonates. The applicability of the law of thermochemical logarithmic curve, for the study of carbonates of elements belonging to the second (basic) group of the D. I. Mendeleev periodical system, was confirmed on the basis of the results obtained. Twenty-eight references: 17 USSR; 9 USA and 2 German (1900 - 1953). Tables; graph; diagrams; illustrations.

Institution : The D. I. Mendeleev Chemical Technological Institute, Moscow

Submitted : November 12, 1953

USSR/Thermodynamics. Thermochemistry. Equilibria. Physico-
Chemical Analysis. Phase Transitions.

B-8

Abs Jour : Ref Zhur - Khimiya, No 8, 1957, 26067

Author : A.F. Kapustinskiy, M.S. Stakhanova

Inst : Moscow Institute of Chemistry and Technology

Title : Heat of Dissolution of Salts in Water and Rule of Thermochemical Logarithmic Curve. Dissolution Heat of Lithium Fluoride.

Orig Pub : Tr. Mosk. khim.-tekhrol. in-ta, 1956, vyp. 22, 21 - 29

Abstract : The lines of calorimetric determination of dissolution heat (L) of LiF in water at 25° were drawn. The installation described earlier (Kapustinskiy A.F., Klokman V.R., Izv. AN SSSR. Ser. khim., 1943, No 4, 259) was used. The mean value of L was -1.18 ± 0.02 kcal per mol, which confirmed the results of the determination of this magnitude carried out earlier in an indirect way (De Forcrand, Ann. chim. phys., 1911, 24, 256). The value of L of an infinitely diluted solution is -1.33 kcal

Card : 1/2

USSR/Thermodynamics. Thermochemistry. Equilibria. Physico-
Chemical Analysis. Phase Transitions.

B- 8

Abs Jour : Ref Zhur - Khimiya, No 8, 1957, 26067

Abstract : per mol. The applicability of the rule of thermochemical logarithmic curve (Kapustinskiy A.F., Izv. AN SSSR, Ser. khim., 1948, No 6, 568, 581) to the dissolution heats of alkaline halides was shown. The disagreement with this rule noticeable in the series LiI - LiBr - LiCl - LiF and revealed by LiF was stated and explained. It was shown that the rule of the thermochemical data of total heats of dissolution of ion pairs (cation - anion) of alkaline halides. The limits of the application of the rule were discussed.

Card : 2/2

Stakhanova, M.S.

USSR/Thermodynamics. Thermochemistry. Equilibria. Physico-
Analysis. Phase Transitions.

B-8

Abs Jour : Ref Zhur - Khimiya, No 8, 1957, 26088

Author : A.F. Kapustinskiy, N.M. Selivanova, M.S. Stakhanova

Inst : Moscow Institute of Chemistry and Technology

Title : Thermochemical Properties of Lead Oxalate and Entropy of Oxalate Ion in Aqueous Solutions.

Orig Pub : Tr. Mosk. khim.-tekhnol. in-ta, 1956, vyp. 22, 30 - 37

Abstract : The solubility of PbC_2O_4 (I) in water at 25° was determined by the polarographic method; it proved to be 8.50×10^{-6} mol per lit., the solubility product $L_p = 7.2 \times 10^{-11}$. The heat of the precipitation reaction of I : $Pb(NO_3)_2 \cdot aq + H_2C_2O_4 \cdot aq + PbC_2O_4$ (cryst.) + $2NH_3 \cdot aq$ was measured calorimetrically. The experiments were carried out at 25° ; the calorimeter described earlier (RZhKhim, 1956, 46308) was used. The following was computed using the experimental data and the values of auxiliary magnitudes from the bibliography: ΔH_{298}°

Card : 1/2

Card : 2/2

5(4), 5(2)
AUTHORS:

Kapustinskiy, A. F., Stakhanova, M. S.

SOV/153-58-3-2/30

TITLE:

Supersaturated Solutions and Their Specific Heat
(Peresyshchennyye rastvory i ikh teployemkost')

PERIODICAL:

Izvestiya vysshikh uchebnykh zavedeniy. Khimiya i khimicheskaya tekhnologiya, 1958, Nr 3, pp 7 - 14 (USSR)

ABSTRACT:

Although the solutions under review were repeatedly investigated (Refs 1-13), their heat capacity has never been determined. This problem is, however, interesting as to the clarification of the formation mechanism of such systems as well as of the minute-scale operation of their transition into the stable state. There are even no attempts to be found in publications to fill that gap. In the present paper the change of the specific heat of the systems $\text{Cu}(\text{NO}_3)_2 \cdot \text{H}_2\text{O}$, $\text{CH}_3\text{COONa} \cdot \text{H}_2\text{O}$ and $\text{Na}_2\text{S}_2\text{O}_3 \cdot \text{H}_2\text{O}$ in a concentration range of from a state near saturation up to considerably supersaturated solutions, as well as partial molal quantities are investigated. The

Card 1/4

Supersaturated Solutions and Their Specific Heat

SOV/193-50-3-2/30

salts selected belong to those that are able to form stable oversaturated solutions with a large induction period. In the crystallization of these salts out of supersaturated solutions the solid phase is relatively slowly separated. Stirring and the rate of cooling do not exercise considerable influence upon the value of the metastable limit. Tables 1-3 present the experimental results. The apparent molal specific heat \bar{H}_a was calculated by equation (1) (Ref 18). The dependence of \bar{H}_a on \sqrt{m} in the solutions mentioned at 25° is seen in figures 1-3. On the basis of the results obtained the authors come to the following conclusions: 1) A preceding superheating of the solutions is possible only up to a certain limit. Beyond it, the supersaturated solutions cannot be produced any longer by the method in question. It was confirmed that the influence exerted by stirring upon the induction periods of the system is the less the higher the supersaturation is (Figurovskiy and Komarova) 2) The apparent specific heats of the above mentioned salts were calculated

Card 2/4

Supersaturated Solutions and Their Specific Heat

SOV/153-58-3-2/30

for various concentrations. In solutions near saturation it is expressed by a usual linear dependence of ΔT on \sqrt{m} (ΔT increases with the concentration of the solution). The apparent specific heats remain constant in supersaturated solutions. It is therefore assumed that the structure of hydrated ions in a metastable state is unvariable. 3) In supersaturated systems the apparent specific heat of the salt is equal to its partial molal quantities. The specific heat of the water in the solution is equal to that of pure water. It was assumed that in the homogeneous phase the hydrated ionic forms pass, at a homogeneous point corresponding to the saturation, to a state that corresponds to the equilibrium with the solid phase; furthermore it was assumed that the supersaturation mechanism does strictly speaking, not differ from the supercooling mechanism of the liquid. There are 3 figures, 4 tables, and 18 references, 17 of which are Soviet.

Card 3/4

Supersaturated Solutions and Their Specific Heat

SOV/153-58-3-2/30

ASSOCIATION: Moskovskiy khimiko-tekhnologicheskij institut imeni D.I. Mendelejeva (Moscow Institute of Chemical Technology imeni D.I.Mendelejev) Kafedra obshchey i neorganicheskoy khimii (Chair of General and Inorganic Chemistry)

SUBMITTED: October 9, 1957

Card 4/4

STAKHANOVA, M.S.; VASILEV, V.A.

Study of the additivity of heat capacities in mixtures of potassium and sodium chloride solutions. Part 1. Izv. vys. ucheb. zav; khim. i khim. tekhn. 3 no. 5:829-833 '60. (MIRA 13:12)

1. Moskovskiy khimiko-tekhnologicheskii institut imeni D.I. Mendeleeva. Kafedra obshchey i neorganicheskoy khimii.
(Potassium chloride) (Sodium chloride)
(Heat capacity)

KAPUSTINSKIY, A.F.; STAKHANOVA, M.S.; VASIL'YEV, V.A.

Densities and heat capacities of mixed aqueous solutions of lithium and potassium chlorides at 25° C. Izv. AN SSSR. Otd. khim. nauk no. 12: 2082-2089 D '60. (MIRA 13:12)

1. Khimiko-tekhnologicheskii institut im. D. I. Mendeleeva.
(Lithium chloride) (Potassium chloride)
(Heat capacity)

СТАЛОВАЯ, М. Д.

5-4900

ATTACHED:

Лопатинский, А. П., Сталова, М. Д., Яковлев, А. П., Яковлев, А. П.

TITLE:

Specific Heat of Lead Oxalate and Free Energy of Formation of Lead Oxalate

PERIODICAL:

Химический журнал, 1959, Vol. 1, No. 1, pp. 103-105

The authors measured the specific heat of lead oxalate at 25°C and by extrapolation they obtained the values at 0°C. Measurements were made by the method of calorimetry (Fig. 1). The heat of the reaction $Pb^{2+} + C_2O_4^{2-} \rightarrow PbC_2O_4$ was taken from a paper by O. I. Kiselev and I. V. Kiselev. In the calculation of the free energy of formation of lead oxalate in the construction of the diagram of the stability of the elements a correction was made to the value of the free energy of formation of lead oxalate. Table 1 offers numerical values of the thermodynamic functions of lead oxalate.

Card 1/3

the dependence of the specific heat of lead oxalate. The absolute entropy for lead oxalate amounts to 599.16 - 34.9 ± 1.2 cal. The absolute entropy of lead oxalate was determined calorimetrically in water at 25°C (Table 2). On the basis of these and thermodynamic measurements we calculated the thermodynamic functions for lead oxalate. The free energy of formation of lead oxalate in water (at 25°C) is -1.33 kcal/mole; solution heat of lead oxalate in water is -9.17 kcal/mole; free energy and heat of formation of lead oxalate from the elements under standard conditions - 185.91 kcal/mole; heat of formation of lead oxalate at low temperature, as well as the free energy and free entropy of formation of lead oxalate from aqueous solutions, the entropy of lead oxalate in water was found to be 598.16 - 15 ± 2 cal. I. V. Kiselev and I. B. Kiselev, as well as O. I. Kiselev are mentioned in the text. There are 2 figures, 2 tables, and 13 references: 7 Soviet, 3 American, 1 French, and 1 German.

Card 2/3

ASSOCIATION: Khimiko-tekhnologicheskii institut im. D. I. Mendeleeva, Institute of Chemical Technology Isaak D. I. Kiselev, Moscow, Politekhnikhskiy institut im. V. I. Lenina, Esharher (Politekhnikhskiy Institut Isaak V. I. Lenin, Esharher)

SUBMITTED: July 21, 1959

Card 3/3

DRAKIN, S.I.; KUDRYAVTSEV, A.A.; SELIVANOVA, M.M.; STAKHANOVA, M.S.

Anatolii Fedorovich Kapustinskii; obituary. Zhur. fiz. khim. 34
no. 34 no. 12:2848-2850 D '60. (MIRA 14:1)
(Kapustinskii, Anatolii Fedorovich, 1906-1960)

STAKHANOVA, M.S.; VASILEV, V.A.

Activity of water in salt solutions and its deviation from
additivity. Zhur.neorg.khim. 6 no.5:1240-1242 My '61.
(MIRA 14:4)

1. Moskovskiy khimiko-tekhnologicheskii institut imeni D.I.
Mendeleyava, kafedra obshchey i neorganicheskoy khimii.

(Activity coefficients) (Salts) (Water)

STAKHANOVA, M.S.; VASILEV, V.A.

Activity of water in three-component solutions of alkali metal chlorides. Zhur.fiz.khim. 35 no.8:1839-1845 Ag '61.

(MIRA 14:8)

1. Moskovskiy khimiko-tekhnologicheskii institut imeni D.I. Mendeleeva.

(Alkali metal chlorides)

(Water)

(Activity coefficients)

KUDRYAVTSEV, A.A.; SELIVANOVA, N.M.; DRAKIN, S.I., dots.; MAYYER, A.I.; SAMPLAVSKAYA, K.K.; SOLOKHIN, V.A.; STAKHANOVA, M.S.; BUNDEL', A.A., prof., ~~retsensent~~; KARAPET'YANTS, M.Kh., doktor khim. nauk, prof., red.; MEL'NIKOVA, T.I., red.

[Laboratory work in-general and inorganic chemistry] Praktikum po obshchei i neorganicheskoi khimii. [By] A.A.Kudriavtsev i dr. Moskva, Mosk. khimiko-tekhnol. in-t im. D.I.Mendeleeva. Pt.2. [Work in the chemistry of elements] Raboty po khimii elementov. 1963. 122 p. (MIRA 16:10)

(Chemistry--Laboratory manuals)
(Chemical elements)

STAKHANOVA, M.S.; VASILEV, V.A.; YEPIKHIN, Yu.A.

Activity coefficients of alkali metal chlorides in mixed
aqueous solutions. Zhur.fiz.khim. 37 no.2:354-360 F '63.
(MIR^A 16:5)

1. Khimiko-tehnologicheskii institut imeni D.I.Mendeleeva.
(Alkali metal chlorides) (Electrolyte solutions)
(Activity coefficients)

L 17714-63

EPR/EPF(c)/EWP(q)/EWT(m)/BDS AFFTC/ASD Ps-4/Pr-4/Pi-4

RM/WW/JD/JW

ACCESSION NR: AP3004066

S/0076/63/037/007/1568/1574

AUTHORS: Stakhanova, M. S.; Vasilev, V. A. (Moscow) 28
76TITLE: Volume and heat capacity changes in aqueous salt solutions. 1. The systems CsCl-LiCl-H sub 2 0 and CsCl-NaCl-H sub 2 0SOURCE: Zhurnal fizicheskoy khimii, v. 37, no. 7, 1963, 1568-1574

TOPIC TAGS: aqueous salt solution, CsCl, LiCl, NaCl, H sub 2 0, water

ABSTRACT: Authors studied the heat capacity and volumetric characteristics of the systems CsCl-LiCl-H₂O and CsCl-NaCl-H₂O. Authors wanted to clear up the interrelationship between these properties and to determine whether the law of additivity applies to a composite solution. Authors were also interested in verifying, on the basis of new experimental material, if certain classical relationships known for binary solutions could be applied to ternary mixtures. Pycnometric method was used to determine the density. Adiabatic calorimetry was used for determination of specific heat capacity. Methodology were described by authors in an earlier paper (Izv. AN, SSSR. Otd. Khim. nauk, no. 12, 1960, 2082). Concentration range was 0.5 to 5 moles. Heat capacities were determined with an accuracy of + or - 0.05%. Accuracy of pycnometric density measurement was + or - 0.001%. Authors also present data on the heat capacities of solutions of lithium, Card 1/2

L 17714-63

ACCESSION NR: AP3004066

2
sodium, and cesium chlorides alone. Deviations of both properties from the additivity have been observed for all systems. Correlations which were found were treated in terms of ion effect on solvent structure. Approximately linear equations have been found to correlate heat capacity with volume. These equations permit the calculation of the difficult-to-measure heat capacity (C_p^{25}) from a known volume (v_4^{25}) with an accuracy of 0.1-0.2%. "We wish to express our thanks to Professor M. Kh. Karapetyants for his attention to this work." Orig. art. has: 5 figures, 3 tables, and 7 formulas.

ASSOCIATION: Moskovskiy khimiko-tekhnologicheskii institut im. D. I. Mendeleeva (Moscow chemical engineering institute)

SUBMITTED: 18Oct62

DATE ACQ: 15Aug63

ENCL: 00

SUB CODE: PH, CH

NO REF SOV: 003

OTHER: 012

Card 2/2

STAKHANOVA, M.S.; YEPIKHIN, Yu.A.; KARAPET'YANTS, M.Kh.

Volume and heat capacity changes in aqueous salt solutions.
Part 2. Zhur. fiz. khim. 37 no.11:2570-2573 N'63.

(MIRA 17:2)

1. Moskovskiy khimiko-tekhnologicheskii institut imeni
D.I. Mendeleeva.

YEFIKHIN, Yu.A.; STAKHANOVA, M.S.; KARAPET'YANTS, M.Kh. (Moscow)

Changes in volume and heat capacities in aqueous salt solutions.
Part 3. Zhur. fiz. khim. 38 no.3:692-696 Mr '64.

(MIRA 17:7)

1. Moskovskiy khimiko-tekhnologicheskij institut imeni D.I.
Mendelejeva.

DRAKIN, Sergey Ivanovich; KUDRYAVTSEV, Aleksandr Andreyevich;
SELIVANOVA, Nadezhda Mikhaylovna; MAYYER, Antonina
Ivanovna; SAMPLAVSKAYA, Kira Karlovna; SOLOKHIN, Viktor
Aleksyevich; STAKHANOVA, Mariya Sergeyevna; ALAVERDOV,
Ya.G., red.; FEDOROVA, T.P., red.; KARAPET'YANTS, M.Kh., red.

[Laboratory work in general and inorganic chemistry]
Praktikum po obshchei i neorganicheskoi khimii. Moskva,
Vysshaya shkola, 1964. 268 p. (MIRA 18:4)

STAKHANOVA, N.B. (Moskva); KAPALET'YANTS, M.Kh. (Moskva); VASIL'YEV, V.A.
(Moskva); YEPIKHIN, Yu.A. (Moskva)

Comparative study of the heat capacities and densities of aqueous
electrolyte solutions. Zhur. fiz. khim. 38 no.10:2420-2429 0 '64.
(MIRA 18:2)

1. Moskovskiy khimiko-tehnologicheskii institut imeni D.I. Mende-
leyeva.

BAZLOVA, I.V.; STAKHANOVA, M.S.; KARAPET'YANTS, M.Kh.; VLASENKO, K.K.

Heats of dissolution of sodium and potassium chloride mixtures
in aqueous solutions. Zhur. fiz. khim. 39 no.5:1245-1248 My '65.

(MIRA 18:8)

1. Moskovskiy ordena Lenina khimiko-tekhnicheskiy institut
im. D.I. Mendeleeva.

ACC NR: AR6033763 SOURCE CODE: UR/0058/66/000/007/A012/A012

AUTHOR: Bazlova, I. V.; Stakhanova, M. S.; Gadzhiev, S. N.; Karapet'yants, M. Kh.

TITLE: Procedure of measuring small heat effects with the use of a thermistor

SOURCE: Ref. zh. Fizika, Abs. 7A112

REF SOURCE: Tr. Mosk. khim. -tekhnol. in-ta im. D. I. Mendeleeva, vyp, 49, 1965, 32-34

TOPIC TAGS: heat effect, thermistor, measurement, aqueous solution, lithium chloride, sodium chloride/KMT-1 thermistor

ABSTRACT: A brief summary describing the experimental use of the KMT-1 type thermistor in calorimetry is given. The sensitivity of the circuit used by the authors amounted to 0.0003C. The heats of mixing have been measured for aqueous solutions of lithium and sodium chlorides. [Translation of abstract]

SUB CODE: 20/

Card 1/1

Med. Mikrob. Sec 4 vol 14, Med. Micro. May 59

1402. UNSPECIFIC INHIBITORS OF INFLUENZA VIRUS HAEMAGGLUTINATION
IN SERA OF PATIENTS WITH FEVER (Russian text) - Stakhanova
V. M. - VOPR. VIRUS. 1957, 6 (367-371) Graphs 3

In turpentine-induced inflammation an increase of β -haemagglutinin inhibitors was noted in the first few days; the quantity of α -inhibitors increased later. Investigation of paired sera of patients with febrile illnesses other than influenza revealed an increased content of inhibitors in acute phase sera in comparison with convalescent sera.

GORBUNOVA, A.S.; STAKHANOVA, V.M.; LOZHKINA, A.N.; OLLI, V.D.

Comparative effectiveness of the carbon dioxide, *Vibrio comma* filtrate, and potassium periodate methods of serum treatment in the elimination of nonspecific influenza virus A2 hemagglutination inhibitors. Vop. virus. 4 no.6:750-753 N-D '59. (MIRA 13:3)

1. Institut virusologii imeni D.I. Ivanovskogo AMN SSSR, Moskva, i Gosudarstvennyy nauchno-issledovatel'skiy institut mikrobiologii i epidemiologii Yugo-Vostoka SSSR, Saratov.

(IMMUNE SERUMS)

(INFLUENZA VIRUSES immunol.)

(HEMAGGLUTINATION)

GORBUNOVA, A.S.; LOZHKINA, A.N.; STAKHANOVA, V.M.; ISACHENKO, V.A.

Etiology of the influenza outbreak of 1959. Vest. AMN SSSR 14
no.10:19-23 '59. (MIRA 13:6)

1. Institut virusologii imeni D.I. Ivanovskogo AMN SSSR.
(INFLUENZA)

ZHDANOV, V.M.; STAKHANOVA, V.M.

A study of human sera for antihaemagglutinins to influenza-like animal viruses. Acta virol. 4 no.3:187-188 My '60.

1. Ivanovsky Institute of Virology, U.S.S.R. Academy of Medical Sciences, Moscow.

(INFLUENZA VIRUSES, immunology)

STAKHANOVA, V.M.

Antigenic pattern of type B influenza virus strains isolated in 1959. Acta virol.Engl.Ed.Praha 4 no.4:246-249 J1'60.

1. Ivanovsky Institute of Virology, U.S.S.R. Academy of Medical Sciences, Moscow.

(INFLUENZA VIRUSES immunol)

RABKINA, S.A.; TSAUZNER, G.M.; STAKHANOVA, V.M.

Outbreak of influenza in January and February 1959 in Chelyabinsk.
Vop. virus. 5 no. 1:44-49 Ja-F '60. (MIRA 14:2)

1. Chelyabinskaya gorodskaya sanitarno-epidemiologicheskaya
stantsiya i Institut virusologii imeni D.I. Ivanovskogo AMN
SSSR, Moskva.

(CHELYABINSK--INFLUENZA)

STAKHANOVA, V.M.

Respiratory viruses in horses, swine, and ducks and their relation
to human influenza virus. Vop.virus. 6 no.5:568-572 S-0 '60.
(MIRA 14:7)

1. Institut virusologii imeni D.I.Ivanovskogo AMN SSSR, Moskva.
(INFLUENZA)

STAKHANOVA, V.M.

"A comparative study of human and animal influenza viruses."

Report submitted for the 1st Intl. Congress on Respiratory Diseases of
Virus and Rickettsial Origin. Prague, Czech. 23-27 May 1961.

ZHDANOV, V.M.; STAKHANOVA, V.

Early appearance of thermolabile antibodies. Vop.virus. 7 no.3:
321-324 My-Je '61. (MIRA 14:7)

1. Institut virusologii imeni D.I.Ivanovskogo AMN SSSR, Moskva.
(INFLUENZA) (ANTIGENS AND ANTIBODIES)

ZHANTIYEVA, Ye.M.; STAKHANOVA, V.M.; ZHDANOV, V.M.

Incorporation of P³² and C¹⁴ labeled uracil into cells of chorioallantoic membrane of chicken embryos infected by influenza virus. Vop. virus. 9 no.2:233-237 Mr-Apr '64. (MIRA 17:12)

1. Institut virusologii imeni Ivanovskogo AMN SSSR, Moskva.

SMIRNOVA, G.A., kand. sel'skokhoz. nauk; STAKHANOVA, V.M., kand. med. nauk

Biological properties of the influenza virus of ~~animal~~ ^{le.}
Veterinariia 41 no.4:7-12 Ap '64. (MIRA 17:8)

1. Moskovskiy ordena Trudovogo Krasnogo Znameni institut narodnogo khozyaystva imeni G.V. Plekhanova (for Smirnova).
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-48-