YEMEL'YANOV, D.S., dots; NAZARENKO, V.M., inzh.

Effect of pulp density and temperature on coal flotation rates. Ugol' Ukr. 3 no.11:9-10 N '59. (MIRA 13:3)
(Coal preparation) (Flotation)

SOV/68-59-4-4/23

AUTHORS: Nazarenko, V.M. and Florinskiy, N.V.

TITLE: The Preparation of Pulp and the Rate of Removal of Foam Products During Flotation of Coal Fines (Podgotovka pul'py i skorost' s"yema pennykh produktov pri flotatsii kamennougol'noy melochi)

PERIODICAL: Koks i Khimiya, 1959, Nr 4, pp 11-13 (USSR)

ABSTRACT: The importance of correct conditioning of coal pulp before flotation is stressed. The time of contact between flotation reagents and the pulp in industrial machines is about 2 to 4 minutes and the content of solids in the pulp 25 to 30%. It is considered that in order to intensify the flotation process, the conditioning of the pulp should be done at an increased density (35 to 40% of solids) a longer time of contact and with an intensive stirring. An increase in the rate of removal of the foam should also have a positive effect on the flotation process. The influence of the latter factor on the efficiency of the flotation process was investigated on a five compartment laboratory flotation machine. The experimental results are given in the

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The Preparation of Pulp and the Rate of Removal of Foam Products During Flotation of Coal Fines

table. It was found that with increasing rate of removal of foam (by increasing the number of collecting scrapers) the output of the concentrate from the first compartment and its yield increases. It is though that by increasing the rate of removal of the foam products, the rate of flow of the pulp through the flotation machine also increases which in turn produces comparatively more stable hydro-aerodynamic conditions in the flotation compartments due to a more uniform distribution of solids. There is 1 table.

NAZARENKO, V.M., inzh.

Air dispersion in mechanical flotation machines. Izv. vys. ucheb. zav.; gor. zhur. no.3:116-122 '60. (MIRA 14:5)

1. Khar'kovskiy gornyy institut. Rekomendovana kafedroy obogashcheniya poleznykh iskopayemykh.
(Flotation)

YEMEL'YANOV, D.S., prof.; HAZARENKO, V.M., inzh.; KREMER, V.A., dotsent

Regulators of the coal flotation process. Izv. vys. ucheb. zav.; gor. zhur. no.12:149-154 '60. (MIRA 14:1)

1. Khar'kovskiy gornyy institut. Rekomendovana kafedroy obogashcheniya poleznykh Khar'kovskogo gornogo instituta.
(Coal preparation) (Flotation--Equipment and supplies)

NAZARENKO, V. M.

Cand Tech Sci - (diss) "Study of aerators of mechanical flotation machines." Dnepropetrovsk, 1961. 21 pp; (Ministry of Higher and Secondary Specialist Education Ukrainian SSR, Dnep Order of Labor Red Banner Mining Inst imeni Artem); 200 copies; price not given; list of author's works at end of text (10 entries); (KL, 10-61 sup, 216)

NAZARENKO, V.M.

Coal-flotation machine KhGI-57 of State Institute for the Design and Planning of By-Product Coking Plants. Koks i khim. no. 5:9-14 '61. (MIRA 14:4)

1. Ukrainskiy nauchno-issledovatel'skiy institut ugleobogashcheniya. (Coal preparation) (Flotation)

YEMEL'YANOV, D. S., prof.; NAZARENKO, V. M., kand. tekhn. nauk

Effect of the hydroaerodynamic parameters of flotation machines on coal preparation. Ugol' Ukr. 6 no.10:14-16 O '62. (MIRA 15:10)

1. Khar'kovskiy gornyy institut (for Yemel'yanov). 2. UkrNIIUglebogashcheniye (for Nazarenko).

(Flotation)
(Coal preparation plants—Equipment and supplies)

BEL'CHIKOV, M.Ya.; NAZARENKO, V.M.

New coal-flotation reagent. Biul.tekh.-ekon.inform.Gos.nauch.-issl.inst.nauch. i tekh.inform. no.3:17-19 '63. (MIRA 16:4)

(Flotation) (Coal preparation)

NAZARENKO, V.M., inzh.; SHAMIER, Yu.A., inzh.

Effect of hydrogen-ion concentration on the coal flotation process. Ugol' Ukr. 9 no.12:48-49 D '65.

(MIRA 19:1)

1. Ukrainskiy proyektno-konstruktorskiy i nauchno-issledovatel'skiy institut po obogashcheniyu i briketirovaniyu ugley.

NAZARENKO, V.M., kand.tekhn.nauk; BEL'CHIKOV, M.Yu.

Introducing a reagent for the flotation of coal smalls. Biul.tekh.-ekon.inform.Gos.nauch.-issl.inst.nauch.i tekh.inform. 18 no.5:14 My '65. (MIRA 18:6)

ACC NR: AP7005643 (A) SOURCE CODE: UR/0413/67/000/002/0093/0093

INVENTOR: Nazarov, V. M.

ORG: None

TITLE: A theodolite sighting target. Class 42, No. 190593

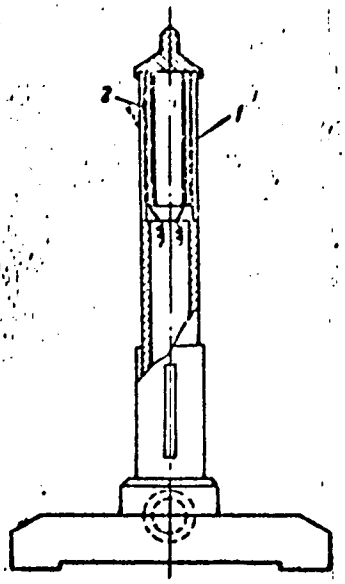
SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 2, 1967, 93

TOPIC TAGS: surveying instrument, optic theodolite, optic instrument

ABSTRACT: This Author's Certificate introduces a theodolite sighting target which contains a base with a cylindrical pedestal fastened to the upper part of an alidade, a light source and a movable outer cylinder with a slit along the generatrix. To eliminate the effect of aberrational distortions and to provide 180-degree sighting without phase distortion, the light source is made in the form of a hollow glass cylinder with a transparent current-conducting layer applied to the inner surface. This layer serves as the outer plate for an electroluminescent capacitor.

Card 1/2 UDC: 528.521.8

ACC NR: AP7005643



1—hollow glass cylinder; 2—transparent current-conducting layer

SUB CODE: 17/ 20/ SUBM DATE: 17Nov65

Card 2/2

S/128/60/000/012/009/014
A054/A030

AUTHORS: Gulyayev, B.B.; Makel'skiy, M.F.; Nazarenko, V.O.

TITLE: Crystallization of Steel Under Pressure

PERIODICAL: Liteynoye proizvodstvo, 1960, No. 12, pp. 33 - 34

TEXT: The problem of improving the quality of a casting by influencing the crystallization process mechanically by means of vibration or pressure has not yet been fully cleared up. When applying vibration (Ref.: N.G. Kasumzade, "Change in Structure and Properties of Steel Under the Influence of Physical-Chemical Factors") during the crystallization process of carbon steels, with a frequency of 1,300 min and an amplitude of 1 mm, the plasticity, the tenacity and, to some extent, also the strength of the steel increased, but only when vibration took place under the above mentioned conditions. Deviations from the given regime reduces the effect of vibration and, in some cases, even causes a deterioration of the metal's properties. According to N.G. Kasumzade's report referred to above, when a uniform pressure not exceeding 80 atm is applied on carbon steel during crystallization, the shrinkage holes become deformed, the density and the tenacity of the metal are increased. In the present article the influence of a

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relatively high pressure on the crystallization process of steel castings will be discussed. The experiments were carried out with cylindrical specimens having an upper diameter of 70, a lower diameter of 80 mm and an initial height of 300 mm. The sample was poured in a steel die, whose wall thickness was 100 mm. 2,000, 4,000 and 6,000 kg/cm^2 pressures were applied by a hydraulic press. The time from the beginning of pouring till the application of full pressure was 20 sec, during this time a skin, 13 - 15 mm thick, was formed. The entire interval of hardening did not last longer than 2 min. The pressure period lasted 3 - 4 min. In the tests 20Л (20L), 35Л (35L) and 1Х18Н9Т (1Kh18N9T) type steels were used (pouring temperature 1,580 - 1,600°C, the molds were preheated to 150 - 200°C). The samples were cut from the inner and external parts of the castings. At a pressure of 2,000 kg/cm^2 the shrinkage holes disappeared but the porosity in the axial area remained. The increase in pressure up to 6,000 kg/cm^2 had similar effects. The structure of the various types of steel castings crystallizing under pressure was, in general, the same. The microstructure of 35L and 1Kh18M9TL types crystallizing with (4,000 kg/cm^2) and without pressure is given in Figure 1. The microstructure of 20L and 35L type steels, both in the superficial (a) and in the axial (b) zones did not change much under pressure. In steel 1Kh18N9TL the effect of pressure was more striking: at a distance of 12 - 15 mm from the

Crystallization of Steel Under Pressure

surface and parallel with the form surface strips appeared, most probably, indicating displacements taking place the moment pressure was applied. Moreover, under the influence of pressure, new phases separated in the 1Kh18N9TL steel, forming a lattice. In castings crystallizing without pressure, the separation of this phase is inconsiderable. Pressures between 2,000 and 4,000 kg/cm^2 during crystallization cause a slight increase in surface density and also in the intermittent zones, as well as a considerable increase in density in the axial zone of the casting. Pressure of more than 6,000 kg/cm^2 has a negative effect on density. In steel 1Kh18N9T the decrease in density can already be observed at a pressure of 4,000 kg/cm^2. Pressures of about 2,000 kg/cm^2 during crystallization have mainly this effect that the differences in density in the entire volume of casting are equalized. At higher pressures the attitude of the casting is that of an integer unit. Up till now the cause of the decrease in density at pressures above 4,000 cm^2 has not been established. The changes in the mechanical properties of steel in the external and internal zones are plotted in Figure 2, in function of the piston pressure during crystallization. These data clearly show that during crystallization without pressure the strength limit decreases to some extent from the surface in the direction of the axis, whereas, when crystallizing under pressures of 2,000 - 4,000 kg/cm^2, the strength limit displays the same values in the

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entire section of the casting. The absolute values of the strength limit, however, do not change considerably under the effect of pressure. In castings 20L and 35L pressure of 2,000 - 4,000 kg/cm^2 increase the plasticity, mainly in the inner zones. At a pressure of 2,000 kg/cm^2 plasticity is distributed uniformly in the entire section of the casting. In the 1Kh18N9TL steel castings the increase in pressure causes a systematic decrease in plasticity. In this type of steel the entire section displays the same plasticity whether or not pressure is applied. Notch impact strength is not affected to any great extent in carbon steels. In 1Kh18N9TL steel castings notch impact strength decreases with increasing pressure more quickly on the surface than in the inner zones. Evidently, the increase in plasticity under pressure in carbon steel castings is caused by the disappearance of porosity, mainly in the inner zone. The decrease in plasticity and toughness under pressure during crystallization in austenite steel castings (1Kh18N9TL) is connected with the separation of a new brittle phase at the edge of the cores. Under the effect of piston pressure up to 2,000 kg/cm^2 during crystallization shrinkage holes disappear, the distribution of porosity is reduced to a minimum and plasticity increases (when feeding is not delayed). When, however, pressure contributes to the separation of new brittle components, the increase in pressure decreases the plasticity and the tenacity of the metal. There are 2 figures and 2 tables.

Card 4/6

S/128/60/000/012/009/014
A054/A030

Crystallization of Steel Under Pressure

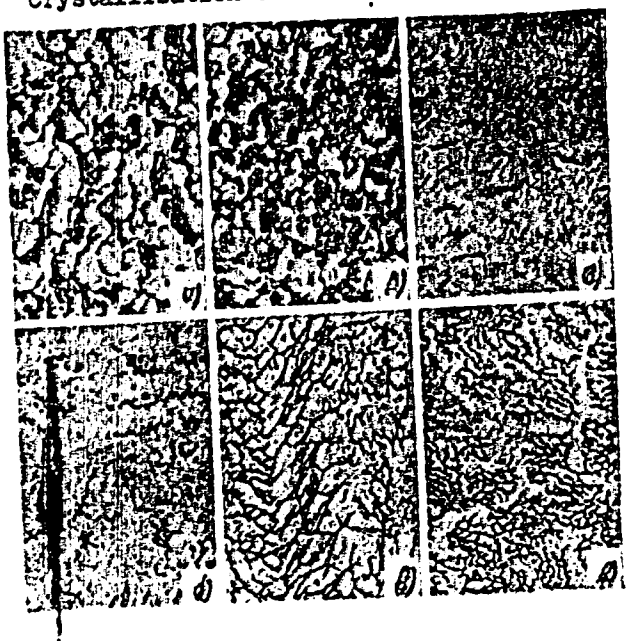

Figure 1: Microstructure of steel 35L. a) surface zone; b) axial zone under pressure, microstructure of steel 1Kh18N9TL; c) surface; d) axial zone; e and f) surface and axial zones under pressure.

Card 5/6

S/128/60/000/012/009/014
A054/A030

Crystallization of Steel Under Pressure

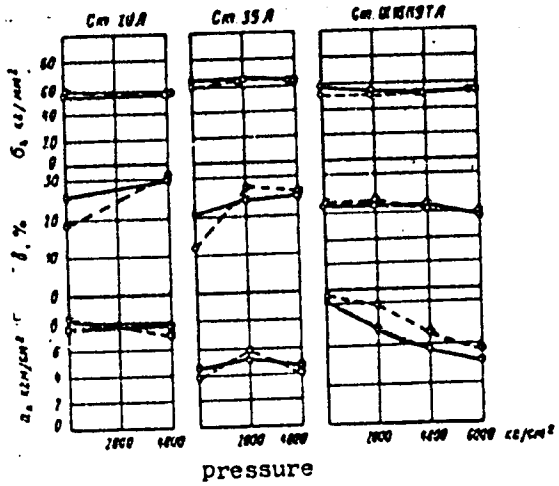

Figure 2: curves of the change of mechanical properties in the external and inner zones of castings in function of the piston pressure during crystallization [Cm = St (steel)]

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S/194/62/000/012/029/101
D201/D308

AUTHOR: Nazarenko, V. P.

TITLE: Automated remote control with two-wire system ДУКЛ-2 (DUKL-2) conveyor belts

PERIODICAL: Referativnyy zhurnal, Avtomatika i radioelektronika, no. 12, 1962, 65-66, abstract 12-2-130 e (In collection: Avtomatiz. v ugol'n. i gornorudn. prom-sti, Kiev, Gos. izd.-vo tekhn. lit. UkrSSR, 1961, 26-34)

TEXT: The description of an installation for automatic telecontrol of conveyor belts, as developed by the Institutes of VUGI and Giprouglemash, is given. The basic disadvantages of the VUGI apparatus are as follows: 1) a multi-core control cable; 2) multiplicity of circuit relays and contacts; 3) absence of alarm signalling; 4) the use of a cumbersome and complicated hydraulic relay in the circuit; 5) impossibility of preliminary starting of the conveyor belt. An installation free from the above disadvantages which is being developed by Giprouglemash is considered in detail. Diagrams

Card 1/2

S/194/62/000/012/029/101
Automated remote control ... D201/D308

of the amplifier Y3CC-1 (UZSS-1) for acoustic signalling installation of the AYK-1 (AUK-1) conveyor belt control unit and photographs of main sections and [illegible] figures. [Abstracter's note: Complete translation.]

Card 2/2

NAZARENKO, V.P.

Effect of the cycle of operations on the reliability of tubes in radio-electronic equipment. Inform. sbor. TSNIIMF no.79 Sudovozh.i svias' no.20:81-84 '62. (MIRA 16:7)
(Electronics in navigation--Equipment and supplies)

ACCESSION NR: AT4031812 S/2914/62/000/079/0081/0084

AUTHOR: Nazarenko, V. P.

TITLE: The effect of cyclic operation on the reliability of tubes in electronic radio equipment

SOURCE: Leningrad. Tsentral'ny*y nauchno-issledovatel'skiy institut morskogo flota. Informatsionny*y sbornik, no. 79, 1962. Sudovozhdeniye i svyaz' (Navigation and communications), no. 20, 81-84

TOPIC TAGS: electronic radio equipment, radio equipment, cyclic operation, continuous operation, electronic tube reliability, tube reliability, radio tube, marine radio equipment, marine radio, radio failure, marine radio failure

ABSTRACT: The reliability of any equipment is usually defined as the probability of correct functioning

$$P_{(o)} = e^{-\frac{t_w}{T_{mtbf}}} \qquad (1)$$

where t_w is the working time and $T_{mtbf} = \frac{1}{\lambda}$ is the mean time between failures

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ACCESSION NR: AT4031812

(λ = failure intensity). The article examines the reliability of marine radio equipment in continuous and in cyclic operation. The results are based on tests of 163 systems of 16 different types. Some of the systems were operated continuously and the rest were switched on and off up to 10 times in 100 hours. Cyclic operation did not show any unusual amount of failures. It was discovered that a high degree of correlation exists between the failure intensity for continuous operation and the failure intensity for cyclic operation normalized to one "on-off" cycle. The relationship between the full failure intensity, λ_f, the intensity per "on-off" cycle, λ_c, the intensity for continuous operation, λ_n, and the number of times the system was turned on per hour, N, is given by

$$\lambda_f = \lambda_n + \lambda_c N \qquad (2)$$

For marine radio equipment $\lambda_c/\lambda_n = 8$ hours/cycle and is approximately constant because of high correlation, so that

$$\lambda_f = \lambda_n (1 - 8N) \qquad (3)$$

which holds for N = 0 to 1.3 cycles/hour.

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ACCESSION NR: AT4031812

Figure 1 of the Enclosure shows a plot of the ratio of λ_c (per hour) to λ_n (per hour) as a function of N. It is seen that for $N < 1/8$, the change in this ratio is small. Results of investigations show that continuous operation will give maximum reliability from the point of view of maximum number of hours of operation between failures. This continuous operation, however, can cause an increase in failure intensity per unit time when compared with the operation of the equipment only when it is needed. For example, if a given system is supposed to work only two hours per day and is being operated continuously, the expected number of failures will be $24\lambda_n$. If the system is switched on only for 2 hours, the number of failures is $2\lambda_n (1 + 8 \times 1/2) = 10\lambda_n$. Calculations show that for electronic systems using vacuum tubes ($\lambda_n/\lambda_c = 8$ hours/cycle), cyclic operation should be used if the system is to operate less than 16 hours per day. Otherwise continuous operation will give a smaller number of failures per hour. Orig. art. has: 3 formulas and 1 figure.

ASSOCIATION: Tsentral'ny*y nauchno-issledovatel'skiy institut morskogo flota, Leningrad (Central Naval Scientific Research Institute)

Card 3/5

ACCESSION NR: AT4031812

SUBMITTED: 00 DATE ACQ: 05May64 ENCL: 01

SUB CODE: EC NO REF SOV: 000 OTHER: 000

Card 4/5

ACCESSION NR: AT4031812

ENCLOSURE: 01

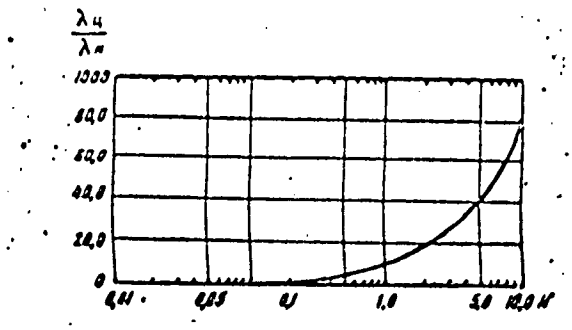

Fig. 1 - Ratio of the intensity per on-off cycle λc (for 1 hr.) and the intensity for continuous operation λ n (for 1 hr.) as a function of the number of cycles/hr. (N).

Card 5/5

NAZARENKO, V.P.; SHABANOV, L.G.

Determining the range of the "Mata" radio transmitter. Inform. sbor. TSNIIMF no.98 Sudovozn. i rybn. no.13:70-79 '63. (MIRA 14:11)

NAZARENKO, V.P.

Ship radio transmitter "MSTA." Inform. sbor. TSNIIMF no.102
Sudovozh. i sviaz' no.24:70-86 '63. (MIRA 17:9)

BREKHOV, V.V.; NAZARENKO, V.R.; KUTASOV, R.F.

Molding the nave of a gear wheel according to a segmental pattern. (MIRA 14:5)
Lit. proizv. no. 5:43-44 My '61.
(Molding (Founding))

BREKHOV, V.V.; NAZARENKO, V.R.

Casting diaphragms with hollow vanes. Lit.proizv. no.11:7-9 N '61. (MIRA 14:10)
(Iron founding) (Steam turbines)

S/128/62/000/011/001/001
A004/A127

AUTHORS: Kreshchanovskiy, N. S., Nazarenko, V. R., Demin, M. P.

TITLE: The effect of modifiers on the casting properties of pearlite steels

PERIODICAL: Liteynoye proizvodstvo, no. 11, 1962, 3 - 4

TEXT: The authors investigated the effect of modifiers particularly on the crack resistance of 15Х1М1ФЛ (15Kh1M1FL) steel of the pearlitic class, which is especially used with high temperatures and high pressures. The following steel composition was tested: 0.14 - 0.20% C, 0.17 - 0.37% Si, 0.4 - 0.7% Mn, 0.9 - 1.2% Mo, 1.2 - 1.7% Cr, 0.25 - 0.40% V, 0.03% S and 0.03% P. According to technical specifications, the steel was to have the following values: σ_b = 50 kg/mm^2, σ_s = 35 ÷ 55 kg/mm^2, δ = 12%, ψ = 30% and a_k = 3 kgm/cm^2. The steel was modified in the pouring ladle. Zr, Ba, Ti and Ce were used as modifiers in the form of ferro-alloys. The crack resistance was studied on a TsNIITMASh device and on technological specimens. The highest effect in increasing the crack resistance was obtained with the addition of 0.10 - 0.15% Ce, while increasing the cerium addition to 0.3 - 0.4% resulted in a sharp decrease of the crack

Card 1/2

The effect of modifiers on...

resistance. The addition of 0.05% Ba increased the crack resistance; if this Ba-addition is raised, the crack resistance deteriorates. An addition of 0.15% Ti and 0.10% Zr also increased the crack resistance of the steel. A comparison of shrinkage and crack-resistance curves makes it possible to assume that one of the reasons for an increased crack resistance as a result of Ce-, Ba-, Zr- and Ti-additions is the change in the kinetics of the shrinkage process. An analysis of nonmetallic inclusions and gases showed that an addition of 0.15% Ce reduces the amount of nonmetallic inclusions by 75%, that of gases by 30% and the sulfur content by 20 - 35%. It is important to point out that all the tested modifiers increase the steel smelting temperature. The authors present a number of graphs showing the various effects of the modifiers treated. There are 7 figures.

Card 2/2

L 14966-63
EWP(q)/EWT(m)/BDS AFFTC/ASD JD/JG
ACCESSION NR: AP3004267 S/0123/63/000/007/0029/0031

61
58

AUTHORS: Kreshchanovskiy, N. S.; Nazarenko, V. R.

TITLE: Influence of cerium on the mechanical and technological properties of steel 15KhlMlFL

SOURCE: Liteynoye proizvodstvo, no. 7, 1963, 29-31

TOPIC TAGS: cerium, steel 15KhlMlFL, plasticity, impact strength, weldability, cracking, structure, steel

ABSTRACT: Addition of cerium to chrome-molybdenum steel 15KhlMlFL has been studied under both laboratory and shop conditions. Experimental samples were produced at TsNIITMAShE and described in "Trudy*" TsNIITMAShE, 1961, No. 26. This was done in an attempt to improve the plastic properties, impact strength, weldability, and resistance to cracking of steel. Ferrocerium was poured directly into the molten metal at 1500-1590C. The steel was homogenized at 1040-1060C, normalized at 900 ± 10C and annealed at 710-730C. The addition of 0.10-0.15% of cerium (producing the residual cerium content of 0.035-0.050%) greatly improved strength and plasticity of steel and stabilized these properties within narrow limits for numerous tested samples. Treated steel also became cold-short at lower temperatures. At 400-600C it showed an impact strength increase from 1.5-2.5 kg/cm^2 to

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L 14966-63

ACCESSION NR: AP3004267

3

7.2 kg/cm^2. The sustained strength was not diminished by the treatment. Cerium lowered the amount of dendritic crystals and also the size of grains. It increased the content of vanadium and molybdenum, lowered the content of iron, and increased the resistance to corrosion. It diminished gas inclusions (especially of oxygen) and lowered the phosphorus content and nonmetallic inclusions. In the amount of 0.10-0.15% it improved the weldability of steel, lowered its viscosity in the molten condition, and increased its resistance to cracking. Orig. art. has: 12 graphs and 1 photograph.

ASSOCIATION: none

SUBMITTED: 00 DATE ACQ: 08Aug63 ENCL: 00

SUB CODE: ML NO REF SOV: 001 OTHER: 000

Card 2/2

L 17160-63 EWP(q)/EWT(m)/BDS AFFTC/ASD JD

ACCESSION NR: AP3004784 S/0129/63/000/008/0023/0027

57
55

AUTHORS: Kreshchanovskiy, N. S.; Nazarenko, V. R.; Ry*zhkova, G. A.

TITLE: Effect of cerium on the mechanical properties of 15KhIMIF steel

SOURCE: Metallovedeniye i termicheskaya obrabotka metallov, no. 8, 1963, 23-27

TOPIC TAGS: 15KhIMIF steel, cerium, calcium-silicon, ferrosilicon, ferrocerium, Ce

ABSTRACT: Authors studied under laboratory and production-line conditions the possibility of improving the plastic properties and impact toughness of a steel by modifying it with cerium. The properties of the test steel were analyzed on specially cast test samples, plates and commercial objects cast into forms of a quick-drying substance on liquid glass. Authors found that cerium increases the mechanical properties of 15KhIMIF steel. The optimum quantity of cerium introduced into the steel is 0.1 to 0.15% (by calculation). The best results are obtained when the cerium is placed into the ladle or molten metal bath prior to tapping. For best elimination of non-metallic inclusions, the ferrocerium has to be put in together with calcium-silicon or ferrosilicon. The best effect from the cerium is obtained when it is put into the metal at 1500-1590C and the metal held for not more than 25 minutes after the cerium's introduction. Orig. art.

Card 1/2

L 17460-63

ACCESSION NR: AP3004704

2

has: 10 figures and 1 table.

ASSOCIATION: TsNIITMASh (Central scientific-research institute for heavy machinery), Khar'kovskiy turbinnyy zavod (Kharkov turbine works)

SUBMITTED: 00	DATE ACQ: 06Sep63	ENCL: 00
SUB CODE: ML	NO REF SOV: 000	OTHER: 000

Card 2/2

ACCESSION NR: AT4016068 S/2698/63/000/000/0235/0238

AUTHOR: Kreshchanovskiy, N. S.; Nazarenko, V. R.

TITLE: Effect of cerium on the mechanical properties of cast, high temperature, 15Kh1M1FL steel

SOURCE: Soveshchaniye po teorii liteyny*kh protsessov. 8th, 1962. Mekhanicheskiye svoystva litogo metalla (Mechanical properties of cast metal). Trudy* soveshchaniya. Moscow, Izd-vo AN SSSR, 1963, 235-238

TOPIC TAGS: cerium admixture, heat resistant steel, steel 15Kh1M1FL, high temperature casting, casting, alloy steel, steel, perlitic steel , high temperature steel

ABSTRACT: Several new grades of high-temperature perlitic steel have recently been introduced for work under conditions of high temperature and pressure, including the grades 20KhMFL and 15Kh1M1FL (0.14-0.20% C, 0.15-0.37% Si, 0.4-0.7% Mn, maximum of 0.03% S, maximum of 0.03% P, 1.2-1.7% Cr, 0.9-1.2% Mo and 0.25-0.40% V). However, despite the good mechanical properties of the latter steel, it still shows a number of undesirable characteristics such as highly variable plasticity and notch toughness, as well as low crack resistance and weldability. In order to improve the plasticity and impact strength of 15Kh1M1FL steel, the Khar'kovskiy turbinny*y zavod im. S. M. Kirova (Khar'kov Turbine Plant) therefore carried out a series of experiments on the modification of this steel with cerium. The steel was smelted in

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ACCESSION NR: AT4016068

a 50 kg induction furnace and the Ce was added either as mixed metal or as FeCe. The results show that the addition of cerium improved both the strength and the plasticity of the steel. The addition of 0.1-1.5%cerium resulted in the best mechanical properties (by spectral analysis, the residual content of cerium was 0.035-0.06%). When 0.15% cerium was added the impact strength increased more than three fold and the relative elongation increased 1.5 fold. The addition of cerium facilitated the production of a cast steel with more uniform mechanical properties. Cerium also lowered the brittleness of the steel. Between 400 and 650C there was an inverse relationship between the tempering temperature and brittleness. The durability remained unchanged when cerium was added, and the quantity of harmful non-metallic enclosures was decreased. Crystalization was also improved. The best technique for adding the cerium was addition of FeCe to the ladle or hopper into the furnace one or two minutes before the metal discharge. (The metal temperature should be between 1500 and and 1590 C when the cerium is added.) Orig. art. has: 5 figures.

ASSOCIATION: none

SUBMITTED: 00	DATE ACQ: 27Dec63	ENCL: 00
SUB CODE: MM	NO REF SOV: 000	OTHER: 000

Card 2/2

L 27366-66 EWT(m)/EWP(w/EWA(d)/T/EWP(t)/ETI IJP(c) JD/JG

ACC NR: AP6012320 SOURCE CODE: UR/0304/65/000/006/0060/0061

AUTHORS: Sidorenko, M. F. (Candidate of technical sciences); Nazarenko, V. R. (Engineer); Sukhoyvanov, A. N. (Engineer); Zhurba, G. I. (Engineer)

ORG: none

89
B

TITLE: Influence of modifiers on the properties of heat-resisting austenitic steels

SOURCE: Mashinostroyeniye, no. 6, 1965, 60-61

TOPIC TAGS: steel, austenitic steel, cesium, lithium, barium, calcium, magnesium, solid viscosity, welding technology, impact strength, tensile strength, heat resistant steel, crack propagation, TsZh9 steel, EI725 steel, IKh18N9T steel

ABSTRACT: The effect of adding Ce, Li, Ba, Ca, and Mg to TsZh9 steel, Ce, Mg and Ca to EI725 steel, and Ce to IKh18N9T steel on the mechanical and welding properties of the steels was determined. It was found that the addition of 0.3--0.4% Ca to TsZh9 steel completely prevents the formation of cracks during welding. The addition of Li and Ce had little effect on the quality of the weld. The addition of 0.3% Ca to EI725 steel improves the quality of the weld but has no effect on the strength limit or viscosity of the steel. The addition of 0.1--0.15% Ce to IKh18N9T steel increases the tensile properties and the impact strength of the steel by a factor of 1.2--1.3. It is concluded that the addition of Ca and Ce to austenitic steels improves the technological and mechanical properties of the latter.

SUB CODE: 11,13,20/ SUBM DATE: none

Card 1/1 lo

UDC: 669.15-194:669.26:669.24.004.68

BREKHOV, V.V., inzh.; MAZURENKO, V.R., inzh.; KUTASOV, B.F., inzh.

Casting blanks for the manufacture of radial-axial hydraulic turbine roter blades without allowance for machining. Lit. proizv. no.12:39-40 D '65. (MIRA 18:12)

L 05756-67 EWT(m)/EWP(v)/EWP(t)/ETI/EWP(k) IJP(c) JD/AM

ACC NR: AP6025815 I (A) SOURCE CODE: UR/0128/66/000/005/0032/0033

AUTHOR: Kreshchanovskiy, N. S. (Candidate of technical sciences); Nazarenko, V. R. (Candidate of technical sciences) 46 44 B

ORG: none

TITLE: Effect of cerium on certain properties of pearlitic cast steel 27

SOURCE: Liteynoye proizvodstvo, no. 5, 1966, 32-33

TOPIC TAGS: pearlitic steel, molten metal, cerium, castability / 15KhlM1F steel

ABSTRACT: The effect of Ce on the viscosity, surface tension and casting qualities of 15KhlM1F steel in molten state was investigated by adding up to 0.4% Ce in the form of ferro-cerium to the induction-furnace melt. Viscosity was tested by the torsional vibration method; surface tension, by the method of maximal pressure in a gas bubble, and casting qualities, by spiral tests. Findings: the addition of 0.1% Ce reduces the viscosity of this steel and markedly lowers the temperature of its homogeneous state, i.e. the critical temperature that must be reached during melting in order to attain maximal plastic properties of the steel in its subsequent solid state. On the other hand, the addition of 0.4% Ce increases viscosity and

Card 1/2

UDC: 669.15-194.53:669.855

leads to the formation of a large amount of heavy sulfides. Further, Ce reduces the surface tension of 15Kh1M1F steel, which points to the surface activity of Ce and its influence on dendritic crystallization -- the grain size of the steel -- in the sense that Ce promotes a finer and more uniformly distributed grain size throughout the ingot. As regards casting qualities of this steel, the addition of up to 0.15 % Ce markedly improves its fluidity and causes ingots of this steel to be virtually crackproof. The weldability of this steel is then also enhanced. Orig. art. has: 5 figures, 2 tables.

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

NAZARENKO, V.S.; ISHCHENKO, L.V. (Rostov-na-Donu)

Universal rotating chair-stand for studying the interaction of the vestibular analysor with other analysors. Pat.fiziol.i eksp.terap. 6 no.2:73-75 Mr-Ap '62. (MIRA 15:6)
(LABYRINTH (EAR)) (PHYSIOLOGICAL APPARATUS)

LOKOT', P. Ya. (Rostov-na-Donu); NAZARENKO, V.S. (Rostov-na-Donu) VEKSLER, Ya.I.(Rostov-na-Donu); RUNOVSKIY, D.N. (Rostov-na-Donu)

Experimental therapy of thermal burns of the upper respiratory tracts in the lungs. Pat. fiziol. i eksp. terap. 7 no.1:23-28 Ja-F'63. (MIRA 16:10)

(BURNS AND SCALDS)
(RESPIRATORY ORGANS—WOUNDS AND INJURIES)
(SERUM THERAPY) (PENICILLIN)

DUBOVSKIY, I.Ye., kand.tekhn.nauk; NAZARENKO, V.S., inzh.; MIGAY, V.K., kand.tekhn.nauk; BARSHTEYN, I.K., otv.red.; KHARITONOVA, N.D., tekhn.red.

[Results of investigations of and the method for designing the regenerative air heaters of boiler units] Rezul'taty issledovanii i metod rascheta regenerativnykh vozdukhopodogrevatelei kotel'nykh agregatov. Leningrad, Biuro tekhnicheskoi informatsii, 1961. 28 p. (Leningrad. TSentral'nyi nauchno-issledovatel'skii kotloturbinnyi institut. Informatsionnoe pis'mo, no.8-61). (MIRA 16:5)
(Boilers)

NAZARENKO, V.S. (Omsk)

Sewer wells made of precast reinforded concrete. Vod.i san.tekh. no.11:28-29 N '62. (MIRA 15:12)

1. Glavnyy inzhener Osobogo stroitel'nogo upravleniya tresta TSentrospetsstroy, Omsk.
(Sewerage) (Precast concrete construction)

DUBROVSKIY, I.Ye., kand. tekhn. nauk; MIGAL, V.K., kand. tekhn. nauk; NAZARENKO, V.S., inzh.

Method for the thermal calculation of regenerative air preheaters of boiler units. Energomashinostroenie 9 no.3:47-48 Mr'63. (MIRA 17:5)

SUMETS', O. M.; NAZARENKO, V. T.

Device for determining the friction coefficient of precipitates moving along the walls of a centrifuge rotor. Khim. prom.[Ukr.] no.1:69-72 Ja-Mr '62. (MIRA 15:10)

(Centrifugation)

NAZARENKO, V.V., inzh.; TSIBRIK, A.N., kand. tekhn. nauk

Surface alloying of castings. Mashinostroenie no.5:62-64 S-O '63. (MIRA 16:12)

NAZARENKO, V.V. (Moskva)

Simulation of a magnetohydrodynamic flow in a channel using an electrolytic cell. PMTF no.5:145-147 S-O '63. (MIRA 16:11)

NAZARENKO, Ye., inzh. (g.Grodno)

We have doubled the output of the mixed fodder plant. Muk.-elev. prom. 28 no.6:23 Je '62. (MIRA 15:7)
(Grain milling) (Feeding and feeding stuffs)

NAUMENKO, A. S., inzh.; NAZARENKO, Ye. K., inzh.; YEGUDAS, G. G., inzh.; BOGUSHEVSKIY, L. A., inzh.

The problem of shrinkage phenomena in cellular concretes. Stroi. mat. 8 no.9:30-33 S '62. (MIRA 15:10)

(Lightweight concrete—Testing)

NAZARENKO, Ye.M.

Simple and useful device. Bezop.truda v prom. 4 no.11:33 N '60.
(MIRA 13:11)

1. Uchastkovyy inspektor Aleksandriyskoy rayonnoy gornotekhnicheskoy inspektsii Gosgortekhnadzora USSR.
(Mine timbering)

NAZARENKO, Ye.S., inzh.

Power characteristic curve of single-action crankshaft presses. (MIRA 14:1)
[Nauch. trudy] ENIKMASHa 1:10-27 '59.
(Power presses)

S/123/61/000/006/011/020
A004/A104

AUTHOR: Nazarenko, Ye. S.

TITLE: Investigating the work of the electric drive of single-acting crank presses

PERIODICAL: Referativnyy zhurnal, Mashinostroyeniye, no. 6, 1961, 10, abstract 6V61 (V sb. "Raschet i konstruir. kuznechno-press. mashin. [ENIKMASh, v. 2]". Moscow, 1960, 157-176)

TEXT: The author describes investigations of the work of the electric drive of crank presses and methods of calculating the electromotor and flywheel. The investigation of the electric drive was carried out on three presses under laboratory conditions and on 32 presses for blanking and shallow extrusion operations of 16 - 2,500 tons capacity under working conditions. The following factors were studied: the load character of electromotors depending on the stress graph of the slide block and the number of slide block strokes; the working character of the electric drive with electromotors of different power and with electromotors with normal and increased slip; the effect of the magnitude of the slide block stroke on the work of the electromotor; the work necessary

Card 1/2

Investigating the work of the electric ...

for the acceleration of the mobile press parts; work losses because of elastic deformations of the press parts; the work consumed by the idle run and by the automatic material feed; the working character of the electric drive during single-stroke and automatic operations; changes in the number of revolutions of the electromotor during the operation of the press. The method of calculating the electromotor and flywheel includes the determination of the electromotor work, comprising the work necessary for the execution of technological operations, losses owing to elastic deformations of the press parts, friction in the crank and connecting rod mechanism during operation, friction during idling, losses during the acceleration of mobile parts when the coupling is being actuated; determining the average power per cycle N_{av}; selecting the electromotor by catalogue and determining the coefficient $k = \frac{N_{av}}{N_r}$ (N_r - rated power of electromotor); determining by graph $k = f(S)$ the maximum admissible slip S; determining on the basis of S the moment of inertia of the flywheel for the operation and acceleration of the mobile parts (taking the maximum value). There are 7 figures and 6 references.

S. Kolesnikov

[Abstractor's note: Complete translation]

Card 2/2

NAZAREMKO, Ye.S.

PHASE I BOOK EXPLOITATION SOV/5658

Ivanov, Aleksandr Petrovich, Candidate of Technical Sciences, and Viktor Dmitriyevich Lisitsyn, Candidate of Technical Sciences, eds.

Modernizatsiya kuznechno-shtampovochnogo oborudovaniya (Modernization of Die-Forging Equipment) Moscow, Mashgiz, 1961. 226 p. Errata slip inserted. 10,000 copies printed.

Reviewer: V. Ye. Nedorezov, Candidate of Technical Sciences; Ed. of Publishing House: T. L. Leykina; Tech. Ed.: A. A. Bardina; Managing Ed. for Literature on Machine-Building Technology (Leningrad Department, Mashgiz): Ye. P. Naumov, Engineer.

PURPOSE: This book is intended for foremen, machinists, designers, and process engineers concerned with the modernization and designing of die-forging equipment. It may also be used by students at schools of higher education.

COVERAGE: The book contains material presented at the Conference

Card 1/8

on Problems in the Modernization and Operation of Die-Forging Equipment, held in November 1958 in Leningrad. The Conference was called by Leningradskiy Sovet narodnogo khozyaystva, Sektsiya obrabotki metallov davleniyem Leningradskogo oblastnogo pravleniya NTO Mashprom (Leningrad Council of the National Economy, Section of Metal Pressworking at the Leningrad Oblast Board of the Scientific and Technical Society of the Machine Industry) and Leningradskiy mekhanicheskiy institut (Leningrad Mechanical Engineering Institute). Actual problems in the modernization, operation, and repair of die-forging equipment are described. Analyses are provided for problems involved in the mechanization and automation of die-forging and stamping operations. Also included are practical data to be used in the modernization of equipment. No personalities are mentioned. There are 59 references: 56 Soviet, 2 German, and 1 English.

TABLE OF CONTENTS:

Modernization of Die-Forging Equipment SOV/5658

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Modernization of Die-Forging Equipment SOV/5658

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AVAILABLE: Library of Congress

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Card 8/8

NAZARENKO, Ye.S., inzh.; SALOV, V.P., inzh.

Increasing the number of slide strokes per minute in modernizing mechanical presses. [Nauch. trudy] ENIKMASha 6:141-160 '63. (MIRA 16:9)

(Mechanical presses)

IVANTISHIN, Mikhail Nikolayevich; GORNYY, Georgiy Yakovlevich; KOL'SKAYA, Ol'ga Adol'fovna; YELIZEYEVA, Galina Dmitriyevna, Prinimali uchastiye: GAVRILOVA, Z.F., inzh.-khimik; KIZANTSEVA, A.I., inzh.-khimik; LOGVINA, L.A., inzh.-khimik; USLONTSEVA, L.A., inzh.-khimik; GUDIMENKO, L.F., inzh.; NAZAREVICH, Ye.S., inzh.; SHKVARUK, R.N., inzh.; ORLOVA, L.A., inzh.; BASHMAKOVA, ..G., inzh.-geolog; BURKSER, Ye.S., otv. red.; MEL'NIK, A.F., red.

[Geochemistry and analytic chemistry of rare-earth elements. Pt.1. Accessory rare-earth minerals and elements of the cerium subgroup in the Ukrainian Crystalline Shield] Geokhimiia i analiticheskaia khimiia redkozemel'nykh elementov. Kiev, Naukova dumka. Pt.1. Aktsessornye redkozemel'nye minerały i elementy tserievoi podgruppy ukrainskogo kristallicheskogo shchita. 1964. 164 p. (Akademiia nauk URSR. Institut geologicheskikh nauk. Trudy. Seriia petrografii, mineralogii i geokhimii, no.21).

1. Chlen-korrespondent AN Ukrssr (for Burkser).

DEORDIYEV, N.T.; NAZARENKO, Ye.S.

Spline forming by the plastic deformation of metals. Kuz.-shtam. proizv. 7 no.2:40-42 F '65. (MIRA 18:4)

DEGTYARYEV, N.T., kand.tekhn.nauk, dotsent; KAZARENKO, Ye.S., inzh.

Producing slots on shafts by the reduction method.
Vest.mashinostr. 35 no.10:54-56 O '55.
(MLRA 13:11)

TARASOVA, L.P., inzh.; KALASHNIKOV, A.G., inzh.; DOLINENKO, O.V., inzh.; NAZARENKO, Ya.T., inzh.; BUL'SKIY, M.T., inzh. [deceased]; SVIRIDENKO, F.F., inzh.; Prinimali uchastiye: LAPINA, A.M., inzh.; KORNIYENKO, D.I., inzh.

Nonmetallic inclusions in rail steel. Stal' 23 no.8:738-740 Ag '63. (MIRA 16:9)

(Railroads--Rails) (Steel--Inclusions)

S/123/61/000/006/010/020
A004/A104

AUTHOR: Nazarenko, Ye. V.

TITLE: Calculation of the energy characteristics of single-acting crank presses

PERIODICAL: Referativnyy zhurnal, Mashinostroyeniye, no. 6, 1961, 10, abstract 6V60 (V sb. "Issled. i nauchnyy mashin kuznechno-shtamp. proizv-va [ENIKMASh, v. I]". Moscow, 1959, 10-27)

TEXT: The author presents a method of determining the magnitude of work which can be carried out by a crank press per cycle. The method is based on the selection of parameters of the electric drive (rated power of electromotor and moment of inertia of the flywheel). ENIKMASh has carried out investigations on the work of electric drives of single-acting crank presses during blanking and shallow extrusion operations. The author gives a more precise method of calculating the losses on presses, in particular during the acceleration of the mobile part of the coupling. These losses have been determined for 32 presses. The height of power losses during idling is given. The author presents graphs of the coefficient of efficiency of the motor during heating and the slip magnitude

Card 1/2

S/.23/61/000/005/010/020
A004/A.04

Calculation of the energy ...

during acceleration depending on the motor typ... There are 7 figures and 4 references.

M Feygin

[Abstractor's note: Complete translation,

Card 2/2

NAZARENKO, Yu.I.; YABLOKOV, A.V.

Evaluating the method of harp seal census and considering the state of its stock in the White Sea. Zool. zhur. 41 no.12:1875-1882 D '62. (MIRA 16:3)

1. North Research Institute of Industry, Archangelsk and Institute of Animal Morphology, Academy of Sciences of the U.S.S.R., Moscow. (White Sea--Harp seal)

NAZARENKO, Yu. N.

USSR/ Miscellaneous - Personalities

Card 1/1 : Pub. 123 - 7/17

Authors : Nazarenko, Yu. N.

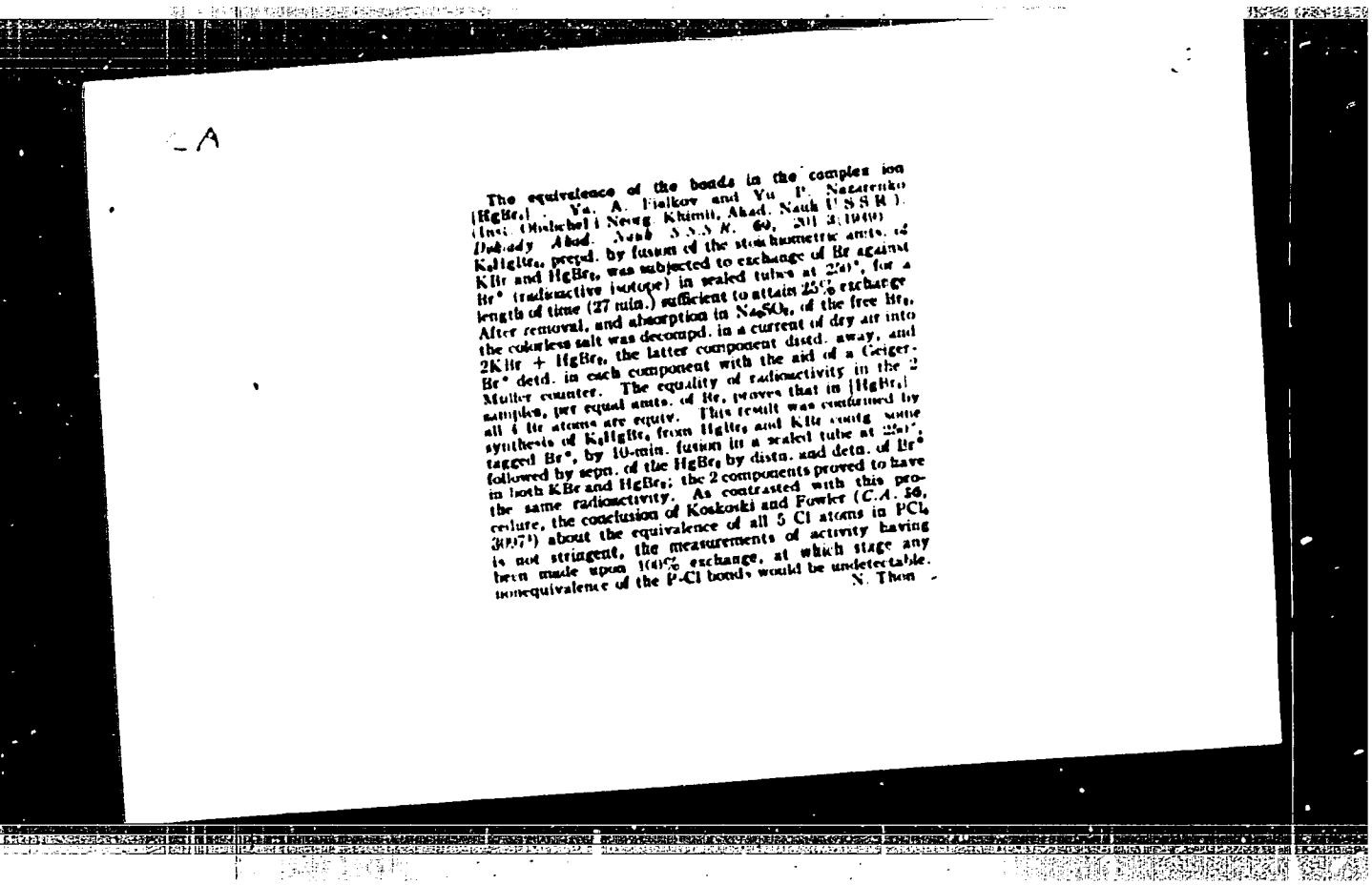
Title : Cultural bonds between the Ukraine and Kazakhstan are strengthening

Periodical : Vest. AN Kaz. SSR 11/3 (108), 48-54, Mar 1954

Abstract : In commemoration of the 300th anniversary of the unification of the Ukraine with Russia, some facts concerning the life of the Ukrainian poet, T. Shevcheko, are disclosed. The fact that the poet had spent a number of years in Kazakhstan as a political prisoner is emphasised in the light of strengthening cultural bonds between the two countries.

Institution : ...

Submitted : ...



CA

The equivalence of the bonds in the complex ion $[HgBr_4]^{--}$. Ya. A. Fialkov and Yu. P. Nazarenko (Inst. Obshchei Neorg. Khimii, Akad. Nauk U.S.S.R.). *Doklady Akad. Nauk S.S.S.R.* 60, 201-3 (1948). K_2HgBr_4, prepd. by fusion of the stoichiometric amts. of KBr and $HgBr_2$, was subjected to exchange of Br against Br^* (radioactive isotope) in sealed tubes at 270°, for a length of time (27 min.) sufficient to attain 25% exchange. After removal, and absorption in Na_2SO_3, of the free Br_2, the colorless salt was decompd. in a current of dry air into $2KBr + HgBr_2$, the latter component distd. away, and Br^* detd. in each component with the aid of a Geiger-Müller counter. The equality of radioactivity in the 2 samples, per equal amts. of Br, proves that in $[HgBr_4]^{--}$ all 4 Br atoms are equiv. This result was confirmed by synthesis of K_2HgBr_4 from $HgBr_2$ and KBr (using some tagged Br^*, by 10-min. fusion in a sealed tube at 350°; followed by sepn. of the $HgBr_2$ by distn. and detn. of Br^* in both KBr and $HgBr_2$; the 2 components proved to have the same radioactivity. As contrasted with this procedure, the conclusion of Koskoski and Fowler (*C.A.* 36, 3097[1]) about the equivalence of all 5 Cl atoms in PCl_5 is not stringent, the measurements of activity having been made upon 1(4)% exchange, at which stage any nonequivalence of the P-Cl bonds would be undetectable.

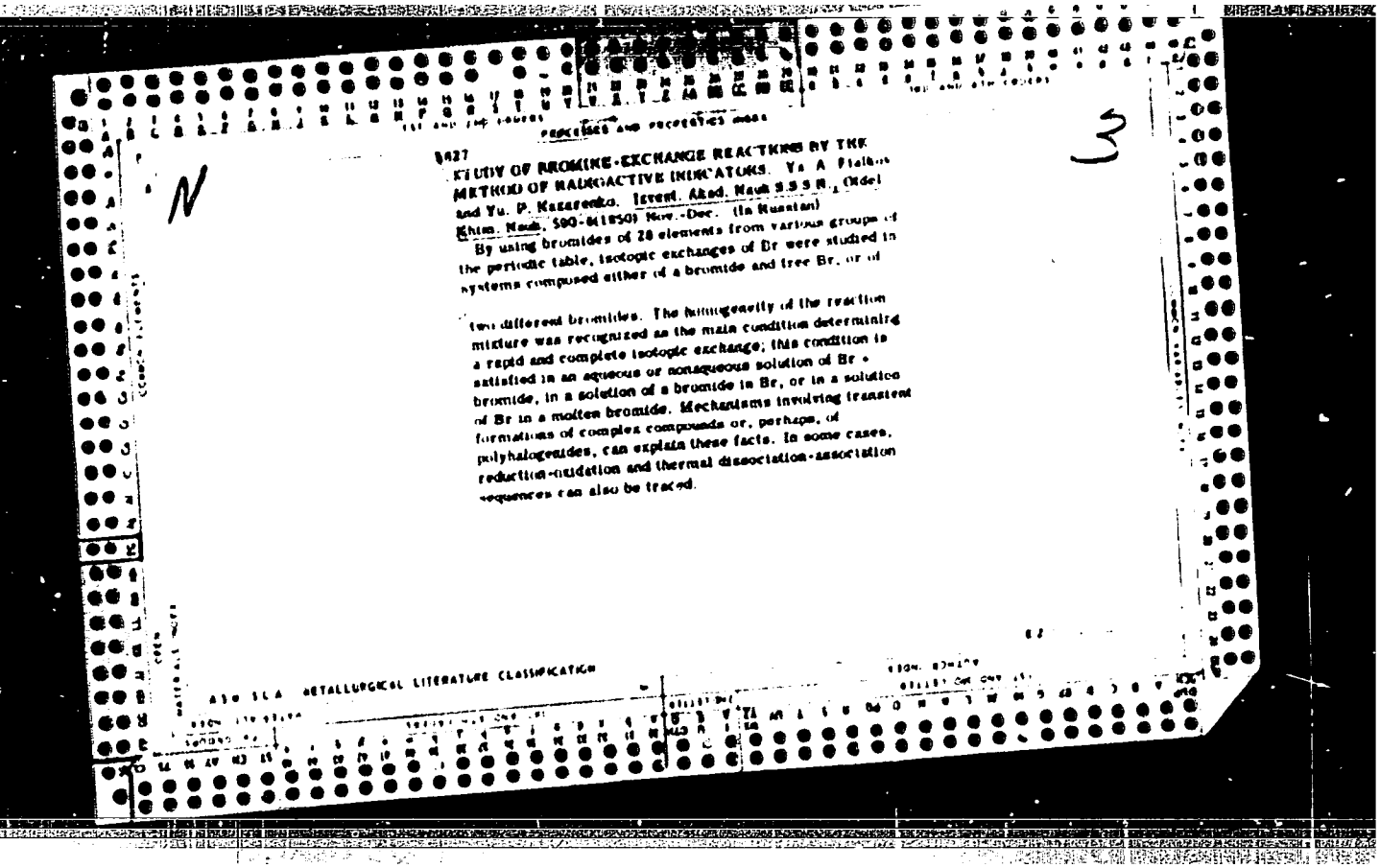
N. Thon

FIALKOV, Ya.A.; NAZARENKO, Yu.P.

Equivalence of bonds in anions of complex bromides and bromides of multivalent elements. Report no. 2. Dop.AN URSR no.6:417-422 '50. (MLRA 9:8)

1. Chlen-korrespondent Akademii nauk Ukraine'koi RSR (for Fialkov)
2. Institut zagal'noi ta neorganichnoi khimii Akademii nauk Ukraine'koi RSR.

(Bromides)



9427
STUDY OF BROMINE-EXCHANGE REACTIONS BY THE METHOD OF RADIOACTIVE INDICATORS. Ya. A. Fialkov and Yu. P. Kazarenko. Izvest. Akad. Nauk S.S.S.R., Otdel Khim. Nauk, 580-6(1850) Nov.-Dec. (In Russian)

By using bromides of 28 elements from various groups of the periodic table, isotopic exchanges of Br were studied in systems composed either of a bromide and free Br, or of two different bromides. The heterogeneity of the reaction mixture was recognized as the main condition determining a rapid and complete isotopic exchange; this condition is satisfied in an aqueous or nonaqueous solution of Br + bromide, in a solution of a bromide in Br, or in a solution of Br in a molten bromide. Mechanisms involving transient formations of complex compounds or, perhaps, of polyhalogenides, can explain these facts. In some cases, reduction-oxidation and thermal dissociation-association sequences can also be traced.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

2.

C.A.

Exchange reactions between bromine and the tetrabromides of carbon, silicon, and tin. Ya. A. Fialkov and Yu. P. Nazarenko (Inst. Gen. and Inorg. Chem., Acad. Sci. Ukr. S.S.R., Kiev). *Doklady Akad. Nauk S.S.S.R.* 73, 727-30(1950).—On heating, in a sealed tube, with Br_2 contg. some radioactive Br isotope, liquid CBr_4 exchanges Br to the extent of 10% at 100° (in 3 hrs.); no significant exchange occurs at room temp. No exchange whatever was found (in 4 hrs.) with $SiBr_4$ either at 20 or at 100°. With $SnBr_4$, the isotope exchange was complete in 1 hr. even at 20°. The contrast between CBr_4 and $SiBr_4$ is even more striking in exchange expts. with $AlBr_3$ contg. some radioactive Br. With CBr_4, exchange was complete both at 95 and at 50°, whereas with $SiBr_4$ no exchange was found at 100°. The evident lack of mobility of Br in $SiBr_4$, as contrasted with CBr_4, can be attributed to the possibility of formation of partially double bonds between Si and Br, through utilization of the *d* orbits of the Si; in this process the normal polarity of the Si-Br bond is weakened, i.e. the wt. of the ionic state is decreased, hence the exchange ability is diminished. This is paralleled by the absence of isotopic exchange between $AlBr_3$ and org. compd. with the Br bound to an aromatic C (Breshneva, *et al.*, *C.A.* 33, 3003[1]), in accordance with the partial double-bond character of the aromatic C-Br bond, as evidenced among others by the smaller dipole moment of PhBr as compared with mono-alkyl bromides. Furthermore, the radius of the Si atom (0.39-0.41 A.) is favorable to tetracoördination with Br, resulting in close packing, whereas the tetracoördinated CBr_4, owing to the smaller radius of C, is not close-packed. The large radius of Sn permits higher coördination than 4, which accounts for the ease of the exchange between $SiBr_4$ and Br_2. N. Thon

NAZARENKO, Yu. P.

Chemical Abst.
Vol. 48 No. 9
May 10, 1954
General and Physical Chemistry

The theory of activity. N. S. Fortunatov and Yu. P. Nazarenko. *Ukrain. Khim. Zhur.* 18, 630-9(1952). The concept of activity and activity coeffs. is critically discussed. The fundamental idea behind this theory of solns. is in error in that it assumes the reality of ideal gas laws. Particular examples are cited in which concd. electrolyte solns. display activity greater than unity. The theory of solns. should be based on known interactions between solvent and solute mols.

G. M. Kosolapoff

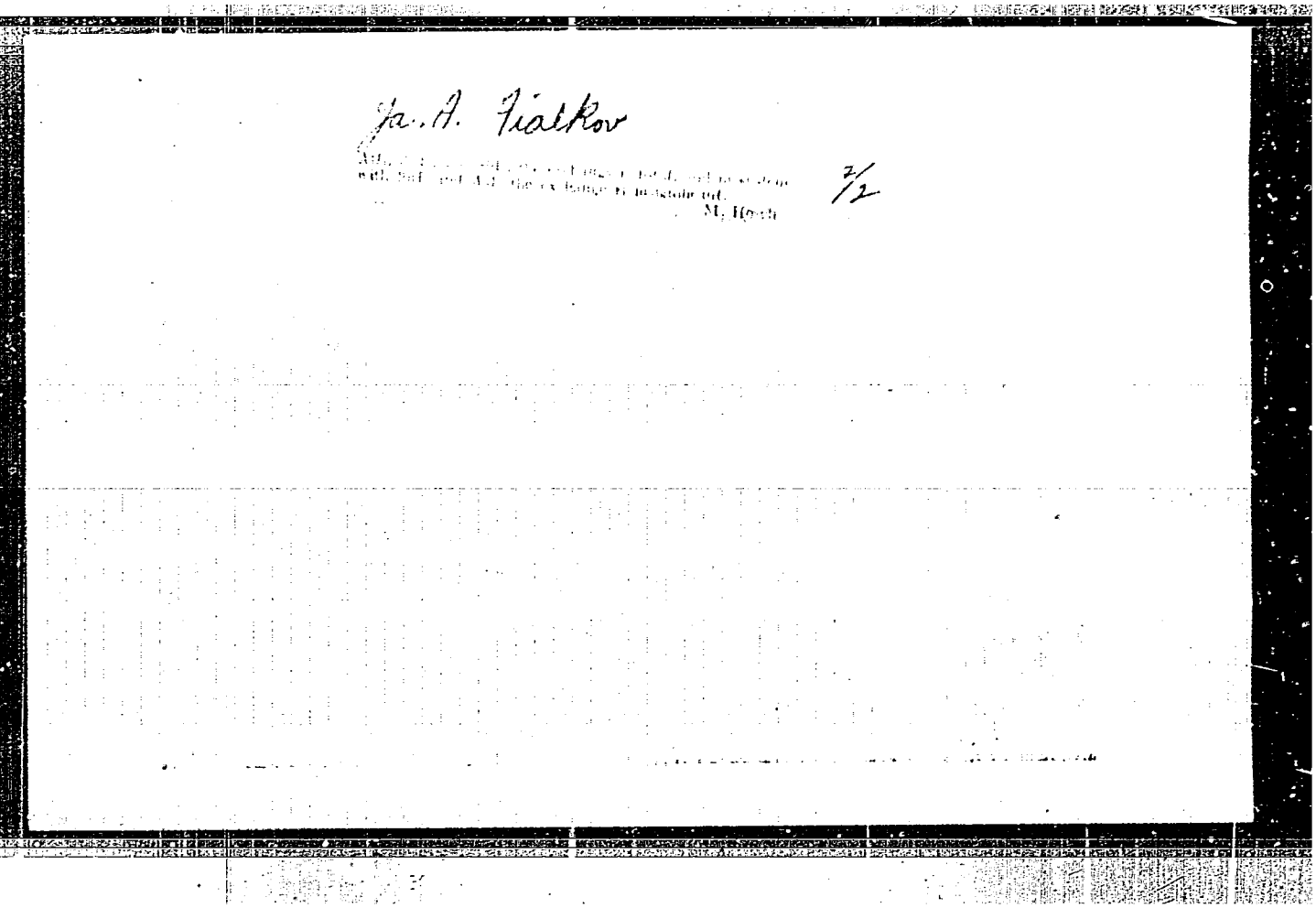
(2) Chem

9-2-54 gjk

NAZARENKO, Yu. P.

USSR

Isotopic exchange reactions of iodine in systems with inorganic iodides. Yu. A. Feulkov and Yu. P. Nazarenko. *Ukrain. Khim. Zhur.* 19, 350-64(1953); *Referat. Zhur. Khim.* 1954, No. 33809.—The isotopic exchange of I^{131} was studied in systems contg. I and various inorg. iodides. In the study of systems iodides-elemental iodine, I was tagged and in systems KI-MI_x, KI was tagged. In expts. on exchange in solns., I was added to the soln. of iodide. After some time I was evtd. from the soln. with CO_2 and absorbed in a Na_2SO_3 soln. In expts. with fused or molten I, the reaction was carried on in sealed ampuls at 180° and the sepn. of the components was analogous. To det. I it was converted to AgI, and the activity of the latter was detd. with a counter. Iodides of elements of the 1st group KI, CuI, and AgI within 1–2 hrs. exchanged almost totally their I both in the fused state (150°) and in systems with I vapor. Exchange of I in KI with vapors of elemental I proceeded slowly. Of the iodides of Group II elements CaI_2 totally exchanged its I within 1 hr. in fused iodide at 150°, and HgI_2, ZnI_2, and CdI_2 exchanged their I in alc. and Et acetate solns. Crystals of ZnI_2 and CdI_2 did not react with molten I nor with its vapors. Iodides of elements in Groups III-VII, AlI_3, SnI_4, AsI_3, and SbI_3 totally exchanged their I within 1–2 hrs. with molten I and with I vapor. Exchange between cryst. MnI_2 and I vapor is completed within 4 hrs. at 250°. In studying the exchange of I between KI and other iodides, mixts. of each pair of iodides were allowed to react for 10 min. at the boiling temp. of the 2nd component, after which the more volatile component was driven off. In systems of KI with HgI_2,



Ja. A. Fialkov

7/2

NAZARENKO, Yu.P.; KUCHERENKO, N.I. (g. Kiyev).

Determination of certain concepts of atomic and molecular theory.
Khim.v shkole 9 no.5:63-64 S-O '54. (MLRA 7:9)
(Chemistry--Study and teaching)

Nazarenko, Yu. P.

FIALKOV, Ya.A.; NAZARENKO, Yu.P., kandidat khimicheskikh nauk.

Labeled atoms in technology. Nauka i zhizn' 21 no.11:17-19 N '54.
(MLRA 7:12)

1. Chlen-korrespondent Akademii nauk USSR (for Fialkov)
(Radioisotopes--Industrial application)

NAZARENKO, YU. P.

USSR/Chemistry - Iodine exchange

Card 1/1 Pub. 116 - 3/25

Authors : Nazarenko, Yu. P., and Vovk, T.V.

Title : Isotopic iodine exchange between free iodine and silicon tetrachloride

Periodical : Ukr. khim zhur. 21/1, 16-20, 1955

Abstract : The reaction of isotopic iodine exchange between $SiCl_4$ and free iodine was investigated at temperatures of from 20 - 130° in a carbon bisulfide and xylol solution. No iodine exchange was observed between SiJ_4 and free iodine in the bisulfide solution at 20° during a period of 23.5 hours and at 45° during 1 hr. No noticeable change was observed in the xylol solution at 70 and 100° during 1 hr. The iodine semi-exchange period between $SiCl_4$ and free I in a xylol solution at 130° was established at 140 min. Fourteen references : 8 USSR, 3 USA and 3 German (1923-1953). Tables.

Institution : Acad. of Sc. Ukr-SSR., Institute of Gen and Inorg. Chem and the T. G. Shevchenke State University, Kiev.

Submitted : December 30, 1953

NAZARENKO, YU. P.

USSR/ Chemistry - Physical chemistry

Card 1/1 Pub. 116 - 4/30

Authors : Nazarenko, Yu. P., and Kriss, Ye. Ye.

Title : Isotopic Cu-exchange between its mono- and divalent forms

Periodical : Ukr. khim. zhur. 21/3, 300-304, June 1955

Abstract : Experiments were conducted to determine the isotopic exchange of Cu between cuprous oxide or halides of cuprous oxide and cypric salt solutions in homo- and heterogeneous media. Results obtained are described in detail. Eight references: 3 USA, 3 USSR, 1 French and 1 German (1914-1951). Tables.

Institution : Acad. of Sc., Ukr. SSR, Inst. of Gen. and Inorg. Chem.

Submitted : July 3, 1954

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✓ Separation of a small quantity of cobalt from solutions. N. S. Fortunatov, Yu. P. Nazarenko, and V. L. Mikhailov-skaya. *Zhur. Obshchei Khim.* 25, 650-62(1955).—From a sulfate soln. contg. 110 g. of Zn, 1.25 g. Mn, and 5 mg. Co per l., Co and Mn were pptd. in the presence of oxidizing agents such as $KMnO_4$, $KClO_3$, or $K_2S_2O_8$, with ZnO. Complete pptn. of Co depends on the excess of oxidizing agents and the complete pptn. of Mn. Ten ml. of the soln. treated with ZnO and an excess of the oxidizing agent, and heated at 70° on the water bath for 80 min. yielded 99% of the Co in the ppt. Completeness of pptn. was verified by means of radioactive Co^{60}. Also in *J. Gen. Chem. U.S.S.R.* 25, 629(1955)(Engl. translation).

N. Charmandarian

NAZARENKO, Yu. P.

USSR/ Chemistry - Inorganic/chemistry

Card 1/1 Pub. 22 - 29/60

Authors : Fialkov, Ya. A., and Nazarenko, Yu. P.

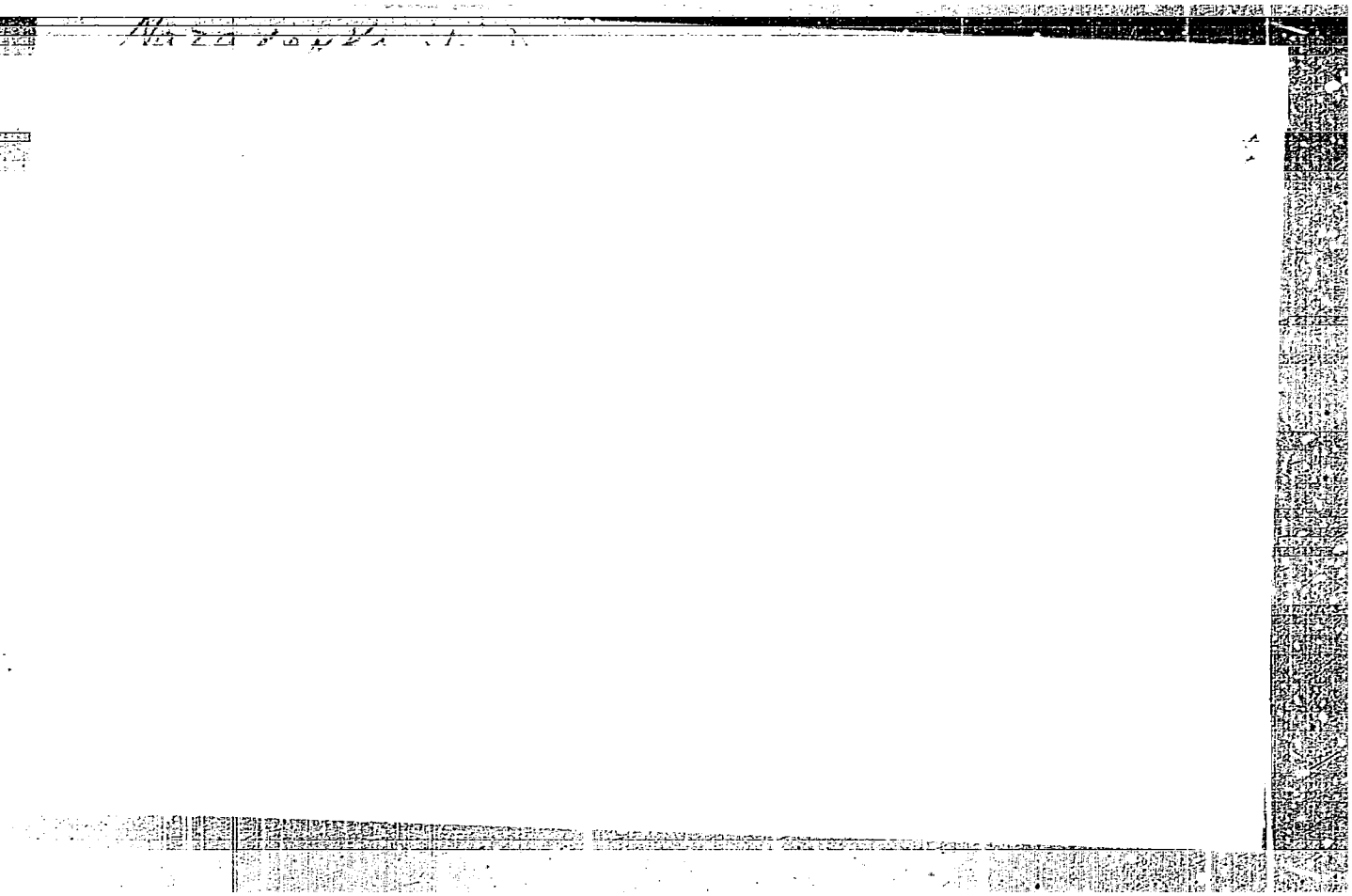
Title : Exchange of sulfate-ions in green chromium sulfate solutions

Periodical : Dok. AN SSSR 100/4, 719-722, Feb 1, 1955

Abstract : The rate of sulfate-ion exchange between external and internal coordination spheres of chromium sulfate complexes in a green chromium sulfate solution was investigated by means of sulfate ions with marked S. The possibility of studying the ion exchange by means of isotopic methods is discussed. The side process including those occurring during the cleavage of exchange reaction components were established by graphical methods. A comparison between the sulfate-ion exchange rate and the rate of conversion of the green Cr-sulfate modification into a violet one indicates the presence of different Cr-sulfate complexes which limit the conversion process. Fourteen references: 1 USA, 3 French, 1 Swiss, 1 German and 8 USSR (1895-1952). Diagram.

Institution : Academy of Sciences, Ukr-SSR, Institute of General and Inorganic Chemistry

Presented by : Academician I. I. Chernyaev, July 1, 1954



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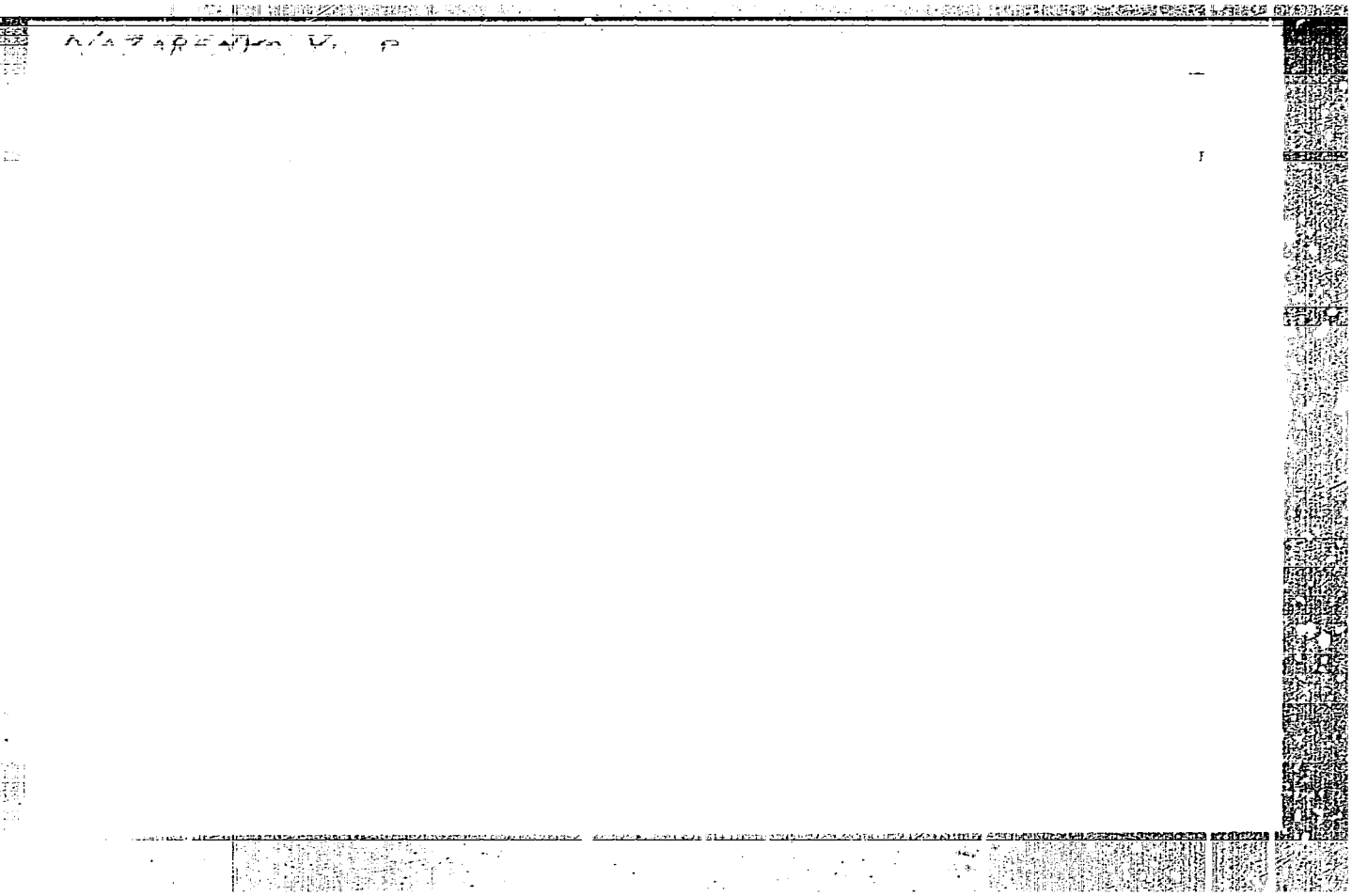

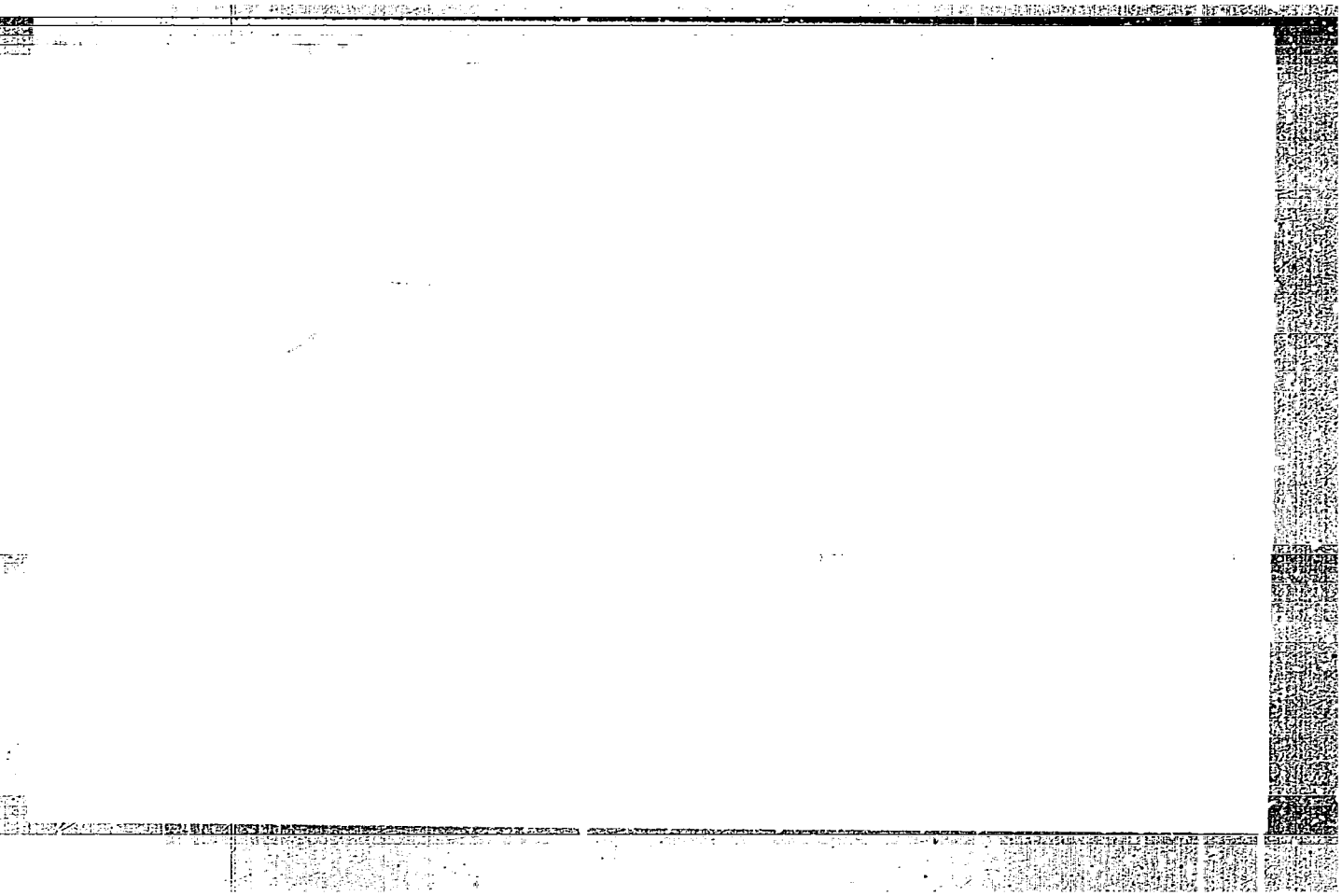

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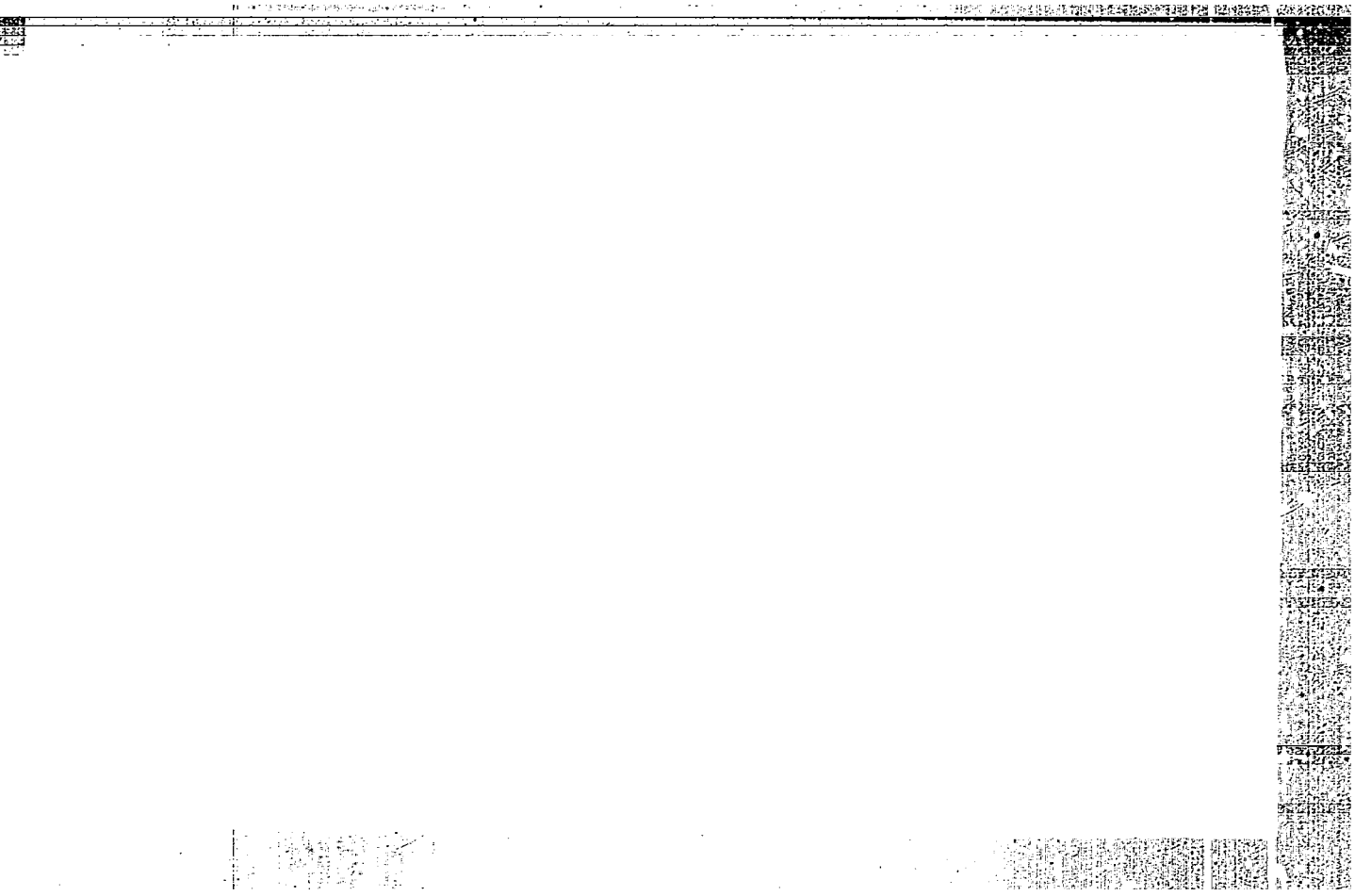

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NAZARENKO, Yu.P.; FIALKOV, Ya.A.

Exchange of sulfate ions in solutions of basic chromium sulfates.
Dokl.AN SSSR 107 no.3:413-416 Mr '56. (MLRA 9:7)

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Predstavleno akademikom I.I.Chernyayevym.
(Sulfates)

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5(4)

AUTHORS: Vasil'yev, V. P., Karableva, V. D., Yatsimirskiy, K. B. SOV/153-58-3-30/30

TITLE: Conference Discussion on the Methods of Investigating the Complex Formation in Solutions (Soveshchaniye-diskussiya po metodam izucheniya kompleksoobrazovaniya v rastvorakh)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Khimiya i khimicheskaya tekhnologiya, 1958, Nr 3, pp 173 - 174 (USSR)

ABSTRACT: From February 18 to 21, 1958 a conference discussion took place at the town of Ivanovo; it dealt with the subjects mentioned in the title. It was called on a decision of the VIIth All-Union Conference on the Chemistry of Complex Formations. More than 200 persons attended the conference, among them 103 delegates from various towns of the USSR. At the conference methods of determining the composition of the complexes in solutions were discussed, as well as the methods of calculating the instability constants according to experimental data and problems concerning the influence of the solvent upon the processes of complex formation. . . . . In the lecture by A. K. Babko and N. M. Tananayko, "Physical and Chemical Analysis of the Systems With 3 Colored Complexes in the Solution", the results of a systematic investigation in copper-quinoline-salicylate, as well as in copper-pyridine-salicylate systems by means of the optical method were dealt with. In the lecture by Ya. A. Fialkov the idea of a further investigation of the complex formation processes in solutions was developed. Besides the determination of the composition and stability of the complexes also the physical and chemical properties, the chemical nature and the structure of the complex compounds must be investigated. . . . . .

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I. I. Alekseyeva and K. B. Yatsimirskiy in their lecture "Investigation of the Polymerization of Iso-Poly Acids in Solutions" mentioned experimental results of the investigation of the polymerization in solutions of molybdic acid. The authors proved that especially the molybdic acid within a certain range of the pH values and the concentrations exists as a number of compounds that can be expressed by an overall formula $MoO_4(HMoO_4)^{n-2}$. In the lecture by E. V. Aksel'rud and V. B. Spivakovskiy investigation results on basic salts taking into account the complex formation in solutions by means of the potentiometric method were mentioned for systems with zinc, cadmium and indium. In the evaluation of their results the authors employed the method of the table difference. The calculation of the consecutive constants was carried out according to the interpolation formula by Newton. N. A. Chernoletskiy held a lecture on "pH Measurement Method of the Solutions in Combination With the System Analysis of the Solubility Diagram of the System Cu^{2+}-HCl - H_2O in Investigating Complex Copper Compounds in Saturated Solutions". It was found that the substance at the bottom of the liquid is more basic than the solution; furthermore, the increased acidity of the solution from the viewpoint of the formation of hydroxy-chloro complexes in the solution was explained. V. I. Kuznetsov opened the discussion with his lecture; he pointed out the necessity of utilizing the concepts worked out in the investigations of the polymerization in organic chemistry in the chemistry of polynuclear complexes. A. A. Grinberg thinks that the new approach of the hydrolysis

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of Some Thorium Complex Compounds" results obtained from the experimental investigation of the distribution of thorium compounds in the systems: acetylacetone - benzene - water, and 2-oxy-1,4,-naphthoquinone - chloroform - water were given. From these data the instability constants of the thorium complexes with acetyl-acetone and 2-oxy-1,4-naphthoquinone were calculated. I. V. Tananayev, G. S. Savchenko and Ye. V. Goncharov held a lecture on the application of the solubility method in the determination of the stability of complex compounds in solutions. In this lecture also other methods of investigating complex formation processes in the solution were discussed (pH measurement, measurement of the optical density, as well as of the heat of mixing). B. D. Berezin held a lecture on the "Application of the Solubility Method in Studying the Phthalocyanine Complexes of Metals". He used the determined quantitative characteristics of the reaction of the transition of the phthalocyanides of cobalt, nickel, copper and zinc, as well as of the free phthalocyanine into the sulfuric acid solution for the theoretical reasoning, and as an experimental proof of the existence of

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π-bonds in the complexes investigated. These characteristics also served him as a proof of new electronic formulae of phthalocyanine and its complex derivatives. In the lecture delivered by I. L. Krupatkin on "The Method of the Two Solvents as a Method of Investigating the Formation and Properties of Organic Complexes" it was proved that this method makes it possible to determine the number of complexes formed in the system, their composition and relative stability. V. I. Kuznetsov, A. K. Babko, N. P. Komar', I. S. Mustafin and Ya. I. Tur'yan took part in this discussion. In the lecture delivered by A. A. Grinberg and S. P. Kiseleva on the complex palladium compounds (II) with a coordination number above four it was proved that in the case of a large chlorine and bromine ion excess complexes with the coordination number 5 are formed. The instability constants of these complexes were estimated. L. R. Adamovich mentioned a new manipulation in the spectrophotometric investigation of the complex compounds that can be used in systems with the formation (or predomination) of one single complex. This method makes it possible to determine the composition and instability constant

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of the complex. In the lecture delivered by K. B. Yatsimirskiy and V. D. Korableva the application of the theory of crystalline fields for the determination of the composition and structure of the chloride complexes of cobalt, nickel and copper according to the absorption spectra of these complexes was discussed. It was proved that in a hydrochloric acid concentration above 5 mole/liter in the solution there exists an equilibrium between the tetrahedric and octahedric form of the cobalt chloro complexes. Yu. P. Nazarenko proved in his lecture "The Application of Radioactive Isotopes in the Investigation of the Solvation Equilibrium in Solutions of Complex Compounds" the possibility of using data on the isotope exchange to clarify the structure of the complex and mechanism of the hydration processes. V. Klimov mentioned in his lecture the use of radioactive isotopes in the study of tin and antimony complexes in non-aqueous solutions. A. V. Ablov, V. N. Tolmachev, V. I. Kuznetsov and A. M. Golub took part in the discussion of the lectures. The usefulness of employing the theory of the crystalline fields in explaining the results obtained from the absorption spectra of the com-

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plex compounds was stressed. In the lecture delivered by I. A. Shek on "The Investigation of the Complex Formation by the Method of the Dielectric Permeability and the Polarization" the principles of the methods mentioned were presented. This method was employed for investigating the compounds of the type of the "affiliation" products. The lecture delivered by I. A. Shek and Ye. Ya. Kriss "Employing the Method of the Dielectric Constant for Investigating Complex Compounds of the Type of Crystal Solvates in Solutions" dealt with the investigation of the solvates of lanthanum and cerium chlorides with ketones, as well as with the study of the compounds formed in heterogeneous systems with tributyl phosphate and nitric acid. V. F. Toropova gave in her lecture "The Polarographic Method of Investigating the Complex Formation in Solutions" a survey of the applications of the polarographic method in the study of the complex compounds, and illustrated several fine characteristic features of this method. In the lecture delivered by T. N. Sumarokova "The Cryoscopic Method of Investigating the Complex Formation Reactions" a survey of the possibilities of the cryoscopic method was given, and its

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applicability in the study of several complex compounds of stannic chloride with organic substances was proved. A. M. Golub described the results of his investigations of thiocyanate complexes of several metals. A vivid discussion took place on the lectures held. Ya. A. Fialkov and Yu. Ya. Fialkov considered the cryoscopic method of investigating complex compounds to be of considerable value. K. B. Yatsimirskiy pointed out that the publication of the surveys on individual methods of investigating the complex formation reactions would be desired; this concerns especially the polarographic method. The cryoscopic method should be brought to a level that makes the calculation of the equilibrium constants of the processes to be investigated possible. The problem of the method of evaluating the experimental results becomes more and more important. Many scientists use the instability constants without taking into account the way in which they had been obtained. The calculation methods employed by A. M. Golub are one step back, as compared to those employed at present. In his lecture N. P. Komar' pointed out the extremely great importance of the mathematical

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evaluation of the results obtained, as well as of the plotting of curves. A. K. Babko suggested selecting one or two systems that are experimentally well investigated, and to evaluate the results obtained according to different methods so that it is possible to check and evaluate them. Ya. I. Tur'yan took part in the discussion. Ya. A. Fialkov discussed in his lecture "The Effect of the Solvent on the Complex Formation Process as Well as on the State of Equilibrium in the Solutions of Complex Compounds" the influence exerted by the solvents upon the molecular state, upon the solvation of the system components, upon the stabilization of the complexes formed in the system, upon the step-wise dissociation of the complexes and upon a number of other processes. The influence exercised by the dielectric constant upon the complex formation process was discussed. It was concluded that a direct relation does not exist, and that the chemical nature of the solvent must be taken into account. A. V. Ablov and L. V. Nazarova held a lecture on "The Spectroscopic Investigation of Nickel Cobalt 'Pyridinates' in Various Solvents". The instability constants of the complexes were determined and it was proved that the

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Conference Discussion on the Methods of Investigating the Complex Formation in Solutions

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stability of the 'pyridinates' is changed in dependence on the solvent. Ya. I. Tur'yan in his lecture "The Influence of the Solvent Upon the Composition and Stability of Complex Ions" discussed the polarographic investigation method of the chloride and thiocyanate complexes of lead in aqueous ethanol solutions at different content of the non-aqueous solvent and at a constant ionic strength. A step-wise character of the complex formation was found as well as the instability constants of the complexes. The influence of the dielectric constant of the solution on the stability of the investigated complexes was proved. In the lecture by V. P. Vasil'yev on the "Investigation of Aquo Complexes in Mixed Solvents" the main attention was devoted to the necessity of the qualitative recording of the solvation effects in the complex formation. The applicability of the polarographic method in the determination of the composition and stability of the aquo complexes in mixed solvents was proved and experimental material on the thermodynamics of the dissociation of the cadmium-aquo complexes in aqueous ethanol solutions was mentioned. V. E. Tolmachev, V. I. Kuznetsov

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and I. V. Tananayev stressed in their lectures the necessity of a more complete and general investigation of the solvation processes. A. K. Babko and A. M. Golub pointed out the great importance of the investigations of the complex formation equilibria in non-aqueous solutions, and made several critical comments on the lecture by Ya. I. Tur'yan. The following scientists took part in this discussion: L. P. Adamovich, G. I. Khotsyanovskiy, A. P. Moskvin and A. A. Mostakhov. At the final meeting of the conference A. A. Grinberg, Corresponding Member, AS USSR, said in his speech that such a conference was very urgent. A detailed discussion of the determination methods of the composition of the complexes, as well as of the method used in the study of the quantitative characteristics of the stepwise complex formation was extremely useful for all who attended this conference.

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NEKRYACH, Ye.F. [Nekriach, IE.F.]; NAZARENKO, Yu.P.; CHERNETSKIY, V.P. [Chernets'kyi, V.P.]; [Babko, A.K.], akademik, otv.red.; ROZUM, Yu.S., kand.khim.nauk, red.; FIALKOV, Ya.A. [deceased], red.; FOMENKO, G.S. [Fomenko, H.S.], kand.khim.nauk, red.; SHEKA, I.A., prof., doktor khim.nauk, red.; GNATYUK, G.M. [Hnatiuk, H.M.], red.-leksikograf; POKROVSKAYA, Z.S. [Pokrovs'ka, Z.S.], red.izd-va; YEFIMOVA, M.I. [IEfimova, M.I.], tekhn.red.

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