BARUZDIN, Yu. K.

Standardization office at a machinery plant. Standartizatsiia 26 no.10:45-46 O '62. (MIRA 15:10)

(Machinery industry) (Standardization)

BARUZDOVA, A.; SAZONOVA, M.

Dissemination of the practice of progressive collectives. Sov. profsoiuzy 5 no.11:45-47 N '57. (MIRA 10:11)

1. Instruktory Yaroslavskogo oblastnogo soveta profsoyuzov.
(Yaroslavl Province--Electric industries) (Trade Unions)

BARUZDOVA, V.; TESLINOV, M.

Using a centrifuge for washing swine intestines. Mias. ind. SSSR
29 no.6:47 '58. (MIRA 11:12)

1. Rybinskiy myasokombinat.
(Packing houses--Equipment and supplies)

BARUZDOVA, V.

Conservation of raw leather in suspended drums with periodical action. Mias.ind.SSSR 33 no.5:26-28 '62. (MIRA 15:12)

1. Rybinskoye otdeleniye Proyektno-tekhnologicheskogo i nauchno-issledovatel'skogo instituta Yaroslavskogo soveta narodnogo khozyzystva.
(Hides and skins—Preservation)

BARVENKO, N.Ya.

New data on the movement and size of the Central Tuyuksu glacier. Trudy Sekt.geog.AN Kazakh.SSR no.4:205-208 '59.
(MIRA 13:4)
(Trans-Ili Ala-Tau--Glaciers)

GERASIMOV, V.A.; BARVENKO, N.Ya.

Eliminating the danger of flash floods in the Tyuksu moraine region. Vest.AN Kazakh.SSR 17 no.4:102-103 Ap '61. (MIRA 14:5)
(Tyuksu moraine region—Drainage)

BARVENKO, P.I.; GAVRILOV, V.P.

Basis for the dimensions of harvesting machinery for harvesting work in stages. Trakt. i sel'khozmash. 32 no.6:15-17 Je '62. (MIRA 15:6)

(Harvesting machinery)

KOLGANOV, K.G.; BARVENKO, P.I.

The SKD combine for two-stage threshing. Biul.tekh.-ekon.inform.-Gos.nauch.-issl.inst.nauch.i tekh.inform. no.11:79-81 '62.
(MIRA 15:11)

(Threshing machines)

VIROVETS, A.M., professor; BARVENKO, Ye.I., inzhener; BENDOVSKIY, M.K., inzhener; GORELKIN, L.F., inzhener; DRIATSKAYA, E.M., inzhener; ZELICHENKO, L.B., inzhener; IVANOV, V.F., inzhner; KAMENSKIKH, I.G., inzhener; KOSINOV, M.Ya., inzhener; LARIN, D.A., inzhener; MAUERER, V. G. inzhener; NEMTSEV, S.V., inzhener; SOLOV'YEVA, M.V., inzhener; PISHKIN, V.N.; RYTOV, A.V., redaktor; SHLENSKIY, I.A., tekhnicheskiy redaktor.

[Tables of the rectangular coordinates of map frame angles and of map frame and area dimensions of trapezoids of topographic surveys, using the scale 1:5000; for latitudes 36°- 68°. Krasovskii's ellipsoid] Tablitsy priamougol'nykh koordinat uglov ramok, razmerov ramok i ploshchadei; trapetsii topograficheskikh s"emok masshtaba 1:5000. Dlia shirot ot 36°- 68°. Ellipsoid Krasovskogo. Moskva, Izd-vo geodezicheskoi lit-ry, 1953. 909 p. (MIRA 8:4)

(Surveying--Tables, etc.) (Coordinates) (Trigonometry--Tables, etc.)

VIROVTSA, A.M., prof.; MAUYERER, V.G., inzh.; TROITSKIY, B.V., inzh.; IVANOV, V.F., inzh.; PETROVA, Ye.F., inzh.; BARVENKO, Ye.I., inzh.; SHISHKIN, V.N., inzh.

[Tables of Gauss-Kruger coordinates for latitudes 32° -80° at 5' intervals and for longitudes 0°-6° at $7\frac{1}{2}'$ intervals and tables of side and area dimensions of trapezoids in topographic surveys; Krasovskii's ellipsoid]Tablitsy koordinat Gaussa-Kriugera dlia shirot ot 32° do 80° cherez 5' i dlia dolgot ot 0° do 6° cherez $7\frac{1}{2}'$ i tablitxy razmerov ramok i ploshchadei trapetsii topograficheskikh s"emok ellipsoid Krasovskogo. 2. izd., ispr. i dop. Moskva, Izd-vo geodez. lit-ry, 1961. 512 p. (MIRA 15:9)

1. Russia (1923- U.S.S.R.)Glavnoye upravleniye geodezii i kartografii.

(Coordinates)

BARVIC, Mirko; Technicka spoluprace J. Opatrna

A contribution to the problem of the mechanism of anabolism stimulation after exertion of skeletal muscles. Acta univ. carol. [Med] no.3: 329-337 '61.

1. Biologicky ustav fakulty vseobecneho lekarstvi University Karlovy v Praze, prednosta prof. MUDr.RNDr. B. Sekla.

(EXTERTION) (MUSCLES physiol) (CASTRATION exper)
(HYPOPHYSECTOMY exper)

CERNA, M.; CERNY, M.; BARVIC, M.; SEKLA, B.

Dermatoglyphic examination of children with Down's disease in the ascending line. Acta univ. Carol. [med] (Praha): Suppl. 18: 193-198 '64.

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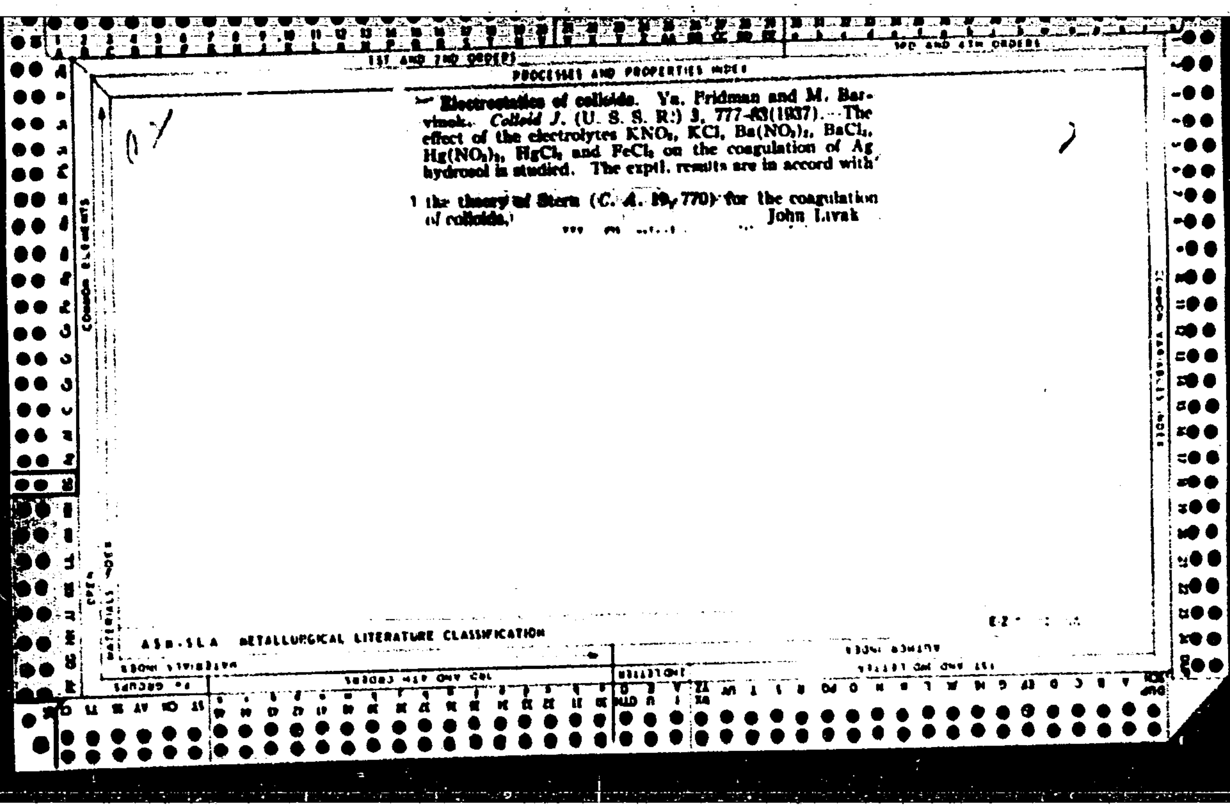
STAREK, Jaroslav, inz.; SIMAK, Vilem, inz.; BARVINEK, Jaroslav, inz., C.Sc.

Use of polyvinyl chloride packaging materials in the canning industry. Prum potravin 14 no.2:70-73 F '63.

1. Vyzkumny ustav lihovarsko-konzervarensky, Praha.

SHCHUKAREV, S.A.; VASIL'KOVA, I.V.; BARVINOK, G.M.

Heats of formation of solid chloride complexes of manganese, iron, cobalt, copper, and zinc. Vest. LGU 20 no.16:145-147 '65. (MIRA 18:9)



1ST AND 2ND ORDERS

3RD AND 4TH ORDERS

PROCESSES AND PROPERTIES INDEX

Electrostatics of colloids. Ya. Fridman and M. Barvinok. *Colloid J.* (U. S. S. R.) 3, 777-83(1937).—The effect of the electrolytes KNO$_3$, KCl, Ba(NO$_3$)$_2$, BaCl$_2$, Hg(NO$_3$)$_2$, HgCl$_2$ and FeCl$_3$ on the coagulation of Ag hydrosol is studied. The exptl. results are in accord with the theory of Stern (*C. A.* 19, 770) for the coagulation of colloids.

John Livak

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

PROCESSES AND PROPERTIES INDEX

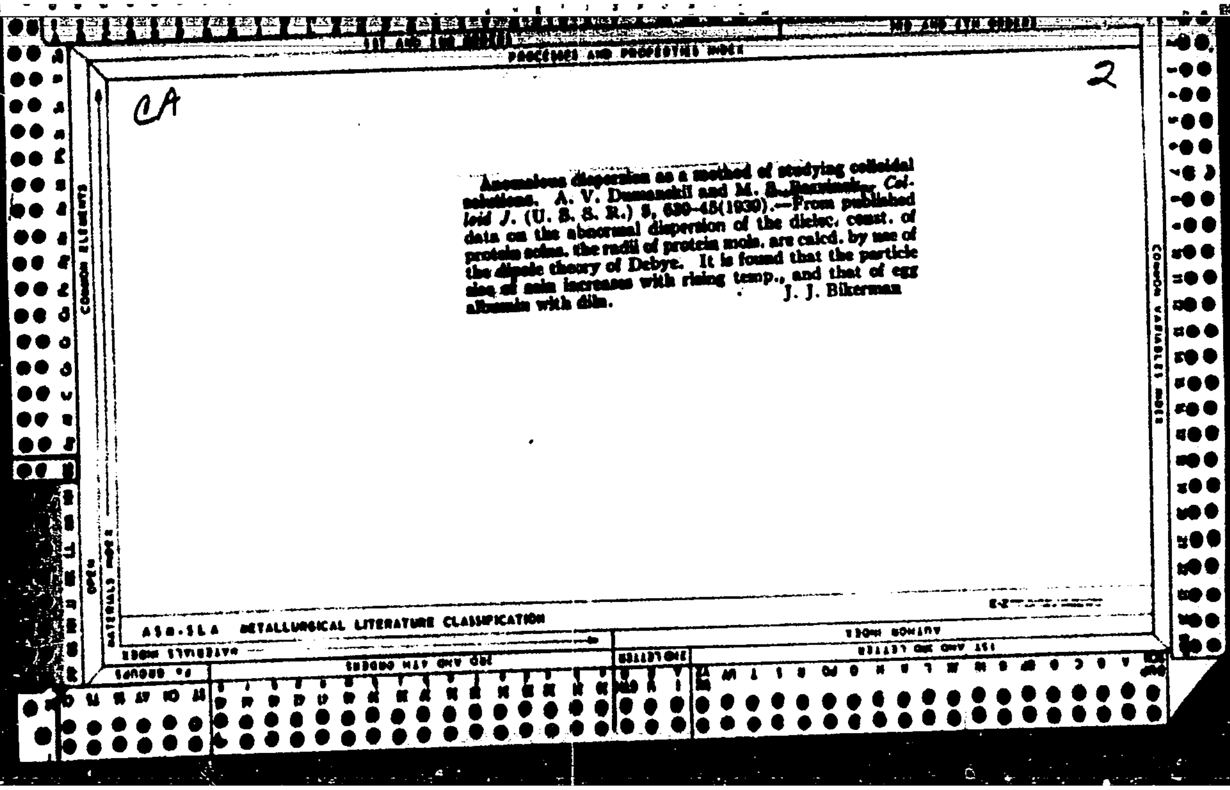
CA

2

Swelling and thickening of elastic gels. A. V. Dumanskiĭ and M. S. [illegible]. *Colloid J.* (U. S. S. R.) 4, 181-90(1938).—The sol. fraction of gelatin swells in H_2O more than the insol. one, and a mixt. of both swells more the higher the content of the sol. fraction. *Starch* also can be sepd. by electrodialysis into a sol. fraction contg. only traces of P and an insol. part contg. 0.07% P_2O_5. They and their mixts. behave in swelling like gelatin. Although these expts. agree with the theory of Northrop and Kunitz (*C. A.* 29, 4611) a criticism of this theory is given.

I. I. Bikerman

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



PROCESSES AND PROPERTIES INDEX

CA

2

Anomalous dispersion as a method of studying colloidal solutions. A. V. Dumanskii and M. S. [illegible]. *Colloid J.* (U. S. S. R.) 5, 639-48(1939).—From published data on the abnormal dispersion of the dielec. const. of protein solns. the radii of protein mols. are calcd. by use of the dipole theory of Debye. It is found that the particle size of zein increases with rising temp., and that of egg albumin with diln. J. J. Bikerman

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

BARVINOK, M.S.

42068. BARVINOK, M.S.-Issledovaniye dimernoy assotsiatsii zhirnykh kislot metodom kombinatsionnogo rasseyaniya sveta. (Doklad i preniya na VI Soveshchanii po spedtroskopii). Izvestiya akad, nauk SSSR, Seriya fiz., 1948, No 5, s. 611-15.-Bibliogr: 9 nazv.

So: Setopis' Zhurnal'nykh Statey, Vol. 47, 1948

42067. BARVINOK, M.S.; Spektrofotometricheskoye issledovaniye kompleksov kobal'ta V rastvorakh. (Doklad i preniya na VI Soveshchanii po spektroskopii). Izvestiya Akad. nauk SSSR, Seriya fiz., 1948, No 5, s. 636-45.-Bibliogr; 5 nazv.

SO: Letopis'Zhurnal'nykh Statgy, Vol. 47, 1948

6

Spectrophotometric investigation of cobalt complexes in solution. M. S. Barvinok. *Izvest. Akad. Nauk S.S.S.R., Ser. Fiz.* 12, 630-45(1948); cf. *C.A.* 43, 838b, 8273h.—Cobalto-chloride, -bromide, -iodide, and -thiocyanate complexes were investigated by photometry of solns. of $Co(ClO_4)_2 + LiCl(Br, I, CNS)$ in acetone, MeOH, EtOH, and PrOH at λ = 600-700 mμ. The max. optical density is obtained at a mol. ratio 1:4, corresponding to the complex $(CoX_4)^{--}$. The dependence on concn. was studied for the $Co(ClO_4)_2$-LiCl system; the presence of $CoCl_3$ and $CoCl_4^-$ was indicated.
S. Pakswer

New type of complex platinum compounds. A. M. Rubinshtein. *Izvest. Sektora Platiny i Drug. Blagorod. Metal., Inst. Obshchei i Neorg. Khim., Akad. Nauk S.S.S.R.* (Ann. secteur platine, Inst. chim. gén.) No. 20, 63-83(1947).—A new binucleus Pt complex $[(NH_3)_4NH_2ClPtCl_2][(NH_3)_4Cl_2PtCl_2]$ was obtained by heating the pentammine $(NH_3)_5ClPtCl_3$ with $(NH_3)_4PtCl_2$. The course of the reaction in the formation of the new compd. is given $[(NH_3)_5ClPt]Cl_3$ (I) + $[(NH_3)_4Pt]Cl_2$ (II) → $[(NH_3)_4Pt]Cl_2$ (III) + $[Pt(NH_3)_4Cl_2]Cl_2$ (IV) + NH_3, $[(NH_3)_5ClPt]Cl_3 + NH_3 \rightarrow NH_4Cl$, $[(NH_3)_4NH_2ClPt]Cl_3$; $[(NH_3)_4NH_2ClPt]Cl_3 + [Pt(NH_3)_4Cl_2]Cl_2 \rightarrow [(NH_3)_4NH_2ClPtCl_2][(NH_3)_4Cl_2PtCl_2]$. Compd. III although identical with II is derived not from II, but rather from I. The process involved is oxidation-reduction between bivalent Pt of the pentammine chloride and quadrivalent Pt of the tetrammine chloride. The resulting binuclear compd. is distinct and differs chemically, optically, radiographically, and by its cond. and heating curves from its 2 components and from their mech. mixt. The formation of the new compd. can be attributed either to resonance energy or to acidic properties of its components, since the amidotetrammine is basic (more basic than pyridine and less than NH_4OH) and the other component is acidic.
M. Hosch

cu

6

Spectrophotometric study of cobalt(II) halogen complexes. M. S. Barvinok. *Zhur. Fiz. Khim.* (J. Phys. Chem. (~~U.S.S.R.) 22, 1100-7~~(1948)).—Acetone solns. of $Co(ClO_4)_2$ and LiX were prepd. in which the ratio (Co:Li) = *r* varied from 0 to 1/4, the total molarity remaining const. (0.01 for LiCl and LiBr, and 0.0025 for LiI). When X is Cl, Br, and I, resp., the solns. absorb in the regions 625-675, 675-725, and 700-750 mμ, resp. The absorption within these regions is max. when *r* is 1/4. this shows that the blue complex ion has the compn. CoX_4^{--}. In water, complex formation is detectable only in 2 *N* or more concd. HCl. J. J. Bikerman

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

CA

Spectrophotometric investigation of cobaltous chloride and cobaltous bromide complexes in acetone. M. S. Barvinok. *J. Gen. Chem. U.S.S.R.* 19, 363-8(1949)(English translation). -See C.A. 43, 7817e

E. J. C.

PROCESSES AND PROPERTIES INDEX

3

Spectrophotometric investigation of cobaltous chloride and cobaltous bromide complexes in acetone. M. S. Barvinok. *Zhur. Obshchei Khim.* (J. Gen. Chem.) 19, 612-16(1949); cf. C.A. 43, 520a.—The compn. of the complex of the general formula A_mB_n is detd. from the slopes of the linear plots of log[A] (at const. [B]) and of log[B] (at const. [A]) as functions of log D (the optical d.), the 1st slope giving m, the 2nd, n. By absorption measurements in solns. of $Co(ClO_4)_2.6H_2O$ (A) + LiCl or LiBr (B), in 650 mμ, m = 1 and n = 4, i.e., the complex ions are $CoCl_4^{--}$ and $CoBr_4^{--}$. N. Thon

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

C.A. 3

Spectrographic investigation of cobaltous halide complexes in propyl alcohol solution. M. S. Barvinok. *J. Gen. Chem. U.S.S.R.* 19, 776-9(1949)(Pub. 1950)(English translation).—See *C.A.* 43, 7817i.

E. J. C.

BARVINOK, M. S.

PA 64/49T27

/Chemistry - Spectrographic Jun 49
Analysis
Chemistry - Cobalt Complexes

ctrophotometric Research on Cobalto-(II)-
de Complexes in Ethyl Alcohol Solutions,"
S. Barvinok, Mil Transp Acad imeni Kaganovich,

ur Obshch Khim" Vol XIX, No 6

ured optical densities of solutions of the tems $Co(ClO_4)_2 + LiCl$, $Co(ClO_4)_2 + LiBr$, and $(ClO_4)_2 + LiI$ in ethyl alcohol, and established presence of $CoCl_4$--, $CoBr_4$--, and CoI_4-- plexes. Stability of the complexes varied from

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- Spectrographic Jun 49
Analysis (Contd)

cobalto-(II)-chloride to cobalto-(II)-iodide. Submitted 16 Jan 48.

64/49T27

PROCESSES AND PROPERTIES INDEX

Cy

3

Spectrophotometric investigation of cobaltous halide complexes in alcoholic solution. M. S. Barvinok. *Zhur. Obshchei Khim.* (J. Gen. Chem.) 19, 1028-33(1949).—The optical d. of solns. of $Co(ClO_4)_2.6H_2O$ + LiCl (in 99.6% EtOH, const. vol. 5 ml., const. total concn. 0.1 *M*) of $Co(ClO_4)_2.6H_2O$ + LiBr (same conditions), and of $Co(ClO_4)_2.6H_2O$ + LiI (in 99.9% EtOH, total concn. 0.2 *M*), passes through a max. at compns. indicating complex ions of the formulas $CoCl_4^{--}$, $CoBr_4^{--}$, and CoI_4^{--}. Absorption falls in the order 650, 625, 600 mμ for $CoCl_4^{--}$; 675, 650, 625, 600, 700 mμ for $CoBr_4^{--}$; 675, 700 mμ for CoI_4^{--}. The stability of the complex ions falls in the order Cl, Br, I.   N. Thon

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

USSR.

The formation of complex compounds of bivalent cobalt

[illegible]

[illegible]

CA

The entropy of hydrated nickel ion. M. S. Barvinok. Zhur. Obshchei Khim. (J. Gen. Chem.) 20, 208-10(1950).—The calcns. refer to the standard states as defined by Latimer (*C.A.* 36, 5118⁶; *Reference Book of Inorg. Chemistry* 1941, p. 484). For the reaction Ni(s) + $Br_2(l)$ aq. = Ni^{++} + $2Br^-$, ΔH = −71,880 cal./mole, ΔF° = −11,530 + 2(−24,578) − 977 = −61,663, and $\Delta S^\circ_{298.1}$ = −34.07 cal./mole/degree; hence, $S^\circ(Ni^{++})$ = −34.07 −2 × 19.7 + 7.1 + 36.8 = −29.57. For the reaction Ni(s) + $Cl_2(g)$ aq. = Ni^{++} + 2 Cl^-, ΔH = −94,230, ΔF° = 11,530 + 2(−31,350) − 1630 = −75,830, and $\Delta S^\circ_{298.1}$ = −61.70; hence, $S^\circ(Ni^{++})$ = −61.8 − 27 + 7.1 + 52.6 = −29.1 cal./mole/degree. The calcd. values, −29.6 and −29.1, are fairly close to the −31 obtained by Kapustinskii (*C.A.* 37, 200⁶) from Goldschmidt radii. N. Thon

CA

Entropy of the hydrated nickel ion. M. S. Barvinok. J. Gen. Chem. *U.S.S.R.* 20, 213-18(1950)(Engl. translation). R. M. S.
See *C.A.* 44, 4700i.

1951

CA

3

Position of the maxima on the curve of optical density as a function of the composition, upon change of the concentration of the system under the influence of a third substance
M. S. Barvinok. Zhur. Obshchei Khim. (J. Gen. Chem.)
20, 1937-46(1950). Optical ds. D were detd. at wave
lengths 600, 625, 650, 675, and 700 mμ for solns. in Me_2CO
of $Co(ClO_4)_2$ + LiCl, at const. total concn. (0.005 M), and
varying proportions of $Co(ClO_4)_2$ and LiCl. The max. of D
at 700 mμ lies at the mol. ratio $Co(ClO_4)_2$:LiCl = 1:4,
corresponding to the complex $[CoCl_4]^{--}$. A shorter-
wave max., in the range 600-675 mμ, corresponds to a
complex with a lower Cl content. At the same const.
$Co(ClO_4)_2$ + LiCl = 0.005 M, addn. of MeOH (in concn-
centrates at MeOH = 0.00125, 0.0025, and 0.00375 M)
produces no change in the positions of the max., but lowers
D increasingly with increasing concn. of MeOH, evidently
owing to a decrease of the concn. of the complex. Addn. of
EtOH, at the same concns., has the same influence as MeOH.
The same effects are observed on addn. of quinoline (Q) (at
the same 3 concns.) only in this case there is also a shift of
the absorption max. to shorter wave lengths, the stronger
the higher the concn. of Q, but without any change in the
position of the max. with respect to the $Co(ClO_4)_2$:LiCl
compn. Consequently, addn. of Q does not result in a dis-
placement of Cl from the complex by Q, but results in an
addn. of Q to the complex ion. On the basis of data on the
binary system $CoCl_2$-Q, showing formation of a 1:1 compd.,
the new complex ion should be $[CoCl_4Q]^{--}$, and that ion is
responsible for the change in the absorption spectrum as
compared with $[CoCl_4]^{--}$. Addn. of Me_2CO (at the same
3 concns.) to 0.005 M solns. of $Co(ClO_4)_2$ + LiCl in EtOH
does not change either the position or the intensity, but the
max. become somewhat blunter, whereas no such effect
was observed on addn. of EtOH to solns. in Me_2CO.
N. Thon

1951

CA

Spectrophotometric investigation of cobaltous halide complexes in butyl alcohol. M. S. Barvinok. *Zhur. Obshchei Khim.* (J. Gen. Chem.) 20, 1947-51(1950); cf. preceding abstr.—Curves of *D* (after deduction of *D* of $Co(ClO_4)_2$) as a function of the mol. ratio $Co(ClO_4)_2:LiCl$ at a total concn. $Co(ClO_4)_2 + LiCl = 0.05$ *M*, pass through a max. (peak at 675 mμ) at the compn. corresponding to $[CoCl_4]^{--}$. In the system $Co(ClO_4)_2 + LiBr$, the max. (700 mμ) indicates a complex $[CoBr_4]^{--}$. In the system $Co(ClO_4)_2 + LiI$, at a total concn. of 0.3 *M*, the max. at 680, 675, 700 mμ, does lie, as previously, at the compn. $[CoI_4]^{--}$. However, in 725 mμ, *D* does not pass through a max. at that compn., but continues to increase with increasing LiI content; in this wave length, *D* passes through a max. at a compn. corresponding to $[CoI_5]^{---}$. But this max. goes back to the compn. $[CoI_4]^{--}$ when the total concn. is reduced from 0.3 to 0.15 *M*, i.e. $[CoI_5]^{---}$ dissociates on diln. to $[CoI_4]^{--}$ and I^-. N. Thon

1950
~~1951~~

RARVINEK, M.S.

BARVINOK, M. S.

USSR/Chemistry - Lithium, Cobalt Aug 51

"Position of Maxima on the Optical Density-Composition Curve When Concentration of the System Is Varied Under the Influence of Added Ions," M. S. Barvinok

"Zhur Obshch Khim" Vol XXI, No 8, pp 1408-1417

Investigated positions of max on optical density-compn curves of systems $Co(ClO_4)_2$-LiCl + acetone or EtOH due to addn of $LiClO_4$, LiBr, or LiI. Addn of $LiClO_4$ to system + acetone does not change max or character of absorption in spectrum. LiBr in system + acetone displaces max, which disappears with higher concn of LiBr, and changes character of absorption. LiBr and LiI in system + EtOH cause

188T12

USSR/Chemistry - Lithium, Cobalt (Contd) Aug 51

displacement, not disappearance, of max, and Br more easily than I draws Cl ions from Co-Cl complex.

188T12

BARVINOK, M. S.

USSR/Chemistry - Lithium, Cobalt Aug 51

"Stereophotometric Investigation of Maxima on Optical Density-Composition Curves in Solutions of Cobalt Halides When the Concentration of the System Is Varied. II. Cobaltous Bromide Complexes in Ethyl Alcohol,"/M. S. Barvinok

"Zhur Obshch Khim" Vol XXI, No 8, pp 1417-1430

From optical density-compn curves for $Co(ClO_4)_2$-LiBr system at total concns of 0.01 to 0.1 mole/1, detd that fld of stable state approaches limit conditions at which change in compn corresponds to $CoBr^{--}$ at 0.03 mole/1 total concn. Comparison of limit concns for Co-Br and Co-Cl complexes in EtOH shows drop in stability from Cl to Br.

188T13

presence of Co[illegible] As the combined concn. [illegible] corresponds to the
reference to EtOH, increases from 0.0[illegible] of the salts (in
comes sharper and occurs [illegible] 13f the max. be-
tion of light [illegible]

BARVINOK, M. S.

Temperature Correlation of Light Absorption of Cobalt Helides in Methyl Alcohol Solutions, Page 189, Sbornik statey po obshchey khimii (Collection of Papers on General Chemistry), Vol I, Moscow-Leningrad, 1953, pages 762-766

BARVINOK, M. S.

Physical Chemistry

Dissertation: "Application of the Measurement of Light Absorption as a Method of Physicochemical Analysis in the Study of Solutions of the Salts of Cobalt and Lithium." Dr Chem Sci, Inst of General and Inorganic Chemistry imeni N. S. Kurnakov, Acad Sci USSR, Oct-Dec 1954. (Brief Summary Given) (Vestnik Akademii Nauk, Moscow, Mar 54)

SO: SUM 213, 20 Sept 1954

BAKVANOK, N. S

4

[illegible]

U

Investigation of the system Co(ClO4)2–LiCl–H2O–[illegible] by the method of physico-chemical [illegible]
Barvinok. Zhur. Obshchei Khim. 2[illegible], 1200–7(1955). [illegible] —The optical d., elec. cond., and viscosity CH
of the systems (I) $Co(ClO_4)_2$–$LiClO_4$ (H_2O)–Me_2CO, (II)
$CoCl_2$–$LiCl$–H_2O–Me_2CO and (III) $CoCl_2$–$LiCl$–Me_2CO

BARVINOK, M.S.

USSR/Physical Chemistry - Thermodynamics, Thermochemistry, Equilibria, Physical-Chemical Analysis, Phase Transitions. B-8

Abs Jour: Referat. Zhurnal Khimiya, No 3, 1958, 7178.

Author : M.S. Barvinck.
Inst :
Title : Study of Zinc Perchlorate, Lithium Halides and Acetone System by Methods of Physical-Chemical Analysis.

Orig Pub: Zh. obshch. khimii, 1957, 27, No 3, 557-561.

Abstract: The electrical conductivity (κ), viscosity and density of the systems $Zn(ClO_4)_2$ (I) - Li_2Cl_2 (II) - H_2O (III) - acetone (IV), I - Li_2Br_2 (V) - III - IV and I - Li_2I_2 (VI) - III - IV were determined at 25 and 40°. Two sections in the diagonal plane were studied in each reciprocal quaternary system. The measurement methods were described earlier (RZhKhim, 1957, 53942, 53943). Maxima are observed on the graphs composition - κ at the ratio of I to II and to V equal to 2 : 3, this indicates the

Card : 1/2

BARVINOK, M.S.

USSR/Physical Chemistry - Thermodynamics, Thermochemistry, Equilibria, Physical-Chemical Analysis, Phase Transitions. B-8

Abs Jour: Referat. Zhurnal Khimiya, No 3, 1958, 7169.

Author : M.S. Barvinok.
Inst : -
Title : Study of System $Co(ClO_4)_2 - Li_2Br_2 - H_2O$ - Acetone by Methods of Physical-Chemical Analysis.

Orig Pub: Zh. obshch. khimii, 19.., 27, No 6, 1423-1428.

Abstract: Electrical conductivity, light absorption and viscosity of solution of the reciprocal system $Co(ClO_4)_2$ (I) - Li_2Br_2 (II) - H_2O acetone belonging to the quaternary system of Co and Li perchlorates and bromides in acetone were studied. Light absorption and electrical conductivity are the most sensitive to the formation of cobalt-bromide compounds. Light absorption appears also as a selective property. The compounds $CoBr_2$, $CoBr_2 \cdot LiBr$ and $CoBr_2 \cdot 2LiBr$ were revealed on the isotherms of optical density.

Card : 1/2 -41-

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B011/B003

5.3832

AUTHORS: Barvinok, M. S., Kuprin, V. S., Mazurek, V. V., Semenov, G. I.

TITLE: Physicochemical Investigation of the Process Involved in the Formation of Furfurol-aniline Resins

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 132, No. 4, pp. 826-828

TEXT: The chemical nature of the formation of furfurol-aniline resins has not yet been described in publications. The authors investigated this problem by chemical and physical methods in addition to physicochemical ones. They used aniline, furfurol, acetone, toluene (pro analysi), and hydrochloric acid (chemically pure). The light absorption of this system was measured with a photoelectric spectrophotometer of the type CФ-4 (SF-4). Acetonic furfurol- and aniline solutions were mixed in different ratios. Concentrated hydrochloric acid was added to the aniline solutions in acetone. The light absorption of these

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[illegible]

Physicochemical Investigation of the Process Involved in the Formation of Furfurol-aniline Resins

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solutions was measured 30 min after mixing. The results are illustrated in Fig. 1. On the curve optical density/composition (Curve 1, $\lambda = 560$ mμ) a special point is marked, which corresponds to the molar ratio of furfurol : aniline = 1 : 1 (spectral range 530-560 mμ). The compound thus formed in the first stage of resin formation corresponds to furfuranil (I) (Ref. 4, see Scheme). The stage of a more intensive formation of resin was studied on the system furfurol - aniline - HCl - acetone (furfurol - aniline: 20 mole %, HCl 0.012 mole %). If furfurol-aniline mixtures are heated to 40°C and the HCl concentration is raised, the formation of resins is intensified. The diagram optical density/composition (Curve 2, $\lambda = 565$ mμ) is more complicated in this case. On the curves optical density/composition special points are marked, which correspond to the molar ratios of furfurol: aniline = 2 : 1, 1 : 1, 1 : 2, and 1 : 4. These points are confirmed on this diagram by investigation of the cross section with a furfurol-aniline amount of 40 mole % (Curve 3, $\lambda = 570$ mμ). The authors measured the viscosity of the system furfurol-aniline-HCl (HCl 0.012 mole %) with a viscosimeter

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Physicochemical Investigation of the Process Involved in the Formation of Furfurol-aniline Resins

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for precision measurements at 60°, since the furfurol-aniline resins were in viscous-liquid state at this temperature. On the curves viscosity/composition a distinct maximum is visible, which corresponds to the reaction of furfurol and aniline in a molar ratio of 1 : 2 (Curve 4). At this point the viscosity of the system exceeds the viscosity of the components used by 1000 times. The abscissa of this point (composition) does not change if a non-reacting substance is added (toluene), although the viscosity of the system is thus reduced. The thermal effect was investigated by means of a calorimeter. In order to construct the diagram thermal effect/composition, the system furfurol - aniline - HCl (HCl 0.048 mole %) was studied. The special point on Curve 5 corresponds to the reaction of furfurol with aniline in a molar ratio of 1 : 2. Thus, this special point on the diagrams composition/property is confirmed by studying light absorption, thermal effect, and viscosity. Resins corresponding to this special point are the best stabilizers for soils (Ref. 2). The authors proved by chemical methods and infrared spectroscopy that two chemical compounds correspond

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to the special point mentioned. One of these compounds (II) is converted into the other (III) by ring formation. (III) was obtained from the resin as colorless crystals with a melting point of 144°. On the strength of the results obtained the authors assume that furfurol-aniline resins are a mixture of low-molecular compounds (II) and (III). Their crystallization is impeded by the non-cyclic form of (II). There are 1 figure and 6 references, 3 of which are Soviet.

PRESENTED: January 29, 1960, by I. V. Tananayev, Academician

SUBMITTED: January 20, 1960

S/079/61/031/002/017/019
B118/B208

AUTHORS: Barvinok, M. S., Kuprik, V. S., Mazurek, V. V., and Semenov, G. I.

TITLE: Study of the reaction of furfurole with aniline

PERIODICAL: Zhurnal obshchey khimii, v. 31, no. 2, 1961, 632-641

TEXT: To explain the chemism of resin formation, it was suitable for the investigation of the system "furfurole - aniline" to apply physicochemical analysis, in addition to chemical methods, to obtain a better insight into conversions occurring in this system. To follow up the formation of reaction products of furfurole with aniline in the first stage of reaction, the light absorption of the system "aniline - furfurole - hydrochloric acid - acetone" was studied. All chemically pure products applied had previously been distilled. An adequate quantity of hydrochloric acid was added to the aniline solution. Half an hour after mixing the acetone solutions of furfurole and aniline, the optical density attained a constant value. The curve of optical density as a function of composition shows a maximum in the range 350-566 mμ which corresponds to the formation of a chemical com-

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S/079/61/031/002/017/019
B118/B208

Study of the reaction ...

pound from furfurole and aniline in a molar ratio of 1:1. To study the composition, the reaction products (at an advanced stage of resin formation of the mixture of different compositions), which were obtained by mixing furfurole with aniline and hydrochloric acid in the corresponding molar ratios, were thermostated at 40°C for 7 hr. The resinous material was dissolved in acetone, and the optical density of the solutions determined. Increase of temperature and hydrochloric acid content promotes resin formation. The curve of optical density as a function of composition now shows maxima corresponding to the molar furfurole/aniline ratios of 2:1, 1:1, 1:2, 1:4. The same mixtures of furfurole and aniline at elevated temperature lead to fixation of the resin formation at a certain stage. In order to confirm the complex formation, viscosity was studied as a function of composition, and thermal effect as a function of composition. Viscosity and thermal effect attained a maximum corresponding to the reaction of furfurole with aniline at a molar ratio of 1:2. A compound of this composition was separated from the resin in crystalline state; besides, its hydrogenation products were obtained. On the basis of the infrared and ultraviolet spectra of these compounds, and of the model compound (of 1, 5-diphenyl pyrrolidone-3), the structural formula 5-methyl aniline-1-phenyl pyrrolidone-3 was suggested

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S/079/61/031/002/017/019
B118/B208

Study of the reaction ...

for the product separated from the resin. I. M. Motkina and B. N. Sverdlova assisted in the experiments. There are 8 figures, 2 tables, and 16 references: 1 Soviet-bloc and 10 non-Soviet-bloc.

SUBMITTED: July 18, 1960

✓

Card 3/3

BARVINOK, M.S.; VARSHAVSKIY, Yu.S.

Compound between aniline and copper nitrate. Zhur.neorg.khim. 6 no.4:851-856 Ap '61. (MIRA 14:4)

(Copper compounds)

BARVINOK, M.S.; VARSHAVSKIY, Yu.S.; PUTSEYKO, L.K.

Infrared spectra of some compounds of copper with aniline. Zhur. neorg.khim. 6 no.5:1125-1128 My '61. (MIRA 14:4)

(Copper compounds--Spectra) (Aniline)

BARVINOK, M.S.; KUPRIK, V.S.; SEMENOV, G.I.

Interaction of furfurole and aniline. Zhur. ob khim. 31 no.2: 632-641 F '61. (MIRA 14:2)
(Furaldehyde) (Aniline)

BARVINOK, M.S.; BUKHAREVA, I.S.

Nature of the salt's cation and anion as influencing the state of the coordinated amino group. Dokl. AN SSSR 161 no.3:622-623 Mr '65. (MIRA 18:4)

1. Submitted September 23, 1964.

BARVINOK, M.S.; BUKHAREVA, I.S.

Infrared spectra of phenylenediamine complexes with transition metal salts. Zhur.neorg.khim. 10 no.4:861-864 Ap '65.

(MIRA 18:6)

BARVINOK, M.S.; BUKHAREVA, I.S.

Infrared spectra of benzylamine complexes with some salts of transition metals. Zhur. fiz. khim. 39 no.4:1006-1008 Ap '65.
(MIRA 19:1)

1. Submitted May 15, 1964.

BARVINCK, M.S.; BUKHAREVA, I.S.; VARSHAVSKIY, Yu.S.

Stretching vibration frequencies of NH in the infrared spectra of complex compounds of aniline with metals of the first insertion decade. Zhur.neorg.khim. 10 no.8:1799-1802 Ag '65. (MIRA 19:1)

1. Submitted May 16, 1964.

SPRYSKOV, A.A.; BARVINSKAYA, I.K.; KARAVAYEV, B.I.

Orientation during substitution in the aromatic series. Part 12: Orientation of a nitro group during low temperature nitration of nitrobenzene. Zhur.ob.khim. 33 no.6:1885-1893 Je '63. (MIRA 16:7)

1. Ivanovskiy khimiko-tekhnologicheskiy institut.
(Nitrobenzene) (Nitration)

SPRYSKOV, A.A.; BARVINSKAYA, I.K.

Orientation in the substitution in the aromatic series. Part 17: Orientation of the nitro group during nitration of phenol at low temperatures. Zhur. org. khim. 1 no.11:1941-1945 N '65. (MIRA 18:12)

1. Ivanovskiy khimiko-tekhnologicheskiy institut. Submitted October 23, 1964.

69846

S/051/60/008/03/034/038
E201/E191

5.2620

AUTHORS: Glikman, T.S., and Barvinskaya, Z.L.

TITLE: A Spectrophotometric Investigation of the Interaction between Phthalocyanine and Ferric Chloride

PERIODICAL: Optika i spektroskopiya, 1960, Vol 8, Nr 3, pp 425-426 (USSR)

ABSTRACT: The authors report the results of a spectrophotometric investigation of chemical interaction of several chlorides with phthalocyanine in non-aqueous and water-free solvents. Addition of an excess of ferric chloride anhydride ($FeCl_3$) to a solution of phthalocyanine without a metal in α-chloro- and α-bromo-naphthalene reduced the intensity of the bands characteristic of phthalocyanine and produced a new band at 750 mμ. These changes indicate formation of a complex consisting of phthalocyanine and ferric chloride. This complex is destroyed by the addition of 7-10% water. Addition of $FeCl_2$ or $SnCl_2$ anhydrides to a solution of phthalocyanine in α-chloronaphthalene also leads to formation of a complex with a maximum at 750 mμ. When dry HCl is added to the same solution of phthalocyanine an absorption maximum appears

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GLIKMAN, T.S.; BARVINSKAYA, Z.L.

Spectrophotometric study of the interaction of phthalocyanine with ferric chloride. Opt. i spektr. 8 no.3:425-426 Mr '60.

(MIRA 14:5)

(Phthalocyanine)
(Iron chloride)

formation

AUTHOR: Barvinskiy, B.V., PLAVIL'NYY MASTER. 130-10-6/18

TITLE: Organization of Work on a Group of Electric Furnaces.
(Organizatsiya raboty na bloke elektropechey)

PERIODICAL: Metallurg, 1957, Vol 2. No.10, pp. 13 - 14 (USSR)

ABSTRACT: The author describes the organisation of work on a group of three 20-ton arc furnaces of which he is foreman melter. The furnaces are provided with 8 000 kVA transformers. Fettling takes 10 - 25 and charging 5 - 7 minutes, and melt-down, oxidation and refining-finishing take 2 - 25, about 1 and 2 hours, respectively. Oxygen is used to accelerate melting. The author mentions charging arrangement (photograph), the numbers and duties of members of the teams and the fact that training courses are run by the foreman. There are 2 photographs, 1 being of Buynyy, Nikolay Stepanovich, steel-smelter in No.3

BARVINSKIY, B.V., starshiy master

Method of manufacturing DSP-80 electric furnace hearth bottoms.
Metallurg 7 no.2:17-20 F '62. (MIRA 15:3)

1. Elektrostaleplavil'nyy tsekh Novolipetskogo metallurgicheskogo zavoda.

(Electric furnaces)

S/130/60/000/006/008/011

AUTHORS: Petrov, V. K., Barvinskiy, B. V.

TITLE: Experimental Operation of an 80-ton Electric Furnace

PERIODICAL: Metallurg, 1960, No. 6, pp. 22-24

TEXT: An 80-ton electric arc furnace was manufactured at the Novosibirskiy zavod elektrotermicheskogo oborudovaniya (Novosibirsk Plant for Electrothermic Equipment). The technical characteristics of the furnace are given. Detailed information is presented on the furnace lining. The bosh is lined with magnesite bricks. The heat-insulation of the hearth is made with asbestos sheets and magnesite bricks. The vertical section of the mantle is insulated with asbestos cardboard and light refractory bricks. The walls are lined with magnesite-chromite heat-resistant or uncalcinated bricks in metal containers. The crown lining consists of magnesite-chromite heat-resistant bricks of 300 mm. A description is given how to set the furnace to work and information is presented on operational deficiencies. It was observed that the walls of the furnace made of magnesite bricks were able to undergo 25-30 melts, although from the first melts the bricks began to crumble and fall down. The insufficient mechanical strength of the crown masonry was stated. The

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Experimental Operation of an 80-ton Electric Furnace S/130/60/000/006/008/011

experimental operation has shown that to raise the durability of the lining and to adapt the furnace to transformer steel melting, it is necessary to expand the mantle by sloping the walls; to use thermoresistant bricks without chromium for the wall and crown masonry; to test magnesite heat resistant bricks on a spinel binding; to develop and test the design of a suspended crown. For operating the furnace, the conventional technology used in lower and medium-capacity-furnaces was employed, which however, appeared to be inappropriate. A new special technology for high-capacity electric furn ces was developed. The charge is composed in such a manner that the carbon content in the charge is 0.30-0.35% above its lower limit in the finished metal. The charge must be filled in one or two stages; its weight per 1 m^3 must not be less than 1.6 t. To combine the melting stage with dephosphorization process, lime and ore are added to the second portion of the charge; the amount of ore must ensure a carbon content in the molten metal approaching its upper limit in the finished steel. As a rule the melting process is conducted at a full transformer power. If the first charge is below 60 t, the transformer power is reduced, to protect the hearth from destruction by the arc. Toward the end of the melting process the transformer power is brought to decrease. Oxygen is supplied to the charge through tubes of 3/4 inches in diameter. The melting process lasts 5 hours 55 minutes. The described technology proved satisfactory with respect to the requirements to high-quality metal. There is 1 diagram.

Card 2/2

TRAKHIMOVICH, V.I., inzh.; BARVINSKIY, B.V.; GOLOMAZOV, N.A.

Electromagnetic stirring in 80-ton furnaces. Stal' 22 no.11:1007-1009 N '62. (MIRA 15:11)
(Steel—Electrometallurgy)

BRON, V.A.; SIMONOV, K.V.; PIVNIK, L.Ya.; PETROV, V.K.; BARVINSKIY, B.V.

Lining the walls of 100-ton arc furnaces with magnesite brick and a spinel binding. Stal' 23 no.6:519-523 Je '63. (MIRA 16:10)

BARVINSKIY, B.V., starshiy master

Durability of the wall lining of the DSP-80 electric furnace. Metallurg 10 no.5:15-17 My '65. (MIRA 18:6)

1. Novolipetskiy metallurgicheskiy zavod.

PAKHOMOV, A.I.; AGEYEV, P.Ya.; ZUBAREV, A.G.; BARVINSKIY, B.V.

Changing the content of gases in the making of transformer steel. Metallurg 10 no.7:23-24 Jl '65. (MIRA 18:7)

BARVINSKIY, L. L.

USSR/Electricity - Induction Heating Sep 52

"Induction Heating of Salted Fish," L. L. Barvinskiy, Engr, Kiev Fishing Combine

"Elektrichestvo" No 9, pp 67-70

Discusses the characteristics of an industrial installation for the induction heating of semiconductors, i.e., salted food products whose resistivity is 15-50 ohm-cm. Describes the design of an inductor operating at a frequency of 15 Mc for the heating of salted fish. Submitted 26 Apr 52.

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S/106/62/000/011/003/003
A055/A126

13.2900

AUTHORS: Barvinskiy, L.L., Lastovchenko, M.M.

TITLE: Influence of the preventive maintenance duration on the reliability of radioelectronic apparatus

PERIODICAL: Elektrosvyaz', no. 11, 1962, 57 - 61

TEXT: The dependence of the average time of faultless operation of radioelectronic apparatus on the time devoted to preventive maintenance is determined in the article. The authors consider a system containing N equally reliable elements, that has been in operating conditions during the time T_{oper}. Since the total number of failures consists of sudden failures n_{sud} and progressive failures n_{pr} (due to aging), the average time of faultless operation is:

X

$$T_0 = \frac{T_{oper}}{n_{sud} + n_{pr} - n'_{pr}(t_{pr})}, \tag{1}$$

where $n'_{pr}(t_{pr})$ is the part of the progressive failures prevented by preventive

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S/106/62/000/011/003/003
Influence of the preventive maintenance duration on... A055/A126

maintenance, and t_{pr} is the preventive maintenance time per element, the time devoted to the preventive maintenance of the whole system being, therefore,

$$T_{pr} = N\, t_{pr}\,. \qquad (2)$$

A coefficient $\alpha\,(t_{pr})$, named differential coefficient of the preventive maintenance efficiency, is introduced by the authors:

$$\alpha\,(t_{pr}) = \frac{dn_{pr}}{n''_{pr}\,(t_{pr})\,dt_{pr}} = \frac{q'\,(t_{pr})}{[1 - q\,(t_{pr})]}\,, \qquad (3)$$

where $q\,(t_{pr})$ is the probability of detection of a defective element during t_{pr}, and $n''_{pr}\,(t_{pr})$ is the number of undetected defective elements during t_{pr}. Integrating (3) and assuming that $\alpha\,(t_{pr}) = \alpha = \text{const}$, the authors write (1) in the following form:

$$T_0 = \frac{T_{oper}}{n_{sud} + n_{pr}\, e^{-\alpha t_{pr}}}\,, \qquad (4)$$

In the absence of preventive maintenance, (4) becomes:

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Influence of the preventive maintenance duration on... S/106/62/000/011/003/003
A055/A126

$$T_{0\ min} = \frac{T_{oper}}{n_{sud} + n_{pr}} . \qquad (5)$$

The final formula for the average time of faultless operation, as depending on the time devoted to preventive maintenance, is

$$\frac{T_0}{T_{0\ min}} = \frac{1}{1 - A\left(1 - e^{-\alpha \frac{T_{pr}}{N}}\right)} , \qquad (11)$$

where

$$A = \frac{n_{pr}}{n_{pr} + n_{sud}} ; \qquad (10)$$

The expression for the reliability P of the apparatus, as depending on T_{pr}, is:

$$P = e^{-\frac{t}{T_{0\ min}}\left[1 - A\left(1 - e^{-\alpha \frac{T_{pr}}{N}}\right)\right]} . \qquad (12)$$

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Taking into account that the efficiency coefficient of preventive maintenance K_{eff} is equal to the ratio of the number of prevented failures to the total number of failures, (11) can be written as follows:

$$\alpha T_{pr} = N \ln \frac{A}{A - K_{eff}} \quad . \qquad (13)$$

There are 2 figures.

SUBMITTED: March 22, 1962

S/142/63/006/001/008/015
E192/E382

[illegible]

S/142/63/006/001/008/015
E192/E382

[illegible]

Evaluation of ....

S/[illegible]/63/[illegible]
[illegible]/036[illegible]

[illegible]

[illegible] increases with increasing [illegible]

[illegible]

BARVINSKIY, L.L.

Basis for dividing complex radio-electronic apparatus into blocks with controlled performance capability. Izv. vys. ucheb. zav.; radiotekh. 7 no.1:21-26 Ja-F'64. (MIRA 17:5)

[illegible]

Card 1/3

[illegible] is also [illegible]

TABLE OF CONTENTS (abridged):

L 3802-66 EWT(1)/EPA(s)-2/T IJP(c) GG

ACCESSION NR: AP5025583

UR/0115/65/000/009/0026/0027
621.319.1:658.562

14,55 44,55

47
B

AUTHOR: Barvinskiy, L. L.; Dem'yanchuk, V. S.

21 44,55

TITLE: Use of ferroelectric crystals for built-in monitoring circuits

SOURCE: Izmeritel'naya tekhnika, no. 9, 1965, 26-27

TOPIC TAGS: electronically variable capacitor, ferroelectric crystal, test monitoring, electronic measurement

ABSTRACT: Previous studies have shown that voltage-variable capacitors may be used as converters in circuits for monitoring hf voltage (or power), frequency, and combinations of these and other parameters. The operating principle of this type of converter is illustrated by fig. 1 of the Enclosure. The sensing element is a three-electrode voltage-controlled capacitor made up of ferroelectric crystals. Control voltage from the output of the device to be monitored is fed to plates 2 and 3 of capacitor C_{23} via the coupling coil. The capacitance between plates 1 and 3 (C_{13}) serves as a decoupling unit for the indicator circuit $L_1C_2C_{13}C_1$. When the device being monitored is operating normally, this indicator circuit is tuned to re-

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ACCESSION NR: AP5025583

sonance. When there is a change in the frequency or voltage fed to capacitor C_{23}, the capacitance of this element also changes. This changes the capacitance of C_{13} and the natural frequency of the indicator circuit. The voltage reduction in the indicator circuit in a set control-voltage range is proportional to the frequency drift and to the variation in the voltage being monitored. If the indicator circuit is somewhat detuned initially, voltmeter V_1 will show not only the drift in the frequency or the change in the voltage being monitored, but will also indicate to which side of the normal operating conditions these changes take place. Experimental curves are given showing the capacitance of C_{13} as a function of the controlling voltage applied to C_{23} at various frequencies at 20°C. These curves show that the circuit is more sensitive to changes in voltage than to changes in frequency. A great disadvantage of these ferroelectric converters is that they are considerably dependent on the ambient temperature. This temperature effect may be compensated by using special circuits based on ferroelectric capacitors with the proper characteristics. Advantages of these converters are their high reliability and simplicity of construction. Orig. art. has: 4 figures.

ASSOCIATION: none

SUBMITTED: 00 ENCL: 01 SUB CODE: EC

NO REF SOV: 000 OTHER: 000

Card 2/3

L 3302-66

ACCESSION NR: AP5025583

ENCLOSURE: 01

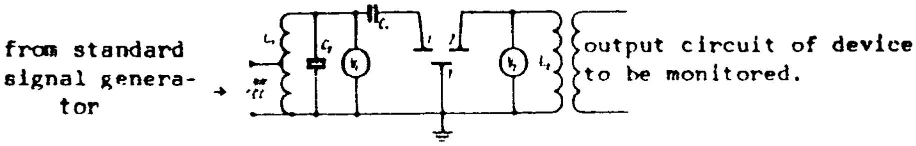

Fig. 1.

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L 6394-66 EWT(1)/EWA(h) TG

ACC NR: AP5020925 SOURCE CODE: UR/0142/65/008/003/0330/0336

38

AUTHOR: Barvinskiy, L. L.; Dem'yanchuk, V. S.

ORG: none

TITLE: Determination of the reliability of redundant systems considering failures of switches and of control circuits

SOURCE: IVUZ. Radiotekhnika, v. 8, no. 3, 1965, 330-336

TOPIC TAGS: circuit failure, circuit reliability, control circuit, switching circuit

ABSTRACT: The problem of the reliability of redundant systems with automatic switching to the reserve is examined. The case shown in fig. 1 is considered, where B_1 and B_2 are regular operating units, B_p is the reserve unit, and AC is the automatic switching unit. Switches S_1, S_2, S_3, and S_4 connect the regular units and [illegible] the reserve unit. It is assumed that (1) all units and switches are [illegible] the reserve unit is in [illegible] state, [illegible] assume the connection of a channel with a failure [illegible] repaired [illegible] system will fail if two units are switched simultaneously [illegible]

Cord 1/3 UDC: 621.396.6

L 6394-66
ACC NR: AP5020925

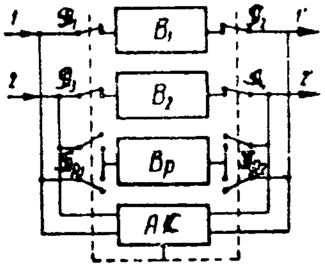

Fig. 1. Schematic diagram of a redundant system.

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output; and (5) each system element has an exponential probability of reliable operation and the reliability of each is independent of the reliability of others. Considering dynamic and static switch failures, the authors analyze 9 failure cases and derive the probability of failure within a given time for each. Failures of main and reserve units, switches, and automatic control circuit are considered. A graph shows the dependence of the probability of system failure on the probability of failure of each of the elements. The relative error of the probability of system failure when switching failure probabilities are neglected is graphed. Failures [illegible] switches [illegible] substantially increase the probability [illegible]. The importance of [illegible] with low reliability of static [illegible].

SUB CODE: [illegible] SUBM DATE: [illegible] ORIG REF: [illegible] OTH REF: [illegible]

L 00547-66 EWT(d)/EWP(v)/EWP(k)/EWP(h)/EWP(1)

ACCESSION NR: AP5014210

UR/0102/65/000/002/0003/0007

AUTHOR: Barvins'kyy, L. L. (Barvinskiy, L. L.) (Kiev)

TITLE: Reduction of idling of apparatus by rational construction of a system of efficiency control

SOURCE: Avtomatyka, no. 2, 1965, 3-7

TOPIC TAGS: automatic control design, quality control, industrial production, production engineering

ABSTRACT: To shorten the time of locating a failure one can utilize an automatic control system which controls the efficiency of blocks or points of the system and provides information on the failure of this or that block. Even where failure of the control system does not affect the system itself, the servicing crew may check the system because it assumes the control system to be more reliable. An attempt is made to determine the optimum number of control points of the system consisting of N equally reliable elements. A numerical estimate of the idling coefficient is obtained under the following assumptions: the sequence of failures is the simplest possible, the failures of the control equipment have no direct effect on the efficiency of the apparatus, the mean time required to correct the failure is a sum of the mean time required to locate it and the mean time required to remove the cause

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ACCESSION NR: AP5014210

of the failure, the sequence of restoring the operation is the simplest possible, the idle time due to lack of spare components is not included in the calculation, all transducers of the control system are equally reliable, the time required to locate the element which failed is inversely proportional to the number of control points, and no failures occur during the time a failure is being corrected. The condition for the minimum value of the idling coefficient is found, and hence the optical number of control points. A numerical example is worked out. Orig. art. has: 1 figure and 13 formulas.

ASSOCIATION: none

SUBMITTED: 28Feb64

ENCL: 00

SUB CODE: IE

NR REF SOV: 000

OTHER: 000

BARVINSKIY, L.L. [Barvins'kyi, L.L.] (Kiyev); DEM'YANCHUK, V.S. (Kiyev)

Reliability of doubled systems taking into account the nature of switch faults and the control network. Avtomatyka 10 no.4:3-9 '65. (MIRA 18:10)

L 30394-66 EWT(1) TG
ACC NR: AP6005847 SOURCE CODE: UR/0102/65/000/004/0003/0009

AUTHOR: Barvins'kyy, L. L. -- Barvinskiy, L. L. (Kiev); Dem'yanchuk, V. S. (Kiev)ie

ORG: none

51
B

25

TITLE: The reliability of doubled systems taking into account the nature of failure of switches and control circuits

SOURCE: Avtomatyka, no. 4, 1965, 3-9

TOPIC TAGS: reliability engineering, circuit reliability, redundant system, control circuit, switching circuit

ABSTRACT: The authors present a method for the determination of the failure probability of a doubled system with functional replacement of channels which failed, taking into account the dynamic and static failures of switches and control circuits. An analysis of the obtained expressions for the determination of the failure probability of the system investigated shows that the presence of such failures as the arbitrary switching in of reserve channel switches considerably increases the probability of system failure. In view of this, it is necessary to have the intensity of arbitrary switching in of switches 3 to 4 orders

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ACC NR: AP6005847

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lower than the intensity of their arbitrary switching off. An evaluation is made of the dependence of the relative error in the calculation of failure probability of the doubled system without taking into account the failures of the switches compared to the failure probability of the real system from the relationship of the intensities of failure of the switches and the reserve units. The error is increased with an increase in the intensity ratio. In order to reduce the error indicated, it is necessary to reduce the probability of the dynamic and the static failures of the switches. Orig. art. has: 3 figures.

SUB CODE: 14, 09 / SUBM DATE: 20Dec63 / ORIG REF: 003

Card 2/2 cc

L 09915-67 EWT(d)/EWP(1)

ACC NR: AP6034639 SOURCE CODE: UR/0102/66/000/004/0018/0025

AUTHOR: Dem'yanchuk, V. S. (Kiev); Barvins'kyy, L. L.--Barvinskiy, L. L. (Kiev)

ORG: none

TITLE: Idle-time coefficient of long-used reserve systems, taking into account their restorability and preventive maintenance Part I

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ABSTRACT: The authors analyzed the problems of estimating the idle time coefficient for reserve systems with a sliding loaded, unloaded, and "mixed" restorable reserve. Expressions are derived permitting the determination of the necessary minimum of reserve units, their operating conditions, and the number of maintenance personnel with the given idle-time coefficient. A procedure is given for determining the idle-time coefficient of reserve systems for carrying out preventive maintenance on the reserve units, and final expressions are derived for

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calculating the idle-time coefficient. It is assumed that there is always enough servicing personnel to carry out the preventive maintenance. Orig. art. has: 14 formulas. [Based on authors' abstract]

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