FREYDKIN, M.Ya.; LEVINA, N.S.; ZHUSTAREV, Ye.N.

Finish machining of holes by grooving. Stan.i instr. 31 no.2:37-40 F '60. (MIRA 13:5)
(Metals--Finishing)

LEVINA, M. Ya.

Growth modifications of the jelly of Wharton in the human umbilicus. Doklady Akad.nauk SSSR 77 no.1:109-112 1 Mar 51. (CLML 20:6)

1. Presented by Academician N.N. Anichkov 2 January 1951.

LEVINA, M. Ya.

Gelatinous substance of the human umbilicus and its formation. Doklady Akad. nauk SSSR 79 no.4:709-711 1 Aug 1951. (CIML 21:1)

1. Leningrad State Pediatric Medical Institute. 2. Presented 29 May 1951 by Academician N. N. Anichkov.

LEVINA, M.Ya.

Ability to secrete by smooth-muscle cells of the umbilical vessels in man. Doklady Akad. nauk 86 no. 4:837-840 1 Oct 1952. (CLML 23:3)

1. Presented by Academician N. N. Anichkov 2 June 1952. 2. Leningrad State Medical Pediatric Institute.

1. LEVINA, M. Ya.

2. USSR (600)

4. Umbilicus

7. Certain data concerning the structure and development of umbilical vessels in the human embryo. Dokl. AN SSSR, 89, No. 1, 1953.

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

LEVINA, M. Ya.; ANICHKOV, N.N., akademik.

Tissue character of the stroma of small intestine villi. Dokl. AN SSSR 90 no.6:1151-1154 Je '53. (MLRA 6:6)

1. Leningradskiy gosudarstvennyy pediatricheskiy meditsinskiy institut. (Intestines)
2. Akademiya nauk SSSR (for Anichkov).

LEVINA, M. Ya.

USSR/Medicine - Histology

Card 1/1 : Pub. 22 - 40/44

Authors : Levina, M. Ya.

Title : Certain facts about the histogenesis of the human umbilical cord

Periodical : Dok. AN SSSR 98/6, 1029-1032, October 21, 1954

Abstract : Report containing certain facts about the histogenesis of the human umbilical cord is presented. Fifteen references: 7-USSR; 6-German and 2-USA (1889-1951). Illustrations.

Institution : State Pediatrics Medical Institute, Leningrad

Presented by: Academician N. N. Anichkov, July 7, 1954

LEVINA, M.Ya.

Reproduction of settled cellular elements in Wharton's jelly in the human umbilical cord. Dokl. AN SSSR 104 no.6:922-924 O '55. (MLRA 9:3)

1. Leningradskiy gosudarstvennyy pediatricheskiy meditsinskiy institut. Predstavleno akademikom N.N. Anichkovym.

(UMBILICUS)

LEVINA, M.Ya.

Certain features in the structure of the middle layer (tunica media) of the aorta in cows of various ages. Dokl. AN SSSR 112 no.3:533-535 Ja '57. (MLRA 10:4)

1. Leningradskiy pediatricheskiy meditsinskiy institut. Predstavleno akademikom N.N. Anichkovym.
(AORTA)

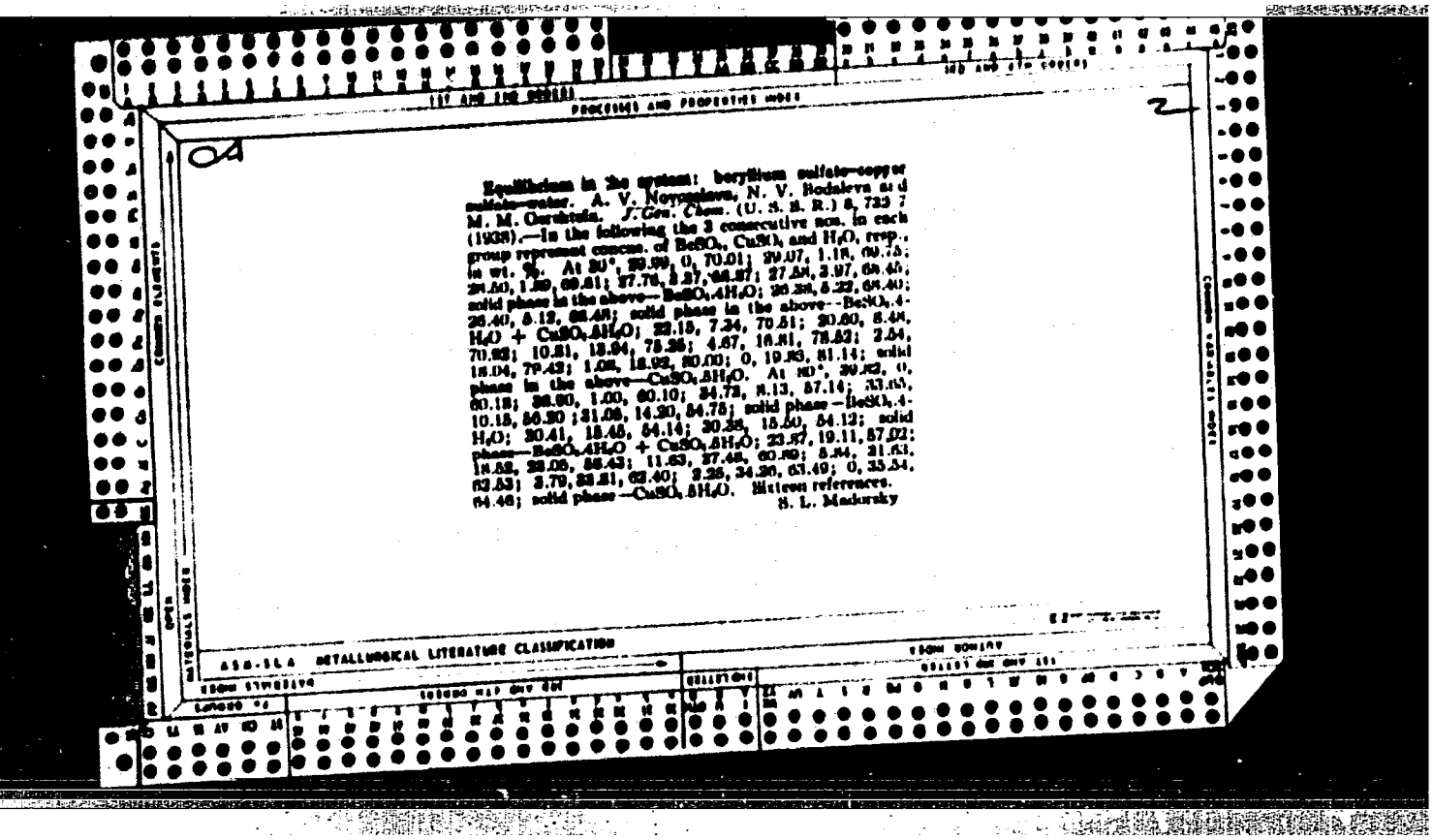
LEVINA, M.Ya. (Leningrad, D-40, Pushkinskaya ul., 12/2, kv. 44)

Comparative histology of the amniotic epithelium of mammals. Arkh. anat.gist.i embr. 39 no.7:37-46 Jl '60. (MIRA 14:5)

1. Kafedra gistologii i embriologii (zav. - prof. A.G.Knorre) Leningradskogo pediatricheskogo meditsinskogo instituta.
(AMNION)

LEVINA, M.Ya.; MARTSINKEVICH, L.D.

"Atlas of the microscopic structure of tissues and organs; practical exercises for students in histology" by V.G. Eliseev, IU.I. Afanas'ev, E.F. Kotovskii. Reviewed by M.IA. Levina, L.D. Martsinkevich. Arkh. anat., gist. i embr. 43 no.8:115-119 Ag '62. (MIRA 17:8)



Equilibrium in the system: beryllium sulfate–copper sulfate–water. A. V. Novoselova, N. V. Bodaleva and M. M. Cherbotin. *J. Gen. Chem.* (U. S. S. R.) 8, 733 7 (1938).—In the following the 3 consecutive nos. in each group represent concns. of $BeSO_4$, $CuSO_4$ and H_2O, resp., in wt. %. At 20°: 20.99, 0, 79.01; 20.07, 1.18, 69.75; 20.60, 1.39, 69.81; 27.78, 3.27, 68.97; 27.54, 3.97, 68.49; solid phase in the above—$BeSO_4.4H_2O$; 20.38, 5.22, 68.40; 20.40, 5.12, 68.48; solid phase in the above—$BeSO_4.4H_2O$ + $CuSO_4.5H_2O$; 22.15, 7.24, 70.61; 20.80, 8.48, 70.92; 10.81, 18.24, 75.25; 4.67, 16.81, 78.52; 2.54, 18.04, 79.42; 1.08, 18.92, 80.00; 0, 19.86, 81.14; solid phase in the above—$CuSO_4.5H_2O$. At 80°, 30.82, 0, 69.18; 28.90, 1.00, 60.10; 24.78, 8.13, 67.14; 33.65, 10.15, 56.20; 31.08, 14.20, 54.75; solid phase—$BeSO_4.4H_2O$; 30.41, 15.45, 54.14; 30.38, 15.50, 54.12; solid phase—$BeSO_4.4H_2O$ + $CuSO_4.5H_2O$; 23.57, 19.11, 57.02; 18.82, 28.05, 56.43; 11.63, 27.48, 60.89; 5.84, 31.63, 62.53; 3.79, 33.81, 62.40; 2.25, 34.20, 63.49; 0, 35.54, 64.46; solid phase—$CuSO_4.5H_2O$. Fifteen references.

S. L. Madorsky

1ST AND 2ND ORDERS

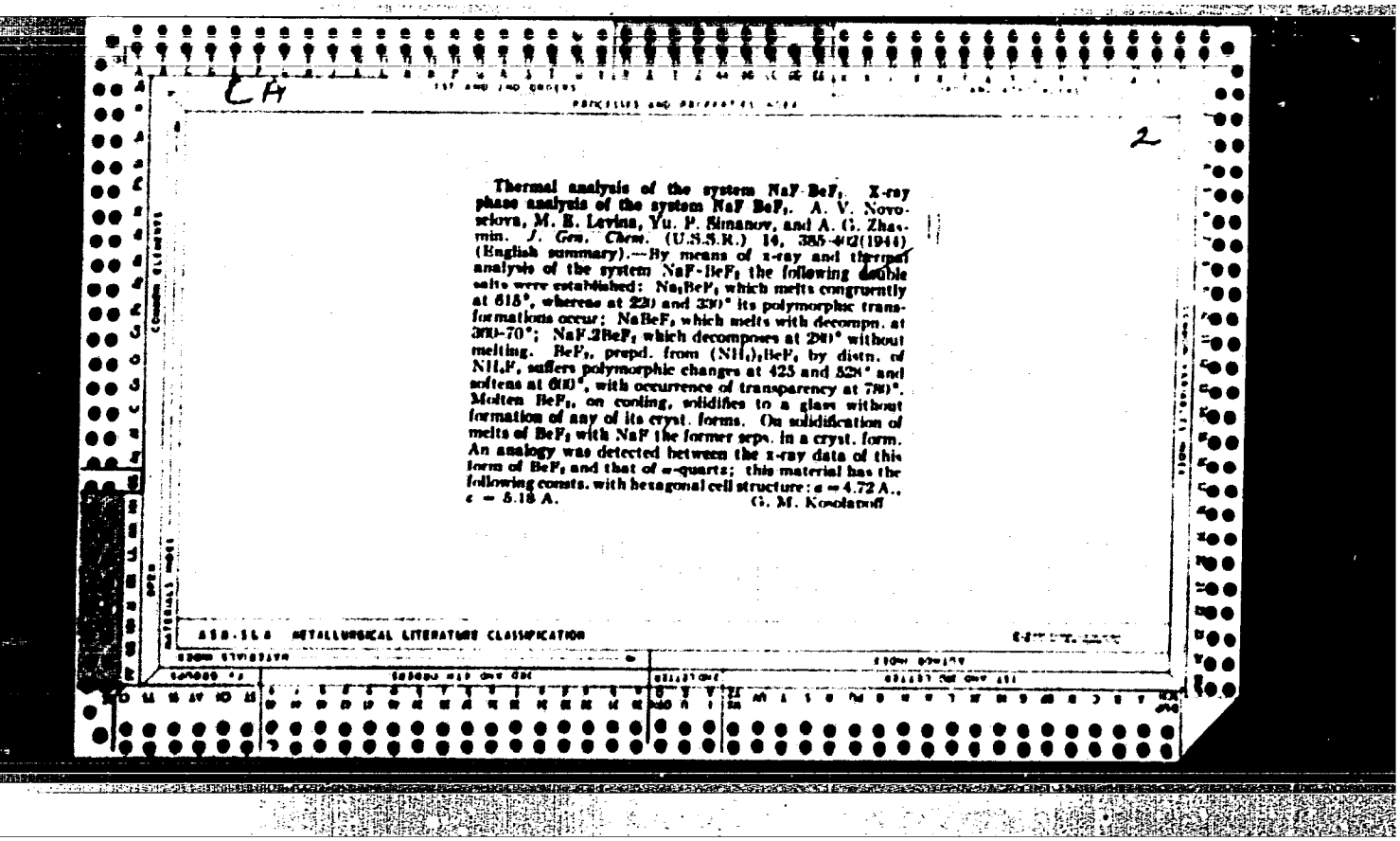
3RD AND 4TH ORDERS

PROCESSES AND PROPERTIES INDEX

Dissociation pressure of crystallohydrates of beryllium sulfate. A. V. Novoselova and M. K. Levina. *J. Gen. Chem.* (U. S. S. R.) 8, 1143-51 (in English, 1152) (1938). Dissocn. pressure of crystallohydrates of $BeSO_4$ contg. up to 4 mol. of H_2O of crystn. was investigated at 25, 30, 34, 40, 45 and 80°. The existence of $BeSO_4.2H_2O$ and $BeSO_4.4H_2O$ was confirmed but not that of $BeSO_4.H_2O$. At 200° the hydrates are converted into the anhyd. form.

S. L. Madorsky

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



CA

2

Thermal analysis of the system NaF-BeF_2. X-ray phase analysis of the system NaF-BeF_2. A. V. Novoselova, M. E. Levina, Yu. P. Simanov, and A. G. Zhasmin. *J. Gen. Chem.* (U.S.S.R.) 14, 385-402(1944) (English summary).—By means of x-ray and thermal analysis of the system NaF-BeF_2 the following double salts were established: Na_2BeF_4, which melts congruently at 618°, whereas at 220 and 330° its polymorphic transformations occur; $NaBeF_3$, which melts with decompn. at 300-70°; $NaF.2BeF_2$, which decomposes at 280° without melting. BeF_2, prepd. from $(NH_4)_2BeF_4$ by distn. of NH_4F, suffers polymorphic changes at 425 and 528° and softens at 610°, with occurrence of transparency at 780°. Molten BeF_2, on cooling, solidifies to a glass without formation of any of its cryst. forms. On solidification of melts of BeF_2 with NaF the former sepa. in a cryst. form. An analogy was detected between the x-ray data of this form of BeF_2 and that of α-quartz; this material has the following consts. with hexagonal cell structure: $a = 4.72$ A., $c = 5.18$ A.

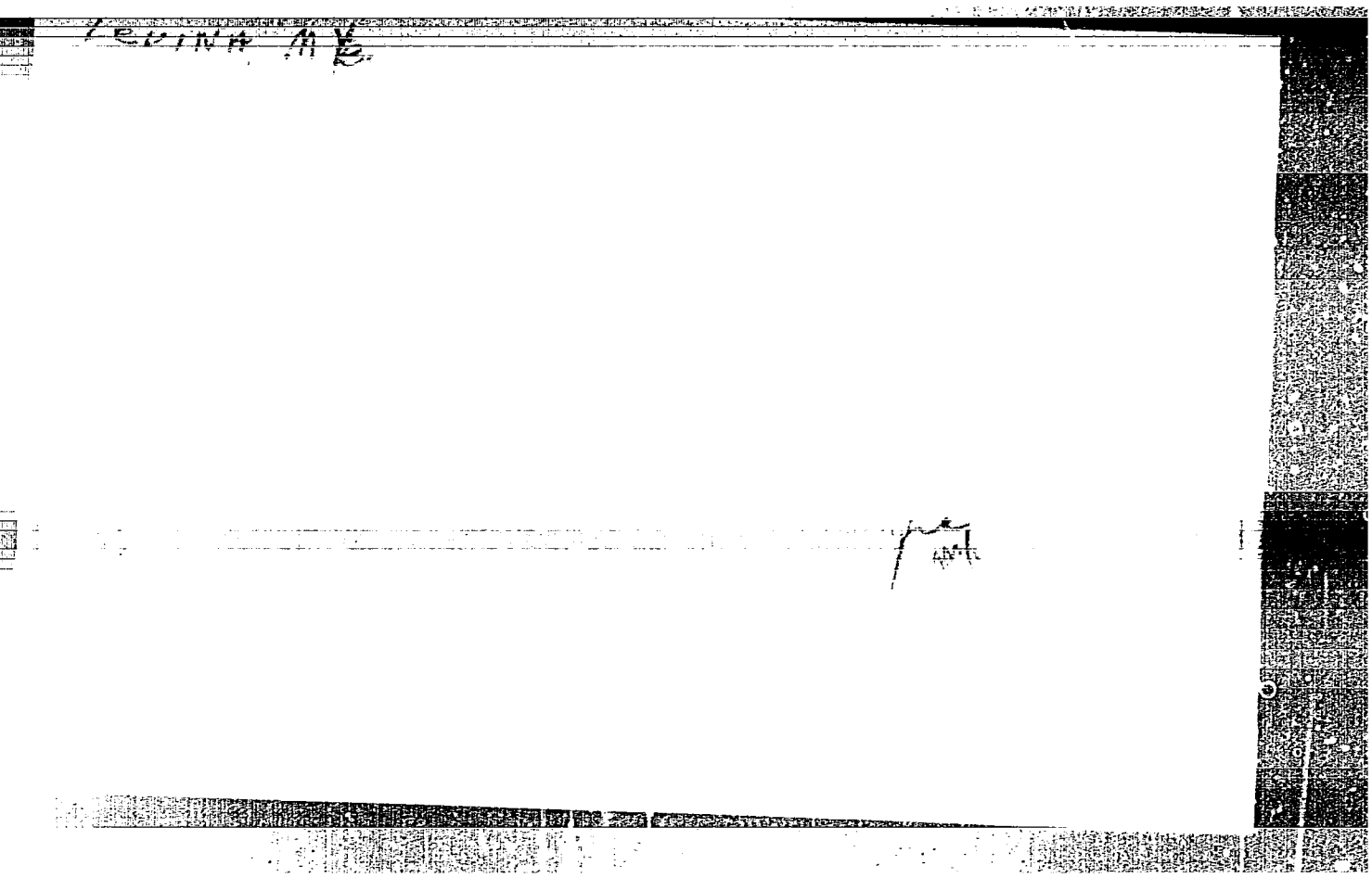
G. M. Kosolapoff

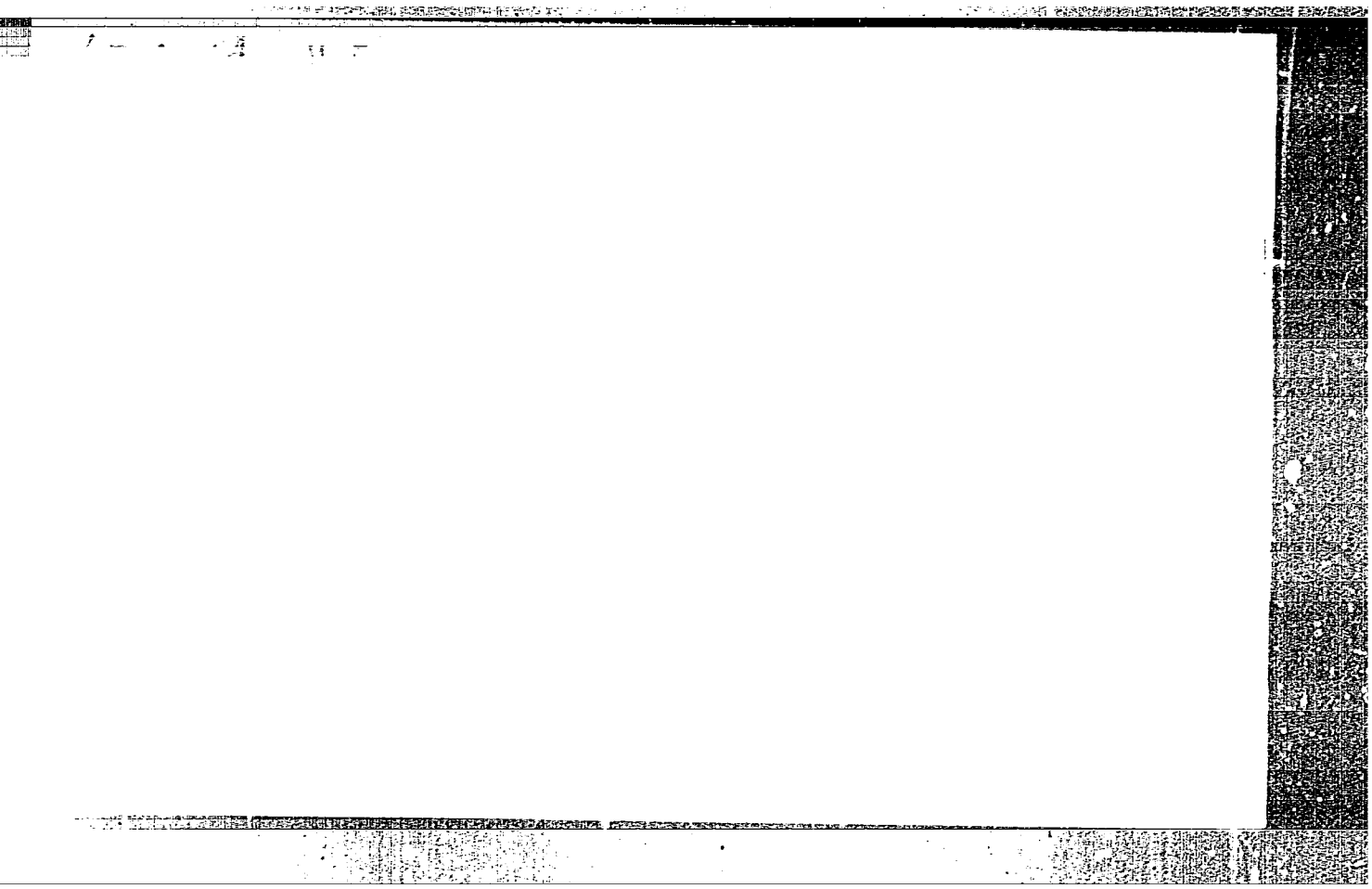
ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

CA

2

Transitions in sodium metaphosphate on heating. K. G. Khunyakov and M. R. Levina (Moscow State Univ.). *Vestnik Moskov. Univ.* 5, No. 9, *Ser. Fiz.-Mat. i Estestven Nauk* No. 6, 43-50(1950).—On continuous heating under near-adiabatic conditions, the heat capacity C_p of pure $NaPO_3$ falls very slowly from 0.20 cal./g. at 350° to 0.18 at 470°, this is taken as an indication of some slight change accompanied by a pos. thermal effect. From 490° up, C_p increases, first slowly, then more rapidly, to a peak of 0.37 cal./g. at 524°, whereupon it again falls to 0.20 within a narrow temp. range of about 5°. From 540° up, C_p again rises and reaches a high peak of 1.27 cal./g. at 577°. The integral heats of transition are, at 524°, 185 cal./mole, and at 577°, 800 cal./mole. The transition at 524° was reversible and reappears on repeated heating (the transition at 577° was not investigated in that respect). These results are somewhat different from those of Pascal (*C.A.* 17, 2840; 20, 2112, 2479) and of Boulle (*C.A.* 29, 2469[9]). N. Thon





APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R000929610009-5"

LEVINA, M.Ye.; NOVOSELOVA, A.V.; SIMANOV, Yu.P.; BAKINA, L.I.

Thermal and X-ray phase analysis of the system: K_2BeF_4 -- K_2SO_4.
Zhur.neorg.khim. 1 no.7:1638-1641 Jl '56. (MLRA 9:11)

1. Moskovskiy gosudarstvennyy universitet imeni M.V. Lomonosova.
(Potassium salts)

Reaction of formation and hydrolysis kinetics of magnesium phosphide. M. E. Levina and S. A. Silunova. *Vestnik Moskov. Univ., Ser. Mat., Mekh., Astron., Fiz. i Khim.* 11, No. 2, 161-6(1956). Mg_3P_2 and possibly a phosphide of the brutto compn. Mg_3P_4 was obtained at 320-602° in evacuated sealed quartz-glass tubes. Hydrolysis with H_2O vapor leads to the transformation of the solid Mg_3P_2 phase to the solid $Mg(OH)_2$ phase as a topochem. reaction. Curves illustrating the reaction velocity change with time are different for different samples with different P-content. A step-wise change of the kinetic const. for Mg phosphides with P above 45% indicates a new solid phase, apparently Mg_3P_4.

E. Ryshkevitch

SOV/78-3-11-21/23

AUTHORS: Novoselova, A. V., Levina, M. Ye., Savel'yeva, M. P.

TITLE: The Phase Diagram of the System $NaF-BeF_2$ (Diagramma sostoyaniya sistemy $NaF-BeF_2$)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1958, Vol 3, Nr 11, pp 2562-2570 (USSR)

ABSTRACT: The system $NaF-BeF_2$ was investigated in the crystallization range of beryllium fluoride. Purest sodium- and ammonium-beryllium fluoride were used for the investigation: Na_2BeF_4 and $(NH_4)_2BeF_4$. The differential thermal analysis was carried out by means of the pyrometer by Kurnakov. It was found that in the case of the thermal treatment of Na_2BeF_4 besides the thermal effects at 220 and 326°C also an endothermal effect at 270°C occurs on the thermograms. Na_2BeF_4 melts at 610 ± 5°C. The results of the thermal analyses of the melt of the system $NaF-BeF_2$ are given in table 1. The phase diagram of the system is given in figure 1. The following double salts were found to

Card 1/2

The Phase Diagram of the System $NaF-BeF_2$

occur in the system: 3 $NaF.BeF_2$ (decomposes at 480°C), $2NaF.BeF_2$ (m lting point at 610°C), $NaF.BeF_2$ or $NaBeF_3$ (melting point at 380°C), $NaF.2\ BeF_2$ (decomposes at 270°C).

Thermal analyses of the melts were carried out with 33,3 - 50 mol% BeF_2 as well as with 50 - 100 mol% BeF_2. On the strength of the investigations carried out a second phase diagram of $NaF-BeF_2$ was constructed on which also the limit of the high-temperature modification is plotted. The structure of the high-temperature modification of beryllium fluoride was not determined. The melting point of this modification is 800°C.
There are 8 figures, 4 tables, and 17 references, 9 of which are Soviet.

SUBMITTED: July 17, 1957

Card 2/2

24.7800 (1142, 1144, 1162)

85004
S/048/60/024/010/013/033
B013/B063

AUTHORS: Koptsik, V. A., Strukov, B. A., Sklyankin, A. A., and Levina, M. Ye.

TITLE: Dielectric and Calorimetric Study of Ammonium Sulfate- and Ammonium Fluoroberyllate Crystals

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1960, Vol. 24, No. 10, pp. 1228-1230

TEXT: Large ammonium sulfate monocrystals were obtained from an aqueous solution of the chemically pure reagent by applying the cooling method. Ammonium fluoroberyllate was synthesized by Lebeau's method (Ref. 5). The crystals were bred from its aqueous solution by evaporating at a constant temperature. Studied dielectrically were c-cuts of $(NH_4)_2SO_4$ crystals and b-cuts of $(NH_4)_2BeF_4$ crystals. The crystalline powder used for the crystal breeding was studied calorimetrically. ε and tan δ were measured after all stabilization processes were over. Temperature dependences of ε and tan δ are shown in Fig. 1 for the c-cut of $(NH_4)_2SO_4$ crystals,

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and in Fig. 2 for the b-cut of $(NH_4)_2BeF_4$ crystals. The dependences tan $\delta(T)$ have the same character in both crystal types. ε (T), on the contrary, exhibit considerable differences. The authors also considered temperature dependences of polarization for different field strengths in the region of phase transformations of the mentioned crystals. The respective results are published in a separate article. Fig. 3 shows the temperature dependence of specific heat c_p for $(NH_4)_2SO_4$. It was found that the cooling of the specimens at $T > T_K$ is not always accompanied by their transition into the piezoelectric phase. The undercooling was determined as being about $0.4 \div 0.5^\circ$, which corresponds to dielectric measurement results. The mean value of integral temperature of transition was 490 cal/mole. The temperature dependence of c_p on $(NH_4)_2BeF_4$ is given in Fig. 4. The curve shows a characteristic λ-peak. No undercooling effect was observed. The discrepancy between the transition temperatures determined calorimetrically (-49.9 and $-98.6^\circ C$) and those determined dielectrically (-47.6 and $-93.4^\circ C$) is probably to be explained by an inaccurate graduation of the

8500 4

Dielectric and Calorimetric Study of Ammonium Sulfate- and Ammonium Fluoroberyllate Crystals

S/048/60/024/010/013/033
B013/B063

thermocouples used in dielectric measurements. The authors thank A. N. Izrailenko and A. F. Solov'yev for their assistance. The present paper was read at the Third Conference on Piezoelectricity, which took place in Moscow from January 25 to 30, 1960. There are 4 figures and 7 references: 3 Soviet.

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

Card 3/3

LEVINA, M.Ye.; KHROMOVA, N.V.

Phase transitions and heats of solution of potassium fluoberyllate (K_2BeF_4). Izv.vys.ucheb.zav.;khim.i khim.tekh. 6 no.5:717-723 '63. (MIRA 16:12)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova, kafedra obshchey khimii.

LEVINA, M.Ye.; SEMENOVA, A.D.

Heats of solution of various modifications of sodium fluoberyllate (Na_2BeF_4). Vest.Mosk.un. Ser.2:Khim. 18 no.6:55-58 N-D '63. (MIRA 17:4)

1. Kafedra obshchey khimii Moskovskogo universiteta.

LEVINA, M.Ye.

Phase transitions of sodium fluoberyllates (Na_2BeF_4). Vest. Mosk. un. Ser. 2: Khim. 18 no.5:34-38 S-O '63. (MIRA 16:11)

1. Kafedra obshchey khimii Moskovskogo universiteta.

LEVINA, M.Ye. [Levina, M.E.]; SHERSHEV, B.S. [Shershov, B.S.]

Phase diagram of the system $KBeF_3$ - KPO_3. Dop. AN URSR no.7: 942-945 '64. (MIRA 17:9)

1. Moskovskiy gosudarstvennyy universitet. Predstavleno akademikom AN UkrSSR Ye.A.Shilovym [Shylov, IE.O.].

LEVINA, M.Ye.

True heat capacity of various sodium phosphates. Izv.vys.ucheb. zav.;khim. i khim. tekh. 7 no. 1:7-9 '64. (MIRA 17:5)

1. Moskovskiy gosudarstvennyy universitet im. Lomonosova, kafedra obshchey khimii.

[redacted], M.Ye.; [redacted], V.I.

Phase transitions and heats of dissolution of $NaBeF_3$. Ukr. khim. zhur. 30 no.9:925-928 '64.

(MIRA 17:10)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.

LEVINA, M.Ye.; SHERSHEV, B.S. [Shershov, B.S.]

Transmission spectra of glasses in the systems $NaBeF_3$ - $NaPO_3$ and $KBeF_3$ - KPO_3. Dop. AN URSR no.1:70-73 '65.
(MIRA 1[illegible])

1. Moskovskiy gosudarstvennyy universitet. Predstavleno akademikom AN UkrSSR Ye.A. Shilovym [Shylov, Y.O.].

ACCESSION NR: AP5015567 UR/0153/65/008/002/0177/0180

AUTHOR: Levina, M. Ye.

TITLE: Phase transformations of beryllium fluoride

SOURCE: IVUZ. Khimiya i khimicheskaya tekhnologiya, v. 8, no. 2, 1965, 177-180

TOPIC TAGS: beryllium fluoride, phase transformation, polymorphism, heat capacity

ABSTRACT: The polymorphism of beryllium fluoride was studied by measuring the heat capacity. The procedure and apparatus used for the preparation of [illegible] are described. The preparation involved the reaction $(NH_4)_2BeF_4 \rightarrow BeF_2$. Certain phase transformations of both the cristobalitelike and quartzlike forms of BeF_2 were investigated (see Figs. 1 and 2 of the Enclosure). In Fig. 1, the thermal effect at [illegible] corresponds to the transformation of the low-temperature quartzlike [illegible] into the high-temperature form. On the basis of the heat capacity data, the authors evaluate that the phase transformation of quartzlike BeF_2 are first-order [illegible]. In the case of the cristobalitelike form of BeF_2 the phase transformations are also [illegible]. Orig. art. has 3 figures.

Card 1/4

59284-65

ACCESSION NR: AP5015567

ASSOCIATION: Kafedra obshchey khimii, Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova (Department of General Chemistry, Moscow State University)

SUBMITTED: 09Jul63 ENCL: 02 SUB CODE: GC

NO REF SOV: 008 OTHER: 006

2/4

L [illegible]
ACCESSION NR: AP6016567

ENCL: 01

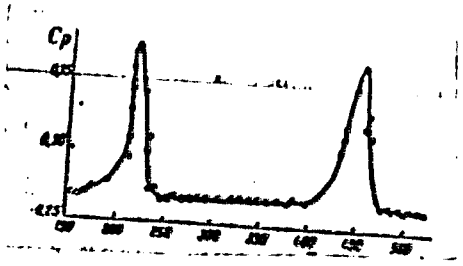

Figure 1. Temperature dependence of the heat capacity of the quartzlike form of BeF_2.

Card 3/4

ACCESSION NR: AP5015567

ENCL: 02

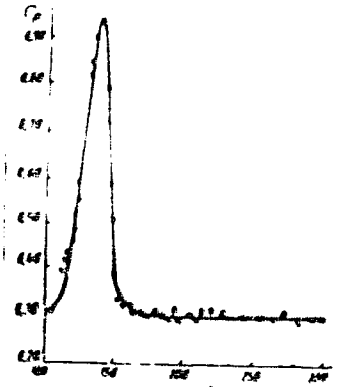

Figure 2. Temperature dependence of the heat capacity of the cristobalitelike form of BeF_2

Card 4/5

LEVINA, M.Ye.; KUKHARENKO, I.N.; KALITIN, V.I.

Phase diagrams of the systems Na_2BeF_4 - Na_3PO_4 and K_2BeF_4 - K_3PO_4. Izv. vys. uchab. zav.; khim. i khim. tekh. 8 no.1: 3-10 '65. (MIRA 18:6)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova, kafedra obshchey khimii.

L 00030-66 EWT(m)/EWP(t)/EWP(b) IJP(c) JD/JG
ACCESSION NR: AP5020309 UR/0186/65/007/004/0480/0482

AUTHOR: Lavina, M. Ye.; Shershev, B. S.; Zaborenko, K. B.

TITLE: Emanation study of the sodium beryllium trifluoride-sodium metaphosphate system

SOURCE: Radiokhimiya, v. 7, no. 4, 1965, 480-482

TOPIC TAGS: sodium compound, radioactivity measurement, phase diagram

ABSTRACT: The purpose of this investigation was to determine more accurately the phase diagram of $NaBeF_3$-$NaPO_3$ system, which was previously studied by means of thermal analysis, and to investigate chemical reactions of mixtures in solid state which would give additional data concerning this system. The phase diagram of the $NaBeF_3$-$NaPO_3$ system consists of a continuous series of solid solutions (Fig. 1 of the Enclosure). The methods and the apparatus for measurement of the emanation of pure compounds during heating are described in *Radiokhimiya*, 5, 360 (1963). Radiothorium chloride was introduced as an alcoholic solution into finely ground $NaBeF_3$ powder which was then thoroughly mixed and dried. The active $NaBeF_3$ was mixed in appropriate molar ratios with $NaPO_3$. The mixture was placed into a Pt crucible and

Card 1/3

L 00030-66
ACCESSION NR: AP5020309

heated in the metal block of an electric furnace. The temperature was measured with a Pt-Pt/Rh thermocouple. The ionization chamber was used for measuring the activity of thoron. The experimental data obtained by the emanation method verify the existence of a liquidus curve of the continuous series of solid solutions in the investigated system. Orig. art. has: 4 figures.

ASSOCIATION: none

SUBMITTED: 10Jul64 ENCL: 01 SUB CODE: IC, GC

NO REF SOV: 004 OTHER: 002

Card 2/3

L 00030-66
ACCESSION NR: AP5020309

ENCLOSURE: 01

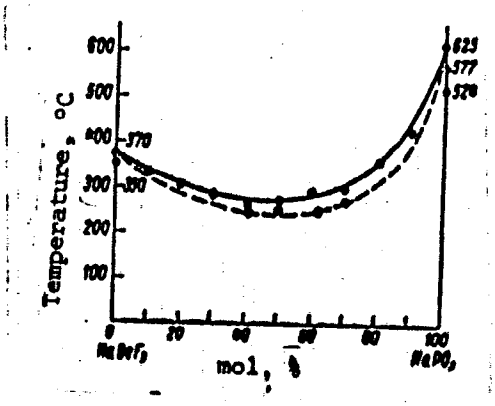

Fig. 1. Phase diagram of $NaBeF_3$-$NaPO_3$ system

Card 3/3

L 20992-66 EWP(e)/EWT(m)/T DIAAP WH
ACCESSION NR: AP5020310 UR/0186/65/007/004/0483/0486
541.123.2:546.45'32'161+546.32'185:546.296'543.226

AUTHOR: Levina, M. Ye.; Shershev, B. S.; Zaborenko, K. B. 32 B

TITLE: Study of the $KBeF_3$-KPO_3 system by the radioactive emission method 19

SOURCE: Radiokhimiya, v. 7, no. 4, 1965, 483-486

TOPIC TAGS: fluoroberyllium glass, phosphate glass, optical glass, infrared glass filter, fluoroberyllate phosphate system, phase diagram, radioactive emission method

ABSTRACT: The phase diagram and solid-state chemical reactions of the $KBeF_3$-KPO_3 system have been studied by the radioactive emission method with emphasis on the region of the diagram in the 10—40 mol% KPO_3 range, the study of which had not been completed previously. The beryllium glasses formed in this region are the most transparent in ultraviolet or infrared spectral regions, and the most weatherproof of all the glasses in the system studied, and therefore may find application as new optical glassy materials. The curves of emissive power versus temperature of the sample indicated that a chemical reaction in the solid state started at 200—220C. Earlier DTA data obtained by the authors were confirmed, indicating the formation of a $KBeF_3$-KPO_3 compound with a melting point of 495—500C, which formed two eutectics

Card 1/2

L 20992-66

ACCESSION NR: AP5020310

with the pure components of the system. The peaks of the emission curves from the eutectic mixtures containing 20—35 mol% KPO_3 indicated that the melting begins at 295—300C for all these mixtures and ends at a temperature varying with the composition. The latter temperature data coincided with data determined earlier from the liquidus curve extrapolated because it was impossible to obtain experimental DTA data for this part of the phase diagram. Orig. art. has: 5 figures. [JK]

ASSOCIATION: none

SUBMITTED: 10Jul64 ENCL: 00 SUB CODE: MT, NP

NO REF SOV: 002 OTHER: 008 ATD PRESS: 4069

Card 2/2

L 20679-66 EWP(e)/EWT(m)/EPF(n)-2/T/EWP(t) IJP(c) JD/WW/JW/JG/WH

ACC NR: AP6010832 SOURCE CODE: UR/0073/66/032/003/0253/0255

AUTHOR: Levina, M. Ye.; Shershev, B. S. 43 13

ORG: Moscow State University im. M. V. Lomonosov (Moskovskiy gosudarstvennyy universitet)

TITLE: Phase diagram of the $NaBeF_3$—$NaPO_3$ system

SOURCE: Ukrainskiy khimicheskiy zhurnal, v. 32, no. 3, 1966, 253-255

TOPIC TAGS: fluoroberyllate glass, phosphate glass, optical glass, infrared glass filter, metafluoroberyllate metaphosphate system, phase diagram

ABSTRACT: The phase diagram of the $NaBeF_3$—$NaPO_3$ system has been established by differential thermal analysis of the molten, slow cooled mixtures of pure components of the system to determine the conditions of formation of fluoroberyllate glasses. The formation of such glasses was reported in the literature. A rapid (30—40C per min) cooling of the $NaBeF_3$-$NaPO_3$ melts produced transparent, moisture resistant glasses over the entire range of concentrations of the components. Quality of the glasses was improved by pouring the melt on a platinum sheet. The phase diagram of the system was typical for a continuous series of solid solutions with a minimum melting point at 40 mol% $NaPO_3$. Composition dependence of dielectric losses, tg δ and of refractive indices of the glossy samples confirmed formation of continuous solid solutions. The glasses formed by rapid cooling of the melts had low melting points (~240—625C) and were partially transparent in the ultraviolet and infrared

Card 1/2 UDC: 536.7

L 20679-66

ACC NR: AP6010832

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spectral regions. They do not crystallize by annealing and may be used in industry. Crystallized glasses of the $NaBeF_3$—$NaPO_3$ system were obtained by a slow cooling of the melts of any composition within the system. Orig. art. has: 4 figures. [JK]

SUB CODE: 11/ SUBM DATE: 11Jul64/ ORIG REF: 007/ OTH REF: 003/ ATD PRESS: 4223

Card 2/2 BK

ACC NR: AT7003561 (N) SOURCE CODE: UR/3240/66/000/001/0045/0053

AUTHORS: Grebnev, V. K.; Levina, M. Ye.; Shnee, Ya. I.

ORG: Kharkov Polytechnic Institute (Khar'khovskiy politekhnicheskiy institut)

TITLE: A study of stages with D/l = 5 with a distinct radial gradient of reactivity

SOURCE: Kharkov. Politekhnicheskiy institut. Energeticheskoye mashinostroyeniye, no. 1, 1966. Teploobmen i gazodinamika (Heat transfer and gas dynamics), 45-53

TOPIC TAGS: turbojet engine, ~~jet engine, jet nozzle, jet propulsion, turbine~~, gas turbine, turbine stage, turbine blade

ABSTRACT: The problem of what radial gradient of reactivity is optimal for a given range of D/l in a turbine stage is solved. Variation in the law of distribution of stage reactivity along the height of the blade is due to variation of the kinematic relationships in individual blade sections, and thus to variation of the sum of hydraulic losses (relative losses in jets and in blades ($\zeta_c + \zeta_r$)). In this study, D/l was varied between 2.5 and 40 by changing the values of other controllable parameters. Fifteen stage variants were tested, and the performance characteristics of each combination are plotted as a function of the intervane distance L. The authors conclude that: 1) the intervane distance has a pronounced effect upon the radial gradient of reactivity, especially for stages exhibiting a large curvature of meridional streamlines with a small intervane distance; 2) the radial gradient of

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ACC NR: AT7003561

reactivity is subject to the law of torsion of a jet lattice, for a small intervane distance; 3) the law of clogging a flow section by the body of a blade plays an important role in the curvature of meridional streamlines; 4) the radial difference of reactivity decreases with decreasing width of the jet lattice; 5) the torsion law of the working lattice also affects the curvature of meridional streamlines within the intervane gap. Orig. art. has: 6 figures and 3 tables.

SUB CODE: 21,20/ SUBM DATE: none/ ORIG REF: 005

Card 2/2

ACC NR: AT7003562 (N) SOURCE CODE: UR/3240/66/000/001/0054/0059

AUTHORS: Grechanichenko, Yu. V.; Levina, M. Ye.

ORG: Kharkov Polytechnic Institute (Khar'kovskiy politekhnicheskiy institut)

TITLE: Calculation of the three-dimensional double-parameter flow in a stage with arbitrary meridianal boundaries

SOURCE: Kharkov. Politekhnicheskiy institut. Energeticheskoye mashinostroyeniye, no. 1, 1966. Teploobmen i gazodinamika (Heat transfer and gas dynamics) 54-59

TOPIC TAGS: turbine, turbine stage, compressible fluid, uniform flow, fluid flow, axisymmetric flow/ KhTGZ K-300-240 turbine

ABSTRACT: The development and techniques of a previous work by M. Ye. Levina, P. A. Romanenko, and V. I. Grechanichenko (Raschet raspredeleniya parametrov potoka v turbinnoy stupeni s tsilindricheskimi granitsami. Zh. Energomashinostroyeniye, 1964, No. 8) are generalized for calculating the parameters of a compressible fluid, with variable parameters at the input of a turbine stage with noncylindrical profile. The previous assumptions of a uniform helical flow in the gap and of a parabolic dependence of C_r with radius are dispensed with. The subcritical flow of a fluid in a turbine stage, assuming axially symmetric flow, is described by the Euler equation projected on the r axis

$$\frac{1}{\rho}\frac{\partial p}{\partial r} = \frac{C_\theta^2}{r} - C_r\frac{\partial C_r}{\partial r} - C_z\frac{\partial C_r}{\partial z},$$

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ACC NR: AT7003562

the energy equation

$$C_{p0}T_0^* = \frac{k}{k-1}\frac{P}{\rho} + \frac{C^2}{2} + uC_u + uC_{pu},$$

the process equation

$$\frac{P}{\rho^k} = \text{const},$$

the continuity equation in differential form

$$\frac{\partial}{\partial r}[\rho(r-\tau)C_r] + \frac{\partial}{\partial z}[\rho(r-\tau)C_z] = 0,$$

where τ is the total blade thickness in the circumferential direction, and by the kinematic relation between the velocity projections

$$C_u = C_z \operatorname{ctg}\beta + u = C_z \operatorname{ctg}\alpha .$$

The velocity components are expressed as partial derivatives of a function which is found in the form of a series. Calculations were carried out for a stage with the geometrical characteristics of the last stage of turbine KhTGZ K-300-240. The calculated meridianal flow lines and the distribution of velocity components and pressure along the radius are shown graphically. Orig. art. has: 15 equations and 4 diagrams.

SUB CODE: 21, 20/ SUBM DATE: none/ ORIG REF: 006

Card 2/2

LEVINA, M.Ye.; [illegible]

Experimental study of [illegible] behind the annular cascade. Study KhTI 29 [illegible] (MIRA 14:10)
(Turbomachines--Fluid dynamics)

AID P - 5003

Subject : USSR/Engineering

Card 1/1 Pub. 110-a - 5/17

Authors : Levina, M. Ye., Kand. Tech. Sci., L. I. Slobodyanyuk, Eng.

Title : Turbine stage with constant uniform reaction

Periodical : Teploenergetika, 3, 9, 28-35, S 1956

Abstract : The problem of designing a turbine stage with a constant pressure along the radius is discussed. The authors demonstrate theoretically that a solution is possible with the help of regular cylindrical blades, but only at the expense of an appropriate design of the main section of the turbine. These theoretical considerations are confirmed by experimental data. Definite deductions must be made after the testing of a turbine with a revolving wheel. 7 diagrams. 3 references.

Institution : Khar'kov Polytechnic Institute

Submitted : No date

S/124/60/000/004/013/027
A005/A001

Translation from: Referativnyy zhurnal, Mekhanika, 1960, No. 4, p. 58, # 4606

AUTHORS: Levina, M.Ye., Slobodyanyuk, L.I.

TITLE: The Turbine Stage With Constant Reactivity and Without a Radial Pressure Gradient

PERIODICAL: Tr. Khar'kovsk. politekhn. in-ta, 1957, Vol. 24, pp. 51-68

TEXT: The axisymmetrical flow of an ideal fluid through a turbine stage is analyzed in more details than in the previous article of the authors (Teploenergetika, 1956, No. 9, pp. 28-35 -RZhMekh, 1958, No. 1, 457); an infinite large number of blades is assumed; a constant pressure along the radius is ensured owing to special profiles of blades and limiting surfaces. An example of computing the turbine stage and the results of measuring the pressure behind the guiding ring cascade (without the impeller) are given, which confirm the possibility of obtaining the constant pressure.

G.Yu. Stepanov

Translator's note: This is the full translation of the original Russian abstract.

Card 1/1

8(6), 9(3) SOV/143-58-11-13/16

AUTHORS: Levina, M.Ye., Candidate of Technical Sciences, Docent, Romanenko, P.A., Engineer

TITLE: The Flow Separation Phenomena in Annular Grids

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Energetika, 1958, Nr 11, pp 92-108 (USSR)

ABSTRACT: The experimental investigations of isolated annular grids with relatively small D/l values show phenomena of flow separation from the hub in the space behind the annular grid. These phenomena are observed inside the grid itself at very small D/l values. These phenomena might cause fear that the flow separation will occur also in operational turbine stages. Further they might lead to doubt in using experimental data obtained during annular grid tests for analyzing the funtion of a turbine stage. K. Bammert and H. Kläukens [Ref 1] explained for the first time theoretically the flow separation from the hub, applicable to turbines, suing the principle of the "maximum flow" or the "minimum pressure drop". They used a number of

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assumptions for simplification: 1) A cylindrical flow was assumed behind the outlet section of the grid (Section I, as shown in figure 1b) and in the zone of maximum flow separation development (section II). 2) An ideal liquid was taken into consideration, permitting the assumption of a constant pressure at the flow separation boundary. 3) An incompressible liquid was considered. 4) A sufficiently long section of a cylindrical tube was assumed behind the annular grid, permitting a free development of the flow separation zone. The authors of this paper investigated in which way the aforementioned solution will correspond to actual conditions and studied for this reason a number of factors influencing the flow separation phenomena. The assumptions of the cylindrical flow behin the grid and in the far section, in the area of maximum stagnation zone development, leads to some contradictions. Investigating the influence of the meridional curvature, the authors state that it is necessary to abandon the assumption of the cylindrical flow in sections I and II (Figure 1b). It is more

natural to assume a flow curved in the meridional plane in the outlet section of the grid, considering it as a cylindrical flow in section II, which also corresponds to experimental data. The results of the calculations conducted by the authors show: 1) The curvature of the meridional trajectory at the outlet section of the annular grid changes sharply in dependence of the hub ratio and the angle α_1, as shown in a graph, figure 2. With increased hub ratio, the magnitude of radial acceleration, or more accurately, the change of radial velocity c'_{r_K} is reduced along z, turning to zero at a critical hub ratio. The latter depends on the angle α_1. 2) The radius of the stagnation zone in the area, where the flow already may be considered as being cylindrical, decreases essentially with an increasing angle α_1 and depends very little on the hub ratio. 3) The pressure of a meridional trajectory curvature in the outlet section of the grid leads to a disturbance of the law of velocity component changes on the radius. 4) The deviation

of the flow characteristic distribution in section I leads to a very strong disturbance of the law of velocity component changes in section II. 5) The low parameter distribution on the radius in section I depends on the flow conditions in section II. The statement in /Ref 1/ that the working blades are not fully used in stages with lengthened blades at small angles α_1, requires checking. The authors investigate the influences of increased pressure at the flow separation boundary, compressibility and twist. For the experimental investigation a wind tunnel with turbine blade grids Nr 1 and Nr 2 and an air turbine with grid Nr 3 were used. The data for these grids are listed in table 1. The authors present the experimental investigation results in 19 graphs, dealing with meridional flow lines, static pressure changes and distribution, the influence of flow conditions on the annular grid and the component velocity profile. For the theoretical investigation certain assumptions were made concerning the liquid flow behind the annular grid. One of the most essential errors is caused by

assuming the absence of viscosity. However, taking into consideration theoretically the influence of viscosity on separation phenomena is very complicated. The fact that the actual border of the stagnation area is below the theoretical one, may be explained by the viscous interaction betwwn the basic flow and the stagnation area. As a result, the axial velocity is considerably reduced while the section of the basic flow is increased. In this way, the presence of viscosity in some way increases the flow stability. There are 22 graphs, 1 table and 3 German references.

ASSOCIATION: Khar'kovskiy politekhnicheskiy institut imeni V.I. Lenina (Khar'kov Polytechnic Institute imeni V.I. Lenin) Kafedra Turbostroyeniya (Chair of Turbine Building)

SUBMITTED: June 28, 1958

SOV/143-59-8-10/22

8(6)

AUTHOR: Levina, M.Ye., Docent, Romanenko, P.A., Engineer

TITLE: The Distortion of a Cylindrical Flow in a Turbine Stage With Cylindrical Borders

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Energetika, 1959, Nr 8, pp 52-61 (USSR)

ABSTRACT: As a rule, a cylindrical flow is assumed when calculating the distribution of flow parameters along the radius in the gaps between steam turbine stages, i.e. in the radial equilibrium equation

$$\frac{\partial p}{\partial r} = p\frac{c_u^2}{r} - p\frac{dc_r}{dt}$$

the member $p\frac{dc_r}{dt}$ is neglected because of the small magnitude of c_r, although this does not imply a small magnitude of $p\frac{dc_r}{dt}$. In addition there are many other factors which disturb the cylindrical flow. In this paper the authors discuss the influence of two factors on the curvature of the meridional flow lines,

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The Distortion of a Cylindrical Flow in a Turbine Stage With Cylindrical Borders

i.e. the flow of a perfect liquid in a stage with cylindrical outlines in the absence of separation phenomena at the base. The axial symmetry of the flow and the absence of radial components of blade forces are assumed. For simplifying the analysis, the influence of the preceding stages is not considered, as well as a possible wave structure of the flow at large M values. The exact solution of the meridional flow line curvature in a turbine stage is very complicated and therefore, a preliminary estimation of the disturbances of the cylindrical flow in stages with different characteristics is performed by the authors. They investigate radial displacements and the uneven blocking of the flow channel by the blades. In Figure 4, they present meridional flow lines inside of a nozzle grid. The results of calculations for nozzle grids are shown graphically. The calculation results

Ca Card 2/3

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S/143/60/000/004/004/007
A163/A026

26.2120

AUTHORS: Levina, M.Ye., Candidate of Technical Sciences, Lecturer; Romanenko, P.A., Engineer

TITLE: Experimental Research on the Irregularities of Cylindrical Flow in a Turbine Stage With Cylindrical Boundaries

PERIODICAL: Energetika, 1960, No. 4, pp. 64 - 70

TEXT: The article deals with experimental research work carried out on the irregularities of cylindrical flow in a turbine stage with cylindrical boundaries. The author presents the results of experiments performed on the curvature of meridian flow lines in a stage with strict cylindrical contours of the turbine section between inlet and outlet valve through which steam passes. C-1 (S-1) with a chord width of b_x = 41.2 mm was used as profile for the nozzle grid and for the working vane T-2 (T-2) with b_x = 25 mm. The relation of $\lambda = \frac{D_{av}}{l} = 5.13$. The outlet angle of the nozzle grid α_1, in previous experiments equal to 12°, was increased to 14°. The negative stage reactivity was eliminated after turning the working vanes by 4°. Hereby, ρ_k proved to be equal to + (4 ÷ 8)%. In order to build meridian flow lines. "traversirovaniye" [Abstractor's note: mean-

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S/143/60/000/004/004/007
A163/A026

Experimental Research on the Irregularities of Cylindrical Flow in a Turbine Stage With Cylindrical Boundaries

ing unknown] were carried out on various distances z from the nozzle grid, i.e., on the rim clearance section and behind the runner. Subsequent measurements were made using three Γ-shaped tubes which made it possible to reach the walls as close as 0.5 mm. Due to considerable stage irregularities and inadequate precision in the assembly of the nozzle grid, the "traversirovaniye" along the circumference was performed in a section comprising six stages with intervals of about 1/8 of a stage, i.e., in 48 points on each radius. Only at high values of z (60 - 100 mm) it was possible to eliminate the oscillations of the flow along the circumference and to decrease considerably the number of measuring points. The author concludes that the obtained quantity relations may be applied only to a stage with given geometrical characteristics. The results of experiments confirmed the possibility of considerable deviations in the distribution of pressure, angles and component speeds along the radius (without consideration of meridian curvatures, not even in a stage with cylindrical boundaries). There are 6 figures and 3 references: 2 Soviet and 1 German.

ASSOCIATION: Khar'kovskiy politekhnicheskiy institut imeni V.I. Lenina (Khar'kov Polytechnical Institute imeni V.I. Lenin)

PRESENTED: by the Department of Turbine Construction

Card 2/2

89424

S/143/60/000/006/004/008
A169/A026

26.2120
AUTHORS: Levina, M.Ye., Candidate of Technical Sciences, Docent; Romanenko, P.A., Engineer

TITLE: The Effect of the Clearance Between Rims on the Loss Distribution in a Turbine Stage

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Energetika, 1960, No. 6, pp. 78 - 85

TEXT: The application of wide clearances between rims is made very tempting by the adjustment of the pitch irregularity in the flow with increasing distances from the nozzle cascade, especially for gas turbines, where the absence of shroud rings deteriorates the blade vibration characteristics. However, increasing the clearance between the rims can lead to additional losses. Contradictory experimental data published by various authors (Refs. 1, 2 and 3) show that this effect has not yet been sufficiently studied. For example, experiments at MAN (MAI) show a 7 - 15% efficiency increase upon enlarging the clearance between rims by 7 mm. This result is hardly justified, since it would mean a 25 - 50% efficiency increase of the working blades. The authors present the results of an investigation of a [illegible] stage with a cylindrical outline of the flow

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S/143/60/000/006/004/008
A169/A026

The Effect of the Clearance Between Rims on the Loss Distribution in a Turbine Stage

area, which is obtained by using a stage without a shroud ring. The average radial clearance in the periphery was 0.75 mm at a blade height of 81.5 mm. The same turbine stage, and partially the same experiments , were used like in the experiments described by the authors in a previous paper (Ref. 5). The results of the investigation are compiled in 9 graphs. The authors arrived at the following conclusions (valid only for the given turbine stage): 1) With increasing distances from the nozzle cascade, the flow energy decreases essentially, mainly because of losses at the flow borders. 2) From the view point of losses at the working blades, an optimum value is found for the clearance between the rims at which the pitch irregularity of the flow has already been sufficiently adjusted, while the radial irregularity is not yet sufficiently developed due to a deviating of the boundary layers. 3) Losses in the outlet velocity caused by a displacement of the flow towards the periphery and the formation of a stagnation zone at the blade root are distributed very irregularly over the radius and constitute a very essential magnitude. 4) The presence of a negative degree of reactivity at the blade root causes a considerable efficiency reduction of the stage, mainly because of a deterioration of the working blade efficiency and al-

Card 2/3

LEVINA, L.Ye.; ROMANENKO, P.A.

Curvature of the meridian trajectory in a stage with cylinder shapes blading. Trudy LMPI 29 no.2:39-53 '60.
(MIRA 14:10)
(Steam turbines--Design and construction)

21731

10.6300

S/123/61/000/003/020/023
A004/A104

AUTHORS: Levina, M. Ye., and Romanenko, P. A.

TITLE: Theoretical investigations of break-off phenomena in ring-shaped grids

PERIODICAL: Referativnyy zhurnal, Mashinostroyeniye, no. 3, 1961, 26, abstract 3I193. ("Tr. Khar'kovsk. politekhn. in-ta", 1960, v. 29, no. 2, 55-72)

TEXT: The authors theoretically investigate break-off phenomena of the flow at various characteristics of ring-shaped grids and the effect of distortion of the meridional trajectory of the flow, pressure increase at the break-off boundary, compressibility of the flow and type of vortex on the distribution of the flow parameters over the radius behind the grid. They study the flow pattern in ring-shaped grids and behind them, as well as the layout of the process of break-off formation from the bushing. Equations and graphical dependences are presented of the relative pressure drop depending on the bushing ratio for various rules of profiling the blades of ring-shaped grids. The calculation results proved in particular that a distortion of the meridional flow trajectory in the outlet cross

Card 1/2

Theoretical investigations of break-off ...

section of the ring-shaped grid considerably varies depending on the bushing ratio and reentrant angle of the flow. This leads to a violation of the law of radial speed component change assumed during profiling. With an increase of the M number of the flow the stream in ring-shaped grids in the subsonic range becomes more stable while the admissible limit of minimum bushing ratios is reduced.

V. Kostylev

[Abstractor's note: Complete translation]

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R000929610009-5"

22215

S/124/61/000/003/005/028
A005/A105

26.2141

AUTHORS: Levina, M. Ye., and Romanenko, P. A.

TITLE: The experimental investigation of the separation phenomena behind an annular cascade

PERIODICAL: Referativnyy zhurnal, Mekhanika, no. 3, 1961, 24-25, abstract 3B148. (Tr. Kharkovsk. politekhn. in-ta, 1960, v. 29, no. 2, 73-87)

TEXT: For taking into account the effect of viscosity on the separated flows behind an annular cascade at small angles of flow, two annular cascades were investigated in the wind tunnel as well as a pilot air turbine with cascade no. 3 was tested. The parameters characterizing the cascades are presented in the table below:

No.	D_{av} in mm	$\frac{D_{av}}{l}$	$\frac{r_{end}}{r_{nose}}$	b	$\frac{t_{av}}{b}$	$\frac{l}{b}$	α_1^0	n
1	248	3.31	0.535	108	0.6	0.69	14	12
2	325	4.33	0.625	42.4	0.62	1.75	12	38
3	418.5	5.13	0.674	41.0	0.76	1.988	12	42

Card 1/2

The experimental investigation ...

S/124/61/000/003/005/028
A005/A105

The measuring method is expounded. The pictures of the meridional lines of flow behind the annular cascades as well as the graphs of curvature of the meridional lines of flow, of the radial differences in pressure, and of the radii of the separation zone are presented. The results obtained are compared with the calculation data. The experimental data on the velocity profiles and the angles α behind the annular cascades are presented. It is pointed out that the flow behind the annular cascade may relatively be divided into three zones: 1) the zone immediately behind the cascade, where the separation did not yet proceed, and the radial velocity is small, but the curvature of the meridional trajectory has a maximum; 2) the transition zone; 3) the zone of cylindric flow after the finishing of flow shift into the periphery and formation of the dead zone. The experimental data are compared with the calculation results according to the Bammert-Klaukens method as well as the refined method of the authors (see abstract 3B147). For explaining the effect of the flow conditions behind the annular cascade on the flow in the cascade, an investigation was carried out by means of a restrictor disk with radial slits of constant width. The separation zone was sharply reduced. Results from the investigation of cascade no. 3 together with the impeller with cylindric blades of the T-1 profile are presented, and the data obtained are analyzed.

[Abstractor's note: Complete translation]

A. Bunimovich

Card 2/2

ACCESSION NR: AP4042865 S/0114/64/000/007/0041/0045

AUTHOR: Levina, M. Ye. (Candidate of technical sciences, Docent); Romanenko, P. A. (Candidate of technical sciences); Grechanichenko, Yu. V. (Engineer)

TITLE: Calculation of the distribution of stream parameters in a turbine stage with an allowance for radial acceleration

SOURCE: Energomashinostroyeniye, no. 7, 1964, 41-45

TOPIC TAGS: turbine, turbine blade, turbine stage, turbine engine

ABSTRACT: The article is a further development of P. A. Romanenko's earlier work (Izv. AN SSSR. Energetika i avtomatika, 1959, no. 6). A method is set forth for calculating the distribution of cylindrical-stream parameters in a turbine stage with an allowance for the region occupied by the rotor blades and the ring space beyond these blades. Three variants of the stages of an experimental

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ACCESSION NR: AP4042865

air turbine were calculated by the above method with a view toward investigating the effect of the movable-blade twist on the flow beyond the nozzle row. The blade length, 81.5 mm, and outside diameter, 500 mm, were kept constant; the twist pattern and nozzle-diaphragm width were varied. The latter parameter was found to have the strongest influence on the stream distribution. Orig. art. has: 5 figures and 27 formulas.

ASSOCIATION: Khar'kovskiy politekhnicheskiy institut im. V. I. Lenina (Khar'kov Polytechnic Institute)

SUBMITTED: 00 ENCL: 00

SUB CODE: PR NO REF SOV: 006 OTHER: 001

Card 2/2

L 33026-66 EWP(f)/T-2 WW

ACC NR: AP6014397 (N) SOURCE CODE: UR/0096/66/000/001/0043/0048

AUTHOR: Levina, M. Ye. (Docent); Grebnev, V. K. (Engineer)

ORG: Khar'kov Polytechnic Institute im. V. I. Lenin (Khar'kovskiy politekhnicheskiyy institut)

32
B

TITLE: Effect of the geometric characteristics of a turbine stage on the radial reactivity gradient

SOURCE: Teploenergetika, no. 1, 1966, 43-48

TOPIC TAGS: turbine stage, turbine design, steam turbine

ABSTRACT: In the design of turbine stages, the change in pressure over the radius in the inter-rim space is generally evaluated by means of the simplified equation for radial equilibrium:

$$\frac{dp}{dr}=\frac{\gamma}{g}\frac{c_{1u}^2}{r}. \qquad (1)$$

This expression is also used in the full form:

$$\frac{dp}{dr}=\frac{\gamma}{g}\frac{c_{1u}^2}{r}\pm\frac{\gamma}{g}\frac{dc_r}{dt}, \qquad (2)$$

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UDC: 621.165:533.6.001.5

L 33026-66

ACC NR: AP6014397

O

The article presents the results of an experimental investigation of the break down of the cylindrical character of the flow in turbine stages, with different degrees of twisting, maintaining strictly cylindrical characteristics of the flow through section. Results, given in a series of curves, show that in general the radial gradient of the reactivity in a stage with cylindrical boundaries of the flow through section does not obey the simplified equilibrium condition. In particular, in stages with vanes of a constant profile, this lack of agreement is very noticeable. A considerable break down of cylindrical flow can take place even with small inter-rim distances. Orig. art. has: 5 formulas, 6 figures and 4 tables.

SUB CODE: 10/ SUBM DATE: none/ ORIG REF: 003/ OTH REF: 001

Card 2/2 90

KUPRYAKHINA, K.Z.; ZIMTSEV, P.P.; IVASHCHENKO, A.T.; KOVALENKO, M.F.; Prinimali uchastiye: MOROZOVA, N.A.; ANTIPOVA, G.G.; LEVINA, N.A.

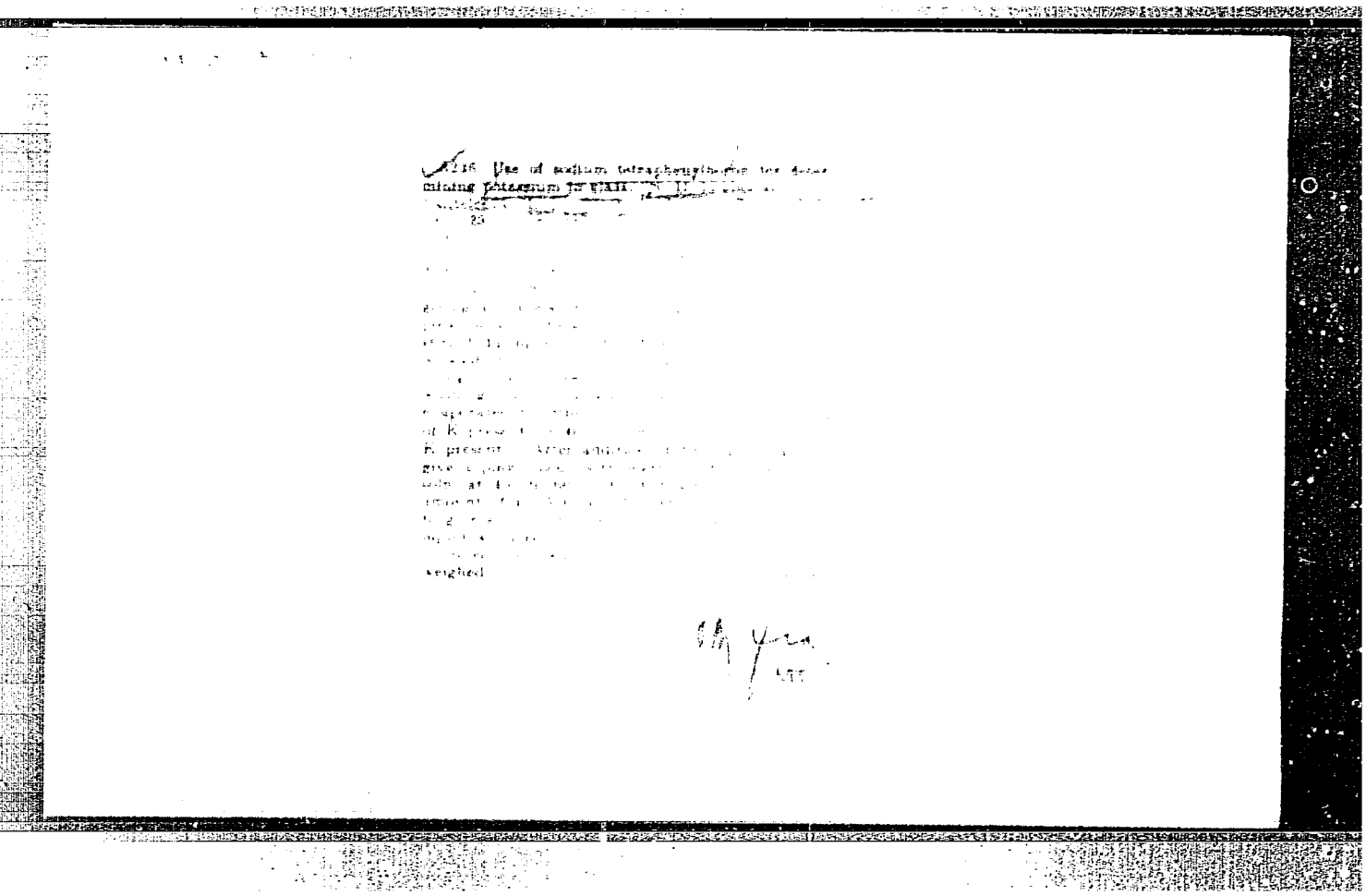
Use of ion-exchange resins for the decontamination of waste waters. Koks i khim. no.7:46-47 '65. (MIRA 18:8)

1. Ukrainskiy nauchno-issledovatel'skiy uglekhimicheskiy institut (for Kupryakhina). 2. Rutchenkovskiy koksokhimicheskiy zavod (for Zimtsev, Ivashchenko, Kovalenko).

LEVINA, Nina Dmitriyevna, montazhnitsa; GUROV, S., redaktor; YAKOVLEVA, Ye., tekhnicheskiy redaktor

[Production potentials of the job] Rezervy - na rabochem meste. [Moskva] Moskovskii rabochii, 1956. 51 p. (MLRA 10-3)

1. Moskovskiy elektrolampovyy zavod (for Levina)
(Electron tubes)



LEVINA, N.G.

ZVENIGORODSKIY, G.Z., inzh.; LEVINA, N.I., inzh.

Manufacturing briquets from coal fines of "Zhurinka-3" and "Polysaevskaia-2" mines in the Kuznetsk Basin. Obog.i brik.ugl. no.11: 11-15 '59. (MIRA 13:6)
(Kuznetsk Basin--Coal) (Briquets (Fuel))

ZVENIGORODSKIY, G. Z., inzh.; LEVINA, N. I., inzh.

Briquetting of the pulp from Karaganda Central Coal Preparation Plant. Obog. i brik. ugl. no.24:26-31 '62.
(MIRA 15:10)

(Karaganda Basin—Coal preparation plants)
(Briquets(Fuel))

V *Experiments on Mechanising and Perfecting the Technological Process of Casting by the Lost-Wax Process. N. S. Kreshchanovsky, M. L. Khenkin, N. K. Levina, and M. N. Zimmerina. (*Liteino Proizvodstvo*, 1956, (2), 8-11).—(In Russian.) A number of steps in mechanizing the precision-casting process are outlined: prodn. of patterns by electro-forming, three-stage injection, mech. prepn. of the slurry, wagon-loaded drying, boiling-water washing out of the wax, conveyor-furnace mould drying, and mech. breaking up of moulds after casting.—V. K.

S/0128/64/000/003/0027/0031

ACCESSION NR: AP4022458

AUTHORS: Khonkin, M. L. (Candidate of technical sciences); Levina, N. K. (Engineer); Spektorova, S. I. (Engineer); Abramov, V. I. (Engineer); Grishchenko, V. G. (Engineer)

TITLE: Study of some foundry alloys used in the production of high precision details

SOURCE: Liteynoye proizvodstvo, no. 3, 1964, 27-31

TOPIC TAGS: foundry alloy, high-precision machine detail, machine detail casting, AL2 alloy, AL9 alloy, VL15-1 alloy, ML5 magnesium alloy, steel, 35L steel, IKV vertical optimeter, ML10 magnesium alloy, dimensional stability

ABSTRACT: Measuring high-precision machine details showed that their dimensions changed with the progress of relaxation processes and of structural transformations in metals. In general, such machine details operate in the temperature range of -30C to 120C and under stresses not exceeding several kg/mm^2. The conditions necessary for the required dimensional stability of alloys AL2, AL9, VL15-1, ML5 and steel 35L were determined. All the samples were treated thermally, and their

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deformation, stress relaxation, and the residual stress level were studied. The deformation was measured by a vertical IKV optimeter. It was established that the alloy VL15-1 had the greatest relaxation stability among the aluminum alloys and that the ML10 was the best in this respect among the magnesium alloys. A repeated heating-cooling process increased the dimensional stability of the samples, and the internal hardening (produced in the course of plastic deformation) increased the relaxation stability of alloys during the cyclic thermal treatment. It is concluded that the process to be used in securing dimensional stability must produce a stable structure and a proper state of relaxation not only in the separate details of an instrument but also in the assemblies of such details. Since additional stresses may be produced in the course of assembling, whole assemblies must undergo an additional repeated thermal treatment. This treatment should involve at least three heating-chilling cycles with a lower temperature range of -40 to -70C and an upper of 80-150C. Orig. art. has: 4 tables and 13 figures.

ASSOCIATION: none

SUBMITTED: 00 DATE ACQ: 10Apr64 ENCL: 00

SUB CODE: ML NO REF SOV: 005 OTHER: 000

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KHENKIN, M.L.; LEVINA, N.K.; SPEKTOROVA, S.I.; ABRAMOV, V.I.; GRIGORCHENKO, V.G.; Prinimali uchastiye: IVANOVA-EMIN, M.P.; GERASIMOVA, I.I.; TARDOVA, L.G.

Investigating some foundry alloys for high precision parts. Lit. proizv. no.3:27-31 Mr '64. (MIRA 18:9)

ACC NR: AP7002740 SOURCE CODE: UR/0126/66/022/006/0896/0903

AUTHOR: Khenkin, M. L.; Lokshin, I. Kh.; Levina, N. K.; Sidokhin, Ye. F.; Simeonov, S.L.; Minina, L.V.; Pavlikova, Ye.V.

ORG: none

TITLE: Effect of cyclic heat treatment on the properties and structure of alloys containing phases with different expansion coefficients

SOURCE: Fizika metallov i metallovedeniye v. 22, no. 6, 1966, 896-903

TOPIC TAGS: INTERNAL STRESS, COOLING, ALUMINUM BASE ALLOY, A SILICON CONTAINING alloy, magnesium containing alloy, alloy heat treatment, cyclic heat treatment, ~~alloy~~ mechanical property, ~~alloy~~ stress relaxation, cyclic heat treatment effect/AL2 alloy, AL9T2 ~~effect~~ ALLOY

ABSTRACT: An investigation has been made of the effect of cyclic heat treatment (CHT) on the internal stresses and relaxation characteristics of alloys containing phases with different expansion coefficients. Each cycle in CHT consisted of cooling to subzero temperatures (-40 to -190), holding for 10—120 min, followed by heating to relatively low temperatures (up to 150C) and holding at these temperatures for 15—240 min. It was found that CHT reduced internal stresses and increased the relaxation strength in all investigated alloys. The greatest decrease in internal stresses was observed in AL2 (12.1%Si) and AL9T2 (7%Si, 0.3% Mg) aluminum alloys. The CHT had no effect on the tensile and yield

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UDC: 669.017:[548.735+620.187]

Card 2/2

KOSTYUK, N.G.; L'VOV, S.V.; FAL'KOVSKIY, V.B.; STARKOV, A.V.; LEVINA, N.M.

Preparation of anhydrides of higher carboxylic acids by the reaction of transanhydridization. Zhur.prikl.khim. 35 no.3: 698-699 Mr '62. (MIRA 15:4)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni M.V.Lomonosova.

(Anhydrides)

SVIRIDA, V.G.; BURACHEVSKIY, I.I.; LEVINA, N.N.

Production of rum from molasses of unrefined cane sugar. Spirt.prom. 29 no.4:19-22 '63. (MIRA 16:5)

1. Belorusskiy sovet narodnogo khozyaystva (for Svirida).
2. Belorusskiy nauchno-issledovatel'skiy institut promyshlennosti prodovol'stvennykh tovarov (for Burachevskiy, Levina).
(Rum)

BLOKH, Z.Sh.; LEVINA, N.S.; KHMELEVSKIY, I.L., otv. red.; REKIS, L.Ye., red.

[Handbook for carrying-out tests in theoretical mechanics for second year students of technical departments] Posobie k vypolneniiu kontrol'nykh rabot po teoreticheskoi mekhanike dlia studentov II kursa tekhnicheskikh fakul'tetov. Moskva, Redaktsionno-izdatel'skii otdel VZEIS, 1963. 139 p. (MIRA 17:3)

TURGEL', Ye.O.; LEVINA, N.S.; NOVIKOVA, V.I.

Composition of extraction and tall-oil rosin and of the products of their fractional distillation. Gidroliz. i lesokhim.prom. 18 no.1:8-12 '65. (MIRA 18:3)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut neftekhimicheskikh protsessov.

Levina, O.A.

Antonov, M.V. and Levina, O.A. "Storage of citrus fruits in the frozen state," Sbornik nauch. rabot (Nauch.-issled. in-t torgovli i obshchestv. pitaniya), Moscow, 1949, p. 151-59, Bibliog: 5 items

SO: U-5241, 17 December 1953, (Letopis 'zhurnal 'nykh Statey No. 26, 1949).

L 17532-65 EWT(m)/EPF(n)-2/EWP(t)/EWP(b) Pu-4 IJP(c) JD/JG
ACCESSION NR: AP4044809 S/0078/64/009/009/2142/2147

AUTHOR: Banty*sh, A. N.; Knyazev, D. A.; Levina, O. V.

TITLE: Bromohydroxyquinolinate and benzoylphenylhydroxylaminate of hexavalent molybdenum

SOURCE: Zhurnal neorganicheskoy khimii, v. 9, no. 9, 1964, 2142-2147

TOPIC TAGS: molybdenyl bromohydroxyquinolinate, molybdenyl benzoylphenylhydroxylaminate, hexavalent molybdenum, extraction

ABSTRACT: The extraction of the chelates of Mo^{+6} formed with 5, 7-dibromohydroxyquinoline and benzoylphenylhydroxylamine (BPHA) was determined by studying the extraction distribution of molybdenum between water and chloroform. It was concluded that the Mo^{+6} was extracted exclusively in the form of complexes of the general formula MoO_2R_2; determinations of the R/Mo ratio (R = chelate forming anion) were made by various methods: saturation method, determination of the tangent of the angle of inclination of the $lgC-lg(HR)_o$ curve, and the tangent of the angle of inclination of the asymptote of the $lgD-lg(R^-)$ curve, where D is the

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coefficient of distribution of molybdenum, $(HR)_o$ is the free extractant in the organic phase and (R^-) is the extractant anion. The instability constants were determined by different methods; pK_2 for molybdenyl bromohydroxyquinolinate was about 28, for molybdenyl benzoylphenylhydroxylaminate, about 26. The solubility of these complexes in chloroform is shown in fig. 1; the solubility of the Mo-BPHA complex at pH 4 was 0.202 mol/l. Orig. art. has: 2 figures, 4 tables and 4 equations.

ASSOCIATION: None

SUBMITTED: 01Jun63 ENCL: 01

SUB CODE: GC NO REF SOV: 012 OTHER: 014

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ACCESSION NR: AP4044809

ENCLOSURE: 01

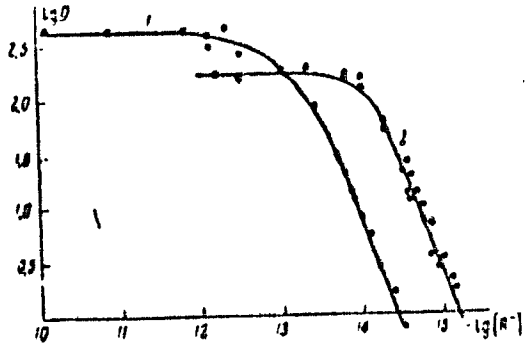

Fig 1

Relationship of the coefficients of distribution of molybdenum (D) and the concentration of the extractant anion in the aqueous phase $[R^-]$. 1--BPHA 2--5,7-dibromohydroxyquinoline

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Levina, O. Ya.

USSR/Medicine - Jaw, Surgery Jul/Aug/Sep 48
Medicine - Anesthesia, Intravenous

"Experience in Intravenous Anesthesia With Pentothal in Maxillofacial Surgery," O. Ya. Levina, Cand Med Sci, Leningrad State Pediatrics Med Inst, 3 pp

"Stomatologiya" No 3

Noninhalation anesthetic is advantageous in maxillofacial surgery. Intravenous anesthesia with pentothal is ideal for such cases. Discusses administration and dosage.

34/49177

LEVINA, O.Ya.

Facial burns in children. Vopr. pediat. 20 no.4:40-41 July-Aug 1952. (CIML 23:2)

1. Of the Department of Children's Surgery, Leningrad State Pediatric Medical Institute (Head of Department -- Prof. A. V. Shatskiy).

LAVINA, O.Ya.

Use of penicillin for treating osteomyelitis of the jaw in children. Stomatologiia no.4:63 Jl-Ag '55. (MLRA 8:10)

1. Iz kafedry khirurgii detskogo vozrasta (zav.prof. A.V.Shatskiy) Leningradskogo gosudarstvennogo pediatricheskogo meditsinskogo instituta.

(PENICILLIN) (OSTEOMYELITIS) (JAWS--DISEASES)

AVIDON, D.B., kand.med.nauk; BAIROV, G.A., kand.med.nauk; BUTIKOVA, N.I., dotsent, kand.med.nauk; BOYKOV, G.A., kand.med.nauk; VERESHCHAGINA, L.N., kand.med.nauk; GONCHAROVA, M.N., prof., doktor med.nauk; ZHOLOBOV, L.K., vrach; ZEMSKAYA, A.G., kand.med.nauk; KAYSAR'YANTS, G.A., dotsent, kand.med.nauk; KOLESOV, A.P., doktor med.nauk; KONDRAT'YEV, A.P., kand.med.nauk; KORCHANOV, G.I., kand.med.nauk; KUTUSHEV, F.Kh., kand.med.nauk; LEVINA, O.Ya., kand.med.nauk; LYANDRES, Z.A., prof., doktor med.nauk; MOROZOVA, T.I., kand.med.nauk; MIRZOYEVA, I.I., kand.med.nauk; PANUSHKIN, V.S., kand.med.nauk; RASTORGUYEV, A.V., vrach; RUDAKOVA, T.A., kand.med.nauk; SAVITSKAYA, Ye.V., kand.med.nauk; SVISTUNOV, N.I., vrach; CHISTOVICH, G.V., kand.med.nauk; YAKOVLEVA, T.S., vrach; MARGORIN, Yevgeniy Mikhaylovich, prof., red.; DOLETSKIY, S.Ya., red.; VERESHCHAGINA, L.N., red.; KULEVA, M.S., tekhn.red.

[Operative surgery on children] Operativnaia khirurgiia detskogo vozrasta. Leningrad, Gos.izd-vo med.lit-ry Medgiz, Leningr.otd-nie, 1960. 475 p. (MIRA 13:12)

(CHILDREN--SURGERY)

LEVINA, O.Ya., kand. med. nauk

Sublingual cysts in children. Pediatriia 42 no.3:65-67 Mr '63

1. Iz kafedry khirurgii detskogo vozrasta (zav. - doktor med. nauk G.A. Bairov) Leningradskogo pediatricheskogo meditsinskogo instituta.

VEYDENBAKH, V.A.; LEVINA, P.I.

Effect of the concentration of developing agents on high speed development. Part 2: Investigating the hydroquinone developer. Zhur.nauch.i prikl.fot.i kin. 5 no.4:241-246 Jl-Ag '60. (MIRA 13:8)

1. Gosudarstvennyy opticheskiy institut im. S.I.Vavilova.
(Photography--Developing and developers)

LEVINA, P.I.; VEYDENBAKH, V.A.

Effect of the concentration of developing substances on high-speed development. Part 3: Investigating various developing agents. Zhur.nauch. i prikl.fot.i kin. 5 no.5:334-342 S-O '60. (MIRA 13:12)

1. Gosudarstvennyy opticheskiy institut imeni S.I.Vavilova.
(Photography--Developing and developers)

LEVINA, P. I.

Cand Chem Sci - (diss) "Investigation of the effect of concentration of developing substances on the process of photographic development." /Leningrad/, 1961. 18 pp; (Ministry of Culture RSFSR, Leningrad Inst of Motion Picture Engineers); 200 copies; price not given; (KL, 5-61 sup, 176)

LEVINA, P.I.; VEYDENBAKH, V.A.

Effect of the concentration of developing substances on high speed developing. Part 4: High speed developing of negative photographic materials. Zhur. nauch. i prikl. fot. i kin. 6 no. 3:164-170 My '61. (MIRA 14:5)

1. Gosudarstvennyy opticheskiy institut im. S.I. Vavilova.
(Photography—Developing and developers)

VEYDENBAKH, V.A.; LEVINA, P.I.

Studying the photographic properties of light-sensitive materials subjected to high-speed development. Usp.nauch.fot. 10:214-218 '64.
(MIRA 17:10)

LEVINA, P.I.; VEYDENBAKH, V.A.

Effect of developer concentration on the high-speed development process. Part 5: Amidol developer. Zhur. nauch. i prikl. fot. i kin. 9 no.3:171-174 My-Je '64. (MIRA 18:11)

1. Gosudarstvennyy opticheskiy institut imeni Vavilova.
Submitted March 4, 1963.

VEYDENBAKH, V.A.; LEVINA, P.A.

Effect of the pH of developing solutions on the induction period of the development. Zhur.nauch. i prikl.fot. i kin. 9 no.4:248-254 Jl-Ag '64. (MIRA 17:10)

1. Gosudarstvennyy opticheskiy institut imeni Vavilova, Leningrad.