

SHOR, L.; FILIPPOV, V.

Leningrad scientists help Kaliningrad physicians. Zdrav. Ros. Feder.
4 no.8:27-28 Ag '60. (MIRA 13:9)

1. Iz Kaliningradskogo oblздравотдела.
(KALININGRAD--MEDICINE--STUDY AND TEACHING)

SHOR, M.; MAKSIMOV, A.

Hidden potentialities for the reduction of auxiliary work
at automobile factories. Sots.trud. no.4:69-72 Ap '56.

(MLRA 9:11)

(Automobile industry)

PARFENOV, P.; SHOR, M.

Shift to the 7-hour workday and regulating wages in the
machinery industry. Sots.trud 4 no.7:59-65 J1 '60.
(MIRA 13:8)

(Machine industry)
(Hours of labor)
(Wages)

SHOR, M.

Manufacture of photographic papers. Sov.foto 21 no.12:29-30
D '61. (MIRA 14:12)
(Photography--Printing papers)

SHOR, M.

Improve the organizational standards of auxiliary work. Sots.trud 8
no.3:40-43 Mr '63. (MIRA 16:3)
(Machinery industry--Production standards)

PARFENOV, P.; SHOR, M.

Work more actively to eliminate shortcomings in establishing
work norms in machinery manufacturing enterprises. Sots.trud
(MIRA 16:1)
7 no.4:76-83 Ap '62.
(Machinery industry--Production standards)

SHOR, M.B.

Determination of the activity of the rheumatic process in
children on the basis of a laboratory examination of the blood
serum for sialic acid. Vop. okh. mat. i det. 7 no.5:47-49 My
'62. (MIRA 15:6)

1. Iz detskogo otdeleniya l-y Rizhskoy gorodskoy klinicheskoy
bol'nitsy. (RHEUMATIC FEVER) (NEURAMINIC ACID)

SHOR, M.I., dotsent; VOVCHENKO, Ye.M.

Dextrocardia following removal of the right lung. Vrach.delo no.8:
865 Ag '59. (MIRA 12:12)

1. Ukrainskiy nauchno-issledovatel'skiy institut klinicheskoy meditsiny
imeni akademika N.D. Strazhesko.
(HEART--DISPLACEMENT) (LUNGS--SURGERY)

SHOK

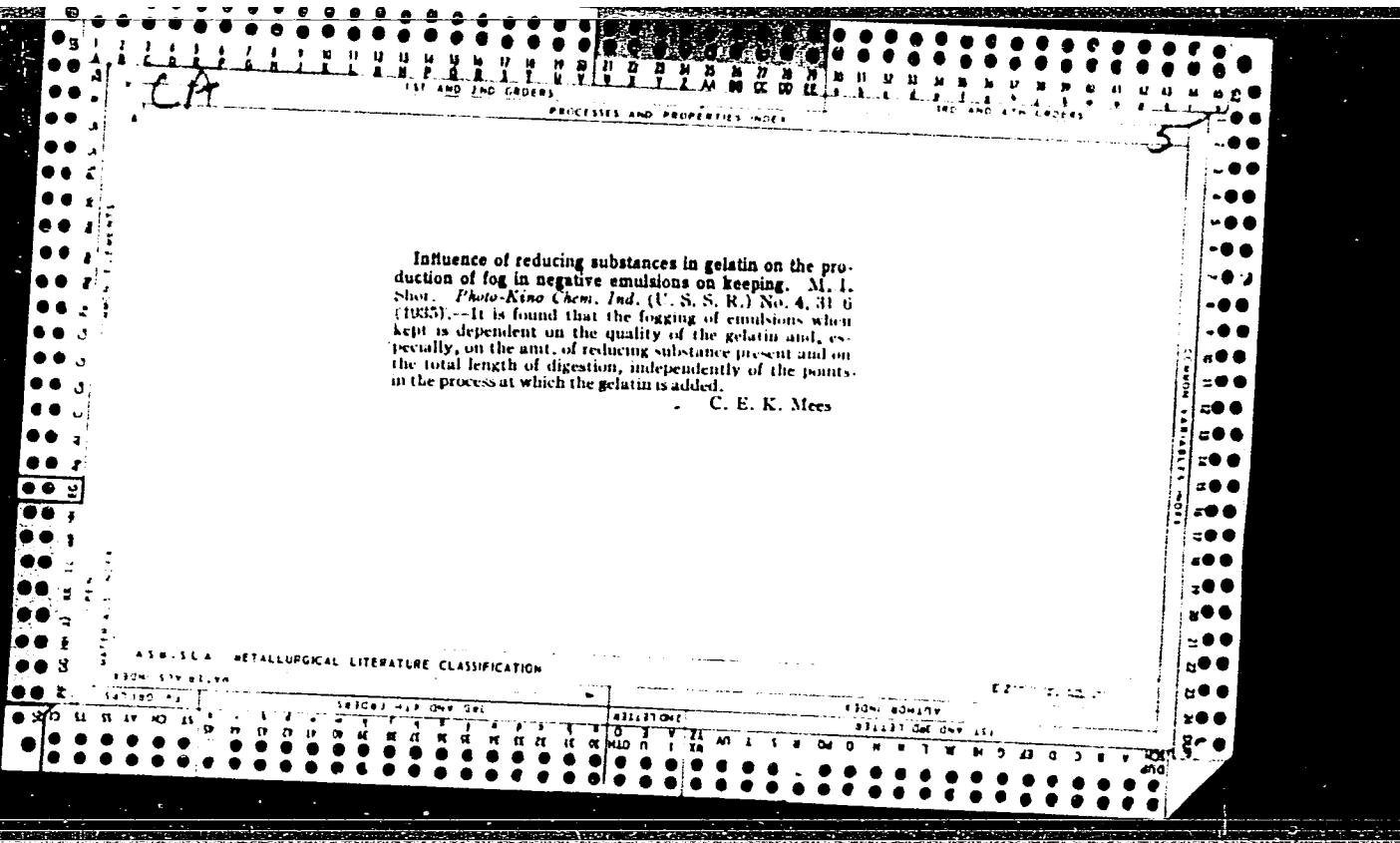
MOLOTOK, A.V.; DMITRIYEV, A.I.; GORBATENKO, A.I.; SHAROYAN-SARINGULYAN, G.P.; MALAKHOV, P.Ye.; KRIVOUKHOV, V.A., doktor tekhn.nauk, red.; GRANOVSKIY, G.I., prof., doktor tekhn.nauk, red.; TRET'YAKOV, I.P., prof., doktor tekhn.nauk, red.; ALEKSEYEV, S.A., dotsent, red.; MALOV, A.N., dotsent, kand.tekhn.nauk, red.; SHAKHNAZAROV, M.M., dotsent, red.; VOL'SKIY, V.S., red.; GAL'TSOV, A.D., red.; KABANOV, N.Ya., red.; TOLCHENOV, T.V., red.; KHARITONOV, A.B., red.; KHISIN, R.I., red.; SHOR, M.I., red.; SEMENOVA, M.M., red. izd-va; EL'KIND, V.D., tekhn.red.

[Time norms in general machinery manufacturing for applying coats of lacquer; large, medium, and small scale production]
Obshchemashinostroitel'nye normativy vremeni na lakokrasochnye pokrytiia; krupnoseriimoe, seriiroe i melkoseriinoe proizvodstvo. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit. lit-ry, 1959. 83 p.

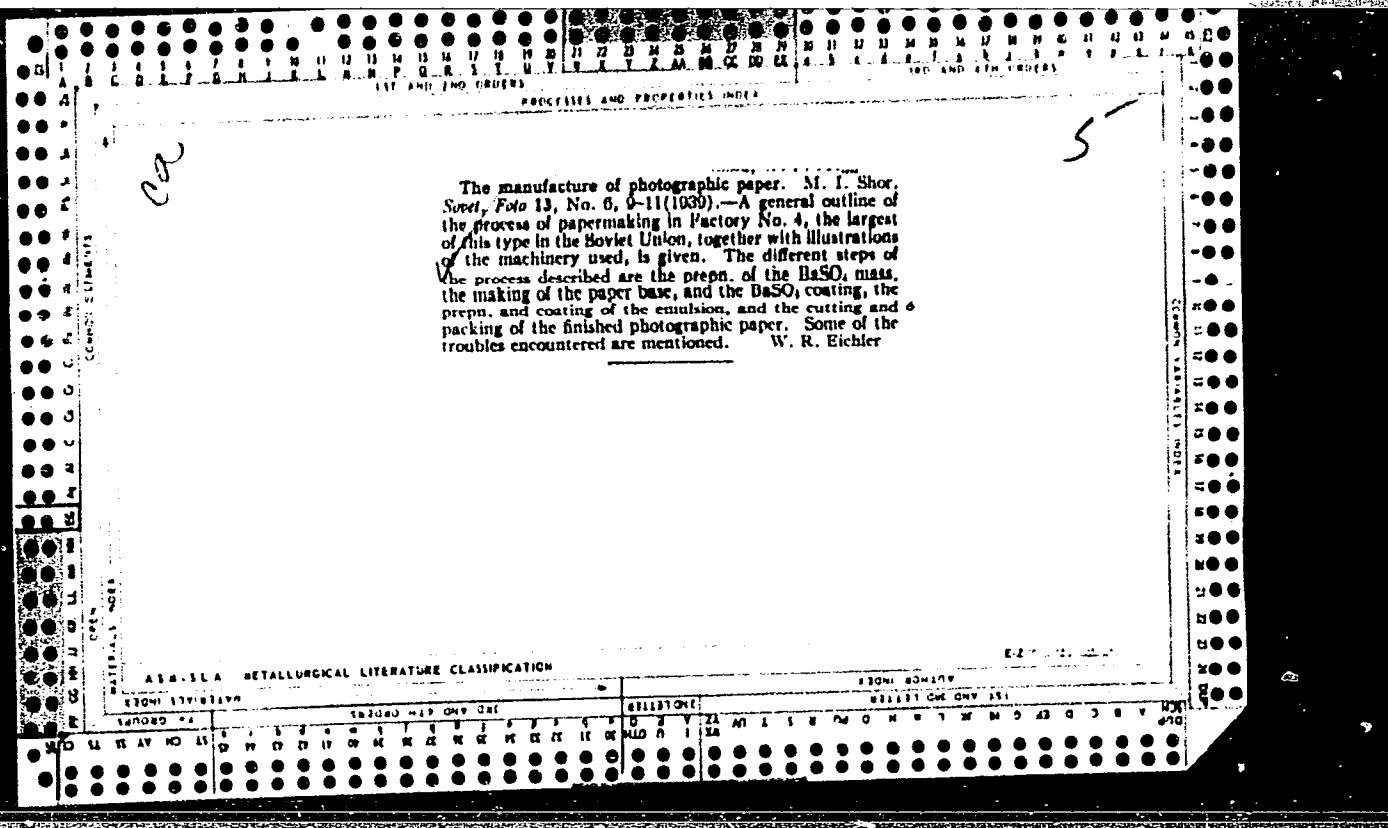
(MIRA 12:6)

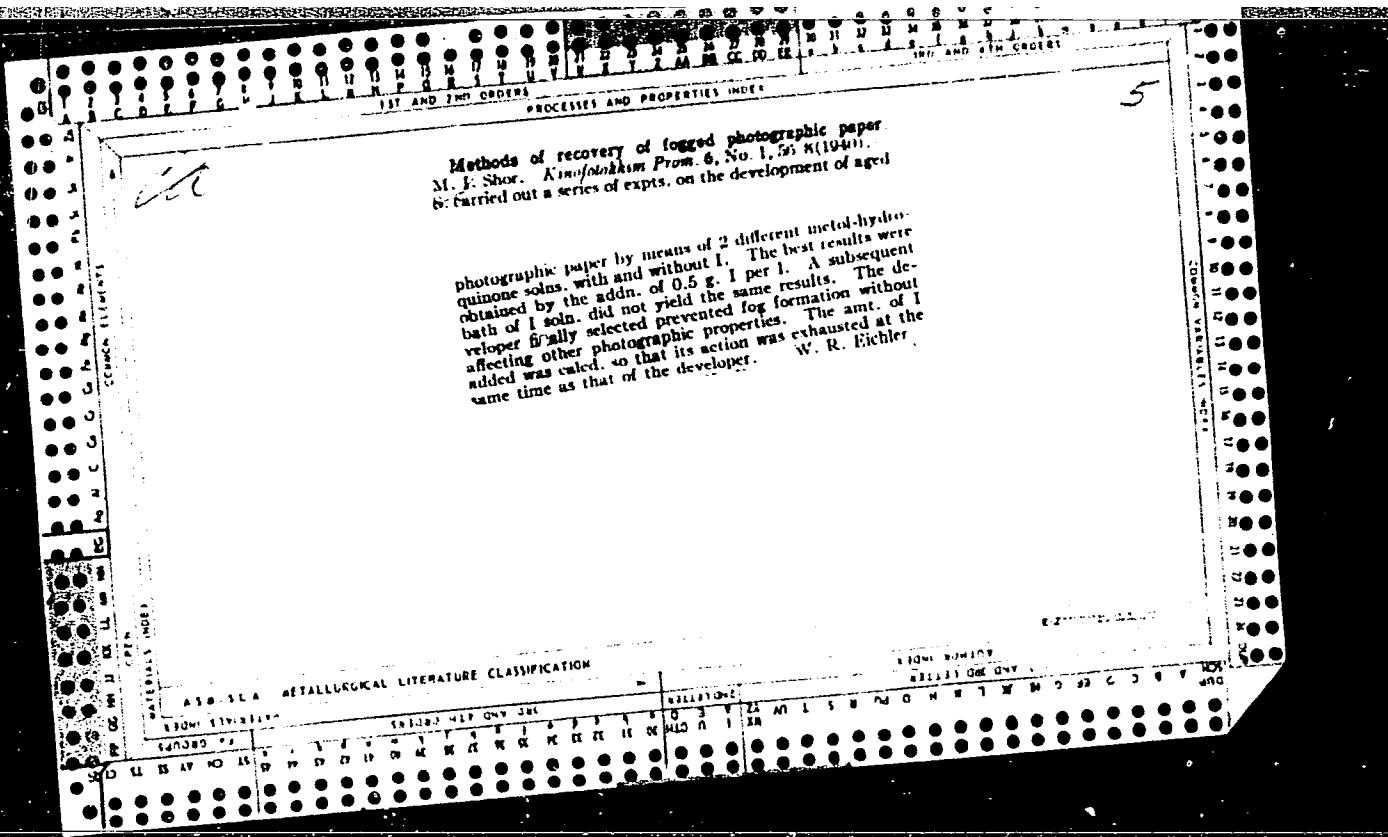
1. Moscow. Nauchno-issledovatel'skiy institut truda. TSentral'-noye byuro promyshlennyykh normativov po trudu. 2. Rabotniki otdela trudovykh normativov Nauchno-issledovatel'skogo instituta traktorskikhzmashta (for Molotok, Dmitriyev, Gerbatenko, Sharoyan-Sarinyan, Malakhov).

(Painting, Industrial) (Machinery industry)



The manufacture of photographic paper. M. I. Shor-Svetl, *Foto* 13, No. 6, 9-11 (1930).—A general outline of the process of papermaking in Factory No. 4, the largest of this type in the Soviet Union, together with illustrations of the machinery used, is given. The different steps of the process described are the prepn. of the BaSO₄ mass, the making of the paper base, and the BaSO₄ coating, the prepn. and coating of the emulsion, and the cutting and packing of the finished photographic paper. Some of the troubles encountered are mentioned. W. R. Eichler





SHOR, M.I.

(2) 2
/ Part played by potassium iodide in positive photographic emulsions. M. I. Shor. *Trans. Leningrad Inst. Motion Picture Engrs.* 2, 112-21 (1949).—The effect of iodide addn., after washing in emulsion manuf., was studied. Addns. were made before, during, or after chem. ripening. Sensitivity and contrast increased with small addns. of iodide, but reached a max. at 0.4% and decreased at higher concns. Fog formation also was favored at higher concns.

G. Kornfeld

2
GK 12/16/54

B.I.R.

negative area

6667* Temperature Dependence of the Viscosity of
Photographic Emulsions and Gelatin Solutions. (In Russian)
M. I. Shor-Zhurnal Prikladnoi Khimii, v. 24, July 1951, p.
748-753.
Data are tabulated and discussed.

SHTOR, M. L.
The effect of electrolytes on the structural properties of gelatin solutions. M. I. Shtor and Z. N. Pavlova. Zhur. Priklad. Khim. 26, 512-17 (1953).—The effect of KNO_3 on structure formation in gelatin soln. was studied. The coeff. of viscosity, η , was measured from 30 to 40° for 4, 7,

and 10% gelatin solns. For these solns. a plot of $\log \eta$ vs. temp. gave a straight line which changed slope at the point where structure formation occurred. The values of η at 40° for the 4, 7, and 10% solns. were 2.8, 6.8, and 12.1 centipoises, resp. For all 3 solns. the effect of KNO_3 tends to lower the temp. at which the slope change occurred and to make the angle between the 2 parts of the curve smaller. The log of the time t for a given vol. of soln. to flow through a capillary was plotted vs. the applied pressure. The intercept is called the limiting tension P_0 . The effect of KNO_3 on P_0 was to lower it to nearly zero. The nature of the effect of KNO_3 was studied by observing its effect on the ability of formalin and chrome alum to coagulate gelatin. The formalin test was not affected, but in the chrome alum test the addition of KNO_3 resulted in a lower final viscosity of the soln. Since chrome alum is believed to react with the carboxyl groups, it is proposed that KNO_3 acts by blocking these groups.

Joseph B. Levy

VASIL'YEV, V.K.; SHOR, M.I.; SHAMSHEV, L.P.; IOSIF, Ye.A., kandidat
tekhnicheskikh nauk, redaktor; ZHERDETSKAYA, N.N.. redaktor;
PANKHATOVA, M.A., tekhnicheskiy redaktor.

[Negative and positive photographic material] Negativnye i
positivnye fotomaterialy. Pod red. E.A.Iosifa. Moskva, Gos.
izd-vo "Iskusstvo." (Biblioteka fotoliubitelia no.2) 1955.
100 p.

(Photography--Appratus and supplies)

SHOR, M.I.; VOL, B.G.

Sensitizing photographic emulsions withpotassium iodide. Trudy
LIKI no.3:179-187 '55. (MLRA 9:8)

1. Kafedra tekhnologii proizvodstva kinofotomaterialov.
(Photographic emulsions)

SHOR, M.I.

Use of calculation in the technology of coating photographic
emulsions. Trudy LIKI no.4:156-164 '56. (MLRA 10:5)

1.Kafedra tekhnologii proizvodstva kinofotomaterialov.
(Photographic emulsions)

~~SHOR, M.I.; GINZBURG, K.M.~~

~~Establishing the reasons for deviations from the principle of the additivity of densities in the preparation of mixed emulsions. Zhur. nauch. i prikl. fot. i kin. 2 no.5:349-357 S-O '57. (MIRA 10:11)~~

~~1. Fabrika fotobumag, Leningrad.
(Photographic emulsions)~~

SHOR, M.

SHOR, M.; ZAGORSKAYA, G.

Protective light filters for use with printing papers. Sov. foto
17 no.12:39-42 D '57. (MIRA 11:1)
(Photography--Light filters)

SHOR, M.I.; GINZBURG, K.M.

Research on the kinetics of the chemical ripening of emulsions
for ammoniacal silver bromide printing papers. Zhur. nauch. i
prikl. fot. i kin. 3 no.2:96-100 Mr-Ap '58. (MIRA 11:5)

1. Fabrika fotobumag, Leningrad.
(Photographic emulsions)

SHOR, M.I.

"Trudy" of the All-Union Research Institute of Cinematography and
Photography, no.6, 1957; drying. Zhur. nauch i prikl. fot. i kin.
3 no.2:157-159 Mr-Ap '58. (MIRA 11:5)
(Photography) (Drying)

VASIL'YEV, Vladimir Konstantinovich; SHOR, Matvey logifovich; SHAMSHEV,
Leonid Petrovich; IOFIS, Ye.A., kand.tekhn.nauk, red.; ZHER-
DETSKAYA, N.N., red.; MALEK, Z.N., tekhn.red.

[Negative and positive photographic materials] Negativnye i pozi-
tivnye fotomaterialy. Izd.2-e, ispr.i dop. Pod red. E.A.Iofisa.
Moskva, Gos.izd-vo "Iskusstvo," 1959. 114 p. (Biblioteka foto-
liubitelia, no.2). (MIRA 12:9)
(Photography--Equipment and supplies)

DERYAGIN, Boris Vladimirovich; LEVI, Sergey Maksimovich. Prinimali uchastiye:
SMIRNOV, O.K.; SHOR, M.I., glavnnyy inzh.. BANKVITSER, A.L., red.
izd-va; GUSEVA, I.I., tekhn.red.

[Physical chemistry of the deposition of thin layers on a moving
base] Fiziko-khimia nanesenii tonkikh sloev na dvizhushchuy-
usia podlozhku. Moskva, Izd-vo Akad.nauk SSSR, 1959. 207 p.
(MIRA 12:9)

1. Chlen-korrespondent AN SSSR (for Deryagin). 2. Fabrika foto-
bumag No.4 (for Shor).
(Photographic emulsions) (Films (Chemistry))

"APPROVED FOR RELEASE: 08/09/2001

CIA-RDP86-00513R001549910003-9

SHOR, M.

Whiteness of photographic papers. Sov.foto 19 no.3:53 Mr '59.
(MIRA 12:4)
(Photography---Printing papers)

APPROVED FOR RELEASE: 08/09/2001

CIA-RDP86-00513R001549910003-9"

SHOR, M.I.; VOL, B.G.; ZARAKINA, G.A.

New quality criterion for photographic papers. Zhur.nauch.i
prikl.fot.i kin. 5 no.1:28-33 Ja-F '60. (MIRA 13:5)

1. Fabrika fotograficheskikh bumag, Leningrad.
(Photography--Printing papers)

SHOR, M.I.

In connection with V.I. Sheberstov's article "Normal' and
'anomalous' aging of photographic layers." Zhur.nauch.i prikl.
fot.i kin. 5 no.1:62-63 Ja-F '60, (MIRA 13:5)
(Photographic emulsions)
(Sheberstov's, V.I.)

SHOR, M.I.

Soviet-made photographic printing papers for documents and
texts. Zhur.nauch.i prikl. fot. i kin. 6 no.2:154-159 Mr.Ap
'61. (MIRA 14:4)

(Photography--Printing papers)

SHOR, M.I.

Reflex and reversal photographic papers for document copying.
Zhur.nauch.i prikl.fot.i kin. 7 no.5:402-404 S-0 '62.
(MIRA 15:11)
(Photography—Printing papers) (Copying processes)

"APPROVED FOR RELEASE: 08/09/2001

CIA-RDP86-00513R001549910003-9

S. S., H. L.

Experience With Treatment by Thibon in the the Case of Pulmonary Tuberculosis.

VYISKO-MEDIKINSKIY ZHURNAL (MILITARY MEDICAL JOURNAL), no 12, 1954. P. 81

APPROVED FOR RELEASE: 08/09/2001

CIA-RDP86-00513R001549910003-9"

POSTNIKOVA, Ye.N.; ZOLIN, G.A.; MARINA, L.V.; NAVRATIL', Z.A., SHEVELEVICH, L.V.; SHOR, M.S. (Moskva)

Effectiveness of streptomycin and PAS in treating pulmonary tuberculosis. Prob.tub.no.4:42-46 Jl-Ag '55. (MLRA 8:10)
(TUBERCULOSIS, PULMONARY, ther.)

(PAS & streptomycin)
(SALICYLIC ACID, ther. use
tuberc.pulm. with streptomycin)
(STREPTOMYCIN, ther. use
tuberc., pul., with PAS)

MOROZOVA, L.N.; DOKUCHAYEVA, Z.Ye.; ZOLIN, G.A.; KULAKOVA, A.A.; NAVRATEL',
Z.A.; POSTNIKOVA, Ye.N.; SHOR, M.S. (Moskva)

Effectiveness of prolonged combined antibacterial therapy of pulmonary
tuberculosis. Klin.med. 37 no.12:75-82 D '59. (MIRA 13:4)

1. Iz IV glavnogo upravleniya pri ministerstve zdravookhraneniya
SSSR (nauchnyy rukovoditel' - prof. A.Ye. Rabukhin).
(TUBERCULOSIS)

SHOR, N.A., klinicheskiy ordinator (Lugansk, ul.Shevchenko, d.65); BALTAYTIS,
Yu.V., student

Use of the "Gornospasatel'-2" respirator for inhalation anesthesia.
Nov. khir. arkh. no.5:123-124 S-0 '60. (MIRA 14:12)

1. Kafedra obshchey khirurgii (zav: - dotsent K.A.Muzyka) Luganskogo
meditsinskogo instituta.
(RESPIRATORS) (ANESTHESIA)

SHCHENKO N.A.

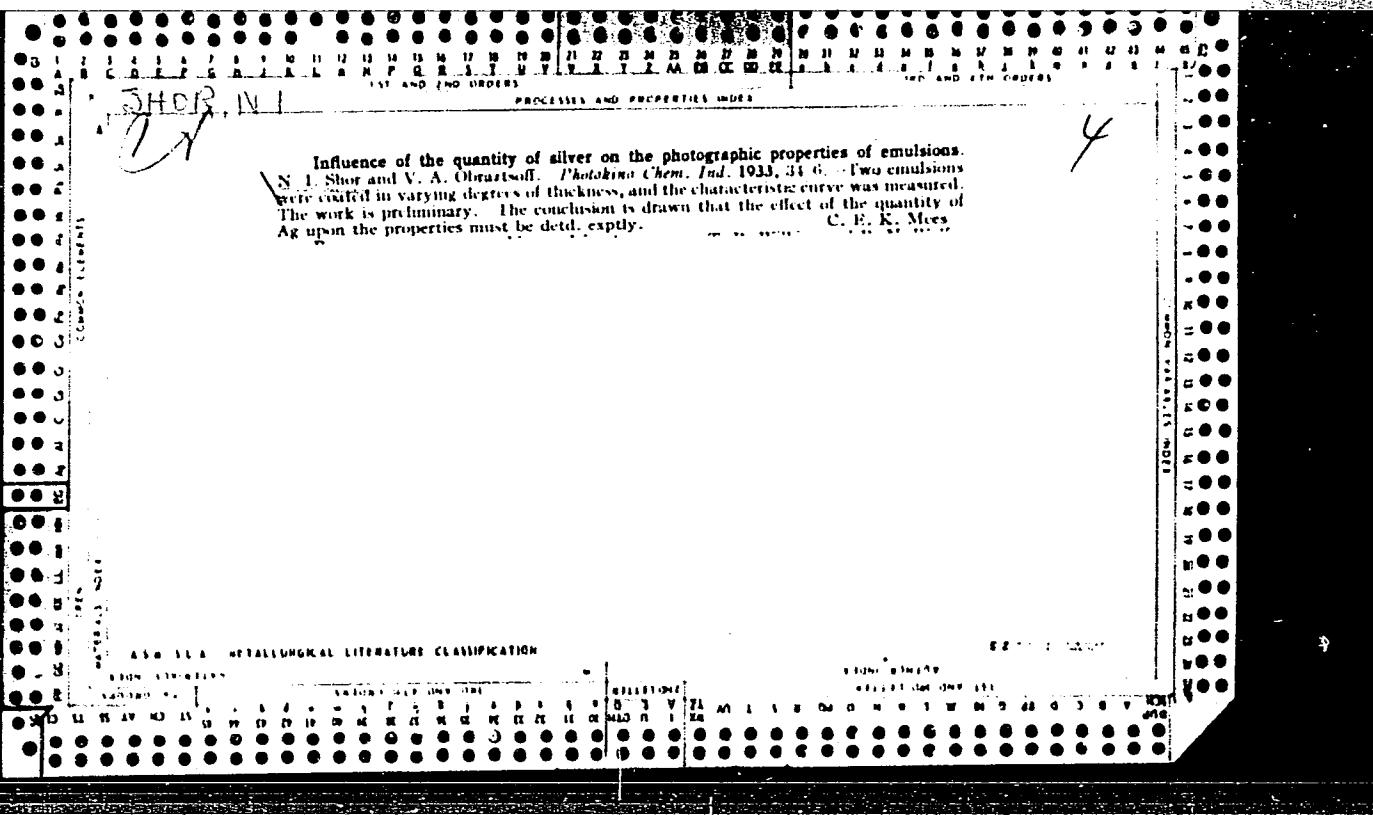
Treatment of hemophilic hemorrhages. Khirurgija 40 no.11:108-111 N '65.
(MIRA 18.7)

1. Kafedra obshchey khirurgii (zav., - dotsent K.A.Muzyka) Luganskogo
meditsinskogo instituta i Luganskaya oblastnaya klinicheskaya bol'ница
(glavnyy vrach - zasluzhenayy vrach UkrSSR I.D.Vashchenko).

MUZYKA, K.M., dotsent (Kiyev, 108, prospekt 40 let Oktyabrya, d.44, kv.60);
SHOR, N.A.

Diagnostic errors in lesions to major arteries in extremities.
Klin. khir. no.2:64-66 '65. (MIRA 18:10)

1. Kafedra obshchey khirurgii (zav.- dotsent K.A. Muzyka).



SHOK, N. I. Cand. Chem. Sci.

Dissertation: "Application of Methyl Zinc-and Magnesium Iodide for Determining the Active Hydrogen Atom." Moscow Order of Lenin State U imeni M. V. Lomonosov, 12 Feb 47.

SO: Vechernaya Moskva, Feb, 1947 (Project #17836)

SheR N 1

Determination of active hydrogen by Grignard reagent in an atmosphere of carbon dioxide. VI. A. P. Terent'ev and N. I. Shor. *Zhur. Obshch. Khim.* (J. Gen. Chem.) 17, 2078-9 (1947); cf. *C.A.* 42, 1827b. The earlier technique is modified in that the ice-cooled Rt_2O condenser is omitted and the crude $\text{CH}_2\text{Rt}_2\text{O}$ mixt. is washed after collection by a mixt. of 1:1 $\text{Rt}_2\text{O}-\text{HgCl}_2$ contg. 10% KOH to remove Rt_2O . MeMgI in C_6H_6 atm. removes both H atoms from RNH_2 even in the cold; a study of MeZnI (from 14 g. Zn , 2 g. Cu powder heated until homogeneous, then treated with 15 g. MeI and 50 ml. Et_2O in a sealed vessel for 2-3 days at room temp.) as a possible substitute for RMgX showed that RNH_2 loses only 1 H at room temp. and the 2nd H is lost only at 70-80°. However, Ph_2NH and $p\text{-MeC}_6\text{H}_4\text{NH}_2$ fails not to give complete reaction under all conditions. In addn. MeZnI reacts slowly with CO_2 yielding MeCO ; this takes place quite rapidly in pyridine soln. Hence MeZnI has no advantages over MeMgI as an active H reagent. Typical HO and amine derivs. give results within 0.05 atom of H of theory. G. M. K.

ASSISTANT OF ENTOMOLOGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 08/09/2001

CIA-RDP86-00513R001549910003-9"

33873
S/696/61/001/000/007/007
D231/D304

16,6100 (also 1031)

AUTHOR: Shor, N. Z.

TITLE: On the optimum regulation of a Markov sequence with
two phase conditions

SOURCE: Akademiya nauk Ukrayins'koyi RSR, Obchyslyval'nyy
tsentr. Zbirnyk prats' z obchyslyval'noyi matematyky
i tekhniki, v. 1, 1961, 119-124

TEXT: The author discusses the optimum regulation of a Markov se-
quence in terms of a multimove game for two players. The game has
two conditions: E_1 and E_2 . Each move is determined by a matrix of
transitive probability

$$P(m,n) = \begin{vmatrix} p_{11}(m,n) & p_{12}(m,n) \\ p_{21}(m,n) & p_{22}(m,n) \end{vmatrix}$$

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On the optimum regulation ...

where $p_{ij}(m,n)$ ($i,j = 1,2$) is the probability of transition at the given moment from condition E_1 to condition E_2 , and m and n parameters which are chosen by players I and II respectively when they know the state of the game after the preceding move. A game consisting of a finite number of moves is considered, and the ordinate k of the final point at which the result of the game is determined. (It is observed that k is a random quantity.) The case of a single-move game is considered. The Bayyesov strategy of player II with respect to a given strategy of player I is defined as that strategy which gives the greatest mathematical expectancy of II's success. The case of an N -move game is then considered, and the following theorem is established: Theorem 1: Let player II for a given strategy of player I have a Bayyesov strategy in the single-move game. Player I makes use of his given strategy of every move of an N -move game. Then, if player II uses for every move the Bayyesov strategy of the single-move game, this sequence will be the Bayyesov strategy for the N -move game. $M_i^N(\xi, \eta)$ is defined

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On the optimum regulation ...

as the mathematical expectancy of player II's success with the game in condition ξ_i ($i = 1, 2$), ξ and η being the strategies of I and II respectively, in an N-move game. The following definitions are made:

$$\underline{M}_i^N = \sup_{\eta} \inf_{\xi} M_i^N(\xi, \eta)$$

$$\overline{M}_i^N = \inf_{\xi} \sup_{\eta} M_i^N(\xi, \eta)$$

When $\overline{M}_i^N = \underline{M}_i^N$ the game is said to have value $\overline{M}_i^N = \overline{M}_i^N = \underline{M}_i^N$. /⁴ Abstracter's note: \overline{M}_i^N is erroneously written as \overline{M}^N in the text. / If there are strategies $\underline{\xi}$ and $\underline{\eta}$ such that $\overline{M}_i^N = M_i(\underline{\xi}, \underline{\eta})$ they are called the

Card 3/4

S/021/62/00C/004/009/012
D299/D302

AUTHORS: Bakayev, O.O., Branovyts'ka, S.V., Mikhalevych, V.S.,
and Shor, N.Z.

TITLE: Determining characteristics of a transportation net-
work by the method of successive analysis of variants

PERIODICAL: Akademiya nauk UkrRSR. Dopovidi, no. 4, 1962, 469-472

TEXT: A method is proposed for the automatic compilation of tables, used in the economics of transportation, and their insertion in a digital computer. Thereby a procedure was developed for analysis of a transportation network, so as to determine the characteristics (distance between terminals, transportation costs, etc.). The proposed method results in great economy of time (several hundredfold), the exclusion of errors, and the possibility of setting up matrices ("checkerboards") of practically unlimited size. In the network, the following points are determined: The transportation centers, the distance between neighboring points, the transportation cost per ton between neighboring points, as well as the production and consumption points and the corresponding volume of product on and con-

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Determining characteristics of a ...

sumption. These data are inserted, together with the program of network analysis, into the memory of the digital computer. The algorithm ensures obtaining the shortest distances between points (or cheapest cost). The results are sorted in external memory of the computer, so that it is possible to proceed directly to solving the main transportation problem. Mathematically, the problem is formulated as follows: Let an infinite set of points t_1, t_2, \dots, t_n be given. For certain ordered pair of these points, one determines the distance between them. An ordered set of points is called chain, if for each pair of points, belonging to it, the distance has been determined. Now the problem amounts to the determining (among all the possible chains, connecting 2 given points), the chain to which the distance is minimal. Such a chain is called optimal. The algorithm for solving the problem is based on the method of successive analysis of variants, developed at the Computer Center of the AS UkrSSR; thereby the shortest distances from a given point to all the other points of the chain are determined simultaneously. The parameters of optimal chains are stored for further analysis, whereas those of non-optimal ones are rejected. The algorithm is described by means

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Determining characteristics of a ...

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of 5 tables. The operation of the algorithm is schematically represented; thereby it becomes evident that the algorithm is convergent. It is noted that the computation time for a "checkerboard" of 100 x 100, does not exceed 12 minutes on the "Kiyev" digital computer. The above algorithm can be used for various transportation problems; division of work between different types of transportation, distribution of products in region of consumption (transportation and production costs being taken into account), location of industries, etc. There are 1 figure, 1 table and 3 Soviet-bloc references.

ASSOCIATION: Obchyslyuval'nyy tsentr AN URSR (Computer Center of the AS UkrRSR)

PRESENTED: by Academician V.M. Hlushkov AS UkrRSR

SUBMITTED: August 30, 1961

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S/271/63/000/001/028/047
D413/D308

AUTHORS:

Shkurba, V.V. and Shor, N.Z.

TITLE:

Probabilistic calculation of the mean time for performing arithmetical operations on an electronic digital computer

PERIODICAL:

Referativnyy zhurnal, Avtomatika, telemekhanika i vychislitel'naya tekhnika, no. 1, 1963, 5, abstract 1B26 (Tr. VI Vses. soveshchaniya po teorii veroyatnostey i matem. statistike, 1960, Vil'nyus, Gos. izd-vo polit. i nauchn. lit. LitSSR, 1962, 269-274)

TEXT: The authors consider the mean time for addition in accumulating adders with 'cascade' carry-over (adder type I), in accumulating adders with 'transverse' carry-over (adder type II), and in the single-volume pulsed adder (adder type III). They obtain both the mean value and the distribution of the addition time. The time for adding numbers A and B is determined by the time delay on the carry-over pulse (or 'no carry-over' in adder type III) at each

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Probabilistic calculation ...

digit, multiplied by the maximum length of spread of the pulse. This quantity is estimated as follows: for adders of types I or II it is one more than the length of the greatest series of 1's in C.

$$(C = C_n \dots C_i \dots C_1);$$

$$C_i = \begin{cases} 0 & \text{if } a_i = b_i = 0 \\ 0 & \text{if } a_i = b_i = 1 \\ 1 & \text{if } a_i \neq b_i \end{cases},$$

where $A = a_n \dots a_i \dots a_1$, $B = b_n \dots b_i \dots b_1$; for adders of type III it is one more than the length of the greatest series of 1's in $(n - 1)$ digits of C (leaving out C_1). Taking the hypothesis that for all digital computers with floating point all the digits a_i in numbers $A = a_n a_{n-1} \dots a_1$ reaching the arithmetic unit are independent and assume the values 0 and 1 with equal probability, they show that the addition time in adders of types I and II is proportional to $\log_2 n - 1$, while in adders type III it is proportional to $\log_2(n - 1)$. To determine the mean time for multiplica-

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Probabilistic calculation ...

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tion, the authors find the mathematical expectations of a number of 1's and groups of m 0's for various representations of n-digit binary numbers. This problem is considered in the paper as a part of the general problem of determining the mean duration of multiplication τ as a function of the mean duration τ of addition and the mean duration τ of shift in those instances where accelerated multiplication is achieved by omitting adding actions (if there is a 0 in the current section of the multiplier), superposition of adding actions with shifting, single-action shift for several digits, and conversion of the multiplier code. Expressions are obtained for the analysis of a partially transformed code.

[Abstracter's note: Complete translation]

Card 3/3

L 54889-65
WW BC

EWT(d)/EPF(n)-2/EWP(1) Pg-4/Pq-4/Pg-4/Pu-4/Pk-4/P1-4 IJP(c)

ACCESSION NR: AR5015071

UR/0044/65/000/005/V030/V031
512.25/.26+519.3:330.115

SOURCE: Ref. zh. Matematika, Abs. 5V193

AUTHORS: Mikhalevich, V. S.; Shor, N. Z.

TITLE: Method of sequential analysis of variants for numerical solution of optimization problems

CITED SOURCE: Tr. po vopr. primeneniya elektron. vychisl. mashin v nar. kh-ve, Gor'kiy, 1964, 5-9

TOPIC TAGS: optimal control, cybernetics

TRANSLATION: A series of results are given, relating to solution of optimal multi-alternative problems, which were obtained at the Cybernetics Institute, AN UkrSSR with the collaboration and under the guidance of the authors. A method is set forth for sequential analysis of alternatives and many problems to which this method is applicable are investigated: optimal projection of paths, network transport problems etc. It is shown that the method of sequential analysis of alternatives is a generalization of the "optimality principle" of Bellman in dynamic programming. Bibliography 18 entries. Yu. Finkel'shteyn

SUB CODE: MA

ENCL: 00

Card 2/1

1.11596-66

EWT(d)/EWP(1)

IJP(c)

BB/GG

SOURCE CODE: UR/0378/65/000/005/0018/0020

ACC NR: AP6001196

AUTHOR: Mikhnovskiy, S. D. (Supervising Engineer); Shor, N. Z. (Candidate of physico-

mathematical sciences, Senior Research Associate)

4/8
BORG: Institute of Cybernetics, AN UkrSSR (Institut kibernetiki AN UkrSSR)TITLE: The estimate of the minimum number of forwardings during the dynamical allocation
of a paginal memory

SOURCE: Kibernetika, no. 5, 1965, 18-20

TOPIC TAGS: computer memory, digital computer, computer storage, computer design,
algorithmABSTRACT: The paginal memory of a digital computer is a graduated dynamically allocated
memory with fixed segmentation of the volume and of the stored information, such as the one
in the "Atlas" computer. Such a memory is split into fixed and equal groups of cells (pages),
(segment) which remains undivided during an allocation of the memory. The paper investigates
an algorithm for segment exchange between two adjacent memory stages which involves a
minimum number of forwardings attainable by a most rational exchange of segments under

Card 1/2

UDC: 681.142.1.01

Thermal dissociation and electric conductivity of fused iodine chloride. Ya. A. Flalkov and O. I. Shor (Inst. Gen. Inorg. Chem. Acad. Sci. U.S.S.R., Moscow). *Zhur. Obshchey Khim.* (J. Gen. Chem.) 18, 14-17 (1948).—The sp. elec. cond. κ of ICl , as a function of temp., passes through an extended max. between 80 and 70°; at 35, 40, 60-70, 80, 90, 97°, $10^4 \times \kappa = 4.62, 4.70, 5.14$ (max.), 4.78, 4.16, 3.49 $\text{ohm}^{-1} \text{cm.}^{-1}$. The fall of κ can be ascribed to dissociation into $\text{I}_2 + \text{Cl}_2$ and to formation of ICl_2 . Owing to the reversibility of the dissociation, κ reverts to its initial value at 35° if ICl is heated to 97° in a sealed container and then cooled down to 35°. The dissociation $2 \text{ICl} \rightarrow \text{I}_2 + \text{Cl}_2$ at 63-70° is confirmed by the heating curve, showing an endothermal effect at that temp.

N. Thea

ASH-SEA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 08/09/2001

CIA-RDP86-00513R001549910003-9"

2

Physicochemical studies of systems containing iodine chloride or bromide and metal halides. V. Nitrobenzene solutions of the systems potassium bromide-iodine bromide and aluminum bromide-iodine bromide. Ya. A. Fialkov and O. I. Shor (Ukraine Acad. Sci. U.S.S.R.). *Zhur. Obshchey Khim.* (J. Gen. Chem.) 19, 1197-1200 (1949); cf. *C.A.* 42, 891b. — Sp. elec., cond., ion transfer, and cryoscopic measurements verified that the complex compds. $K[IBr]$ and $[AlBr]$ are formed in the ternary systems KBr - I (B r) (a) and $AlBr$ - I (B r) (b), resp. The cond. was measured at 25° with 2 different mol. ratios each: I (B r)/ $PhNO_2$ = 1:11.28 and 1:23.99 and I (B r)/ $PhNO_2$ = 1:7.26 and 1:25.03. For (a), the cond. increases with increasing KBr concn. at const. I (B r)/ $PhNO_2$ ratio. For (b), the cond. isotherm has a max. corresponding approx. to $AlBr_3/PhNO_2 = 0.03$ for solns. which are rather concd. in respect to $PhNO_2$, but at higher dilns. by $PhNO_2$ the max. appears only in the region of high $AlBr_3$ concns. In both cases the order of magnitude of the cond. is that of the Cl analogs (10^{-4} mhos). Complex formation is also indicated by the decrease of f.p. depression, e.g. when KBr is added to a $PhNO_2$ soln. of I (B r) in concns. of 0.0370 to 0.1014 moles, the ratio of mol wt. calcd./mol. wt. theoretical increases from 1.28 to

3.13. Kapta, on ion transfer showed that for (a) K almost completely goes to the cathode, Br and I to the anode; for (b) I goes to the cathode, Al and Br to the anode. The slight increase of I at the anode is ascribed to a side reaction, i.e. the formation of $[PhNO_3]I$, which during electrolysis would yield anodic I. K, Ias

SHOP, O. T.

"Physico-Chemical Research on Systems Containing Iodine Halides and Halides of Other Elements. VIII. The Systems LCI_2-ICL and $ICl-ALCl_3$ ", 19, No. 10, 1949., Inst. Gen. and Inorg. Chem., Acad Sci. Ukrainian SSR, Lab Complex Compounds. -1949-.

SHOR, O. I.

Thermal decomposition of nitrates and carbonates of magnesium, zinc, and cadmium. S. D. Shargorodskii and O. I. Shor. *Ukrain. Khim. Zhur.* 16, No. 4, 428-33 (1960); *C. A.* 47, 7928e. The substances MgCO_3 (I), $\text{Mg}(\text{NO}_3)_2 \cdot 6\text{H}_2\text{O}$ (II), ZnCO_3 (III), $\text{Zn}(\text{NO}_3)_2 \cdot 6\text{H}_2\text{O}$ (IV), CdCO_3 (V), and $\text{Cd}(\text{NO}_3)_2 \cdot 4\text{H}_2\text{O}$ (VI) were studied thermographically. Thermal effects (dehydration, fusion, or decompa.) occur for II at $80-90^\circ$, $125-180^\circ$, and $380-385^\circ$; for IV at $25-30^\circ$, $120-160^\circ$, and $290-5^\circ$; for VI at $30-50^\circ$, $110-200^\circ$, and $350-80^\circ$; for I at $285-330^\circ$, $405-20^\circ$, and $480-505^\circ$; for III at $210-55^\circ$; and for V at $385-430^\circ$. Temp. is shown graphically as function of time for II-VI, and $2\text{MgCO}_3 \cdot \text{Mg}(\text{OH})_2 \cdot 2\text{H}_2\text{O}$ in the presence of SiO_2 , and for II, IV, and VI in the absence of SiO_2 .

J. W. Loweberg, Jr.

11-5-54
mch

SHARGORODSKIY, S.D.; SHOR, O.I.

Use of thermography in studying the interaction of potassium or
sodium chlorides with magnesium sulfate during heating. Ukr.khim.
zhur. 17 no.1:136-148 '51. (MLRA 9:9)

1.Institut obshchey i neotorganicheskoy khimii Akademii nauk Ukrainskoy
SSR.
(Chlorides) (Magnesium sulfate) (Thermochemistry)

SHARGORODSKIY, S.D.; SHOR, O.I.

Interaction of sodium and potassium chlorides with magnesium sulfate
during heating and in airflow of steam. Ukr.khim.zhur.17 no.5:678-687
'51. (MLRA 9:9)

1.Institut obshchey i neorganicheskoy khimii AN USSR.
(Chlorides) (Magnesium sulfate)

SHOR. O.T.

V. Physicochemical investigation of systems containing iodine halides and halides of other elements. X. The systems IBr-KBr and IBr-AlBr_3 . Yu. A. Matkay and O. I. Shor. *Zhur. Osnikov. Khim.* 25, 357-363 (1951); cf. *Zhur. Osnikov. Khim.* 25, 364-365 (1951).

Solutions of IBr-KBr (8.11 and 0.70 mol.-% KBr) and IBr-AlBr_3 (30 mol.-% AlBr_3) were electrolyzed between Pt electrodes and the ion transfer nos. determined at 40-45°. The 2nd binary was also detd. thermally by the visual method. Up to 12 mol.-% AlBr_3 , between 12 and 40% supersatd. solns. formed; above 40%, because of the slight thermal effects, automatic photo-temp. recording was used. There are 2 eutectics, m. 18° and 78°, with 12 and 54.8 mol.-% AlBr_3 and a 1:1 compd., m. 85°. Both systems are similar to the corresponding chloride systems with the exception that the compd. in the latter system is $\text{AlCl}_3\text{AlCl}_5$. This is ascribed to the tendency of ICl to form dimers in equil. with monomers. In the IBr-KBr system the transference nos. of K , I , and Br are 0.43, 0.17, and 1.51; those in the IBr-AlBr_3 system of Al , I , and Br are 0.12, 0.16, and 1.18 for 25.40-37.10 mol.-% AlBr_3 . The cathode of the 1st system was coated with I , Br , and K . The cathode of the Al system was covered with a deposit of I and the anode with Al and formed by the interaction of iodine halides with halides of potassium and aluminum. *Ibid.* 403-72. The conclusions drawn from the exptl. results of the entire series of papers are reassessed in the light of the more recent data on electrolysis and ion transference. In the IX-KX system in solns. with mol. ratios of $\text{IBr/KBr} = 1/0.23$ -0.23 there is the complex $\text{K}(\text{IBr}_3)$ and for every mol. of this complex electrolyzed 0.5 mol. of the excess solvent, IBr , is electrolyzed with it. The probable compn. of the compds. in the IX-KX and IX-KX-PtNO_2 (cf. *C. A.* 44, 2837b) systems is KICl_3 and KIBr_3 . In the IX-AlNa system, the fact that during electrolysis the cathode is enriched with I and the anode with Al and Br or Cl , indicates a complex $\text{I}(\text{AlBr}_3)$ solvated with IBr ; in the PtNO_2 system the same complex is solvated with 1 mol. of IBr . It is concluded that the compd. in this system is probably $\text{I}(\text{AlX}_3)_2\text{PtX}_2$, which is unstable at higher temps. and dissociates to form IBr-AlBr_3 . The compn. of the latter is proved by thermal data as well as by viscosity (*C. A.* 35, 23609).

SHOR, O. I.

USSR/Chemistry - Physical Chemistry

Card : 1/1 Pub. 116 - 3/20

Authors : Shargorodskiy, S. D. and Snor, O. I.

Title : Thermal decomposition of Be, Ca, Sr and Ba nitrates and carbonates

Periodical : Ukr. khim. zhur. 20, Ed. 4, 357 - 362, 1954

Abstract : The processes occurring during the heating of $\text{Be}(\text{NO}_3)_2 \cdot 3\text{H}_2\text{O}$, $\text{BeCO}_3 \cdot 4\text{H}_2\text{O}$, $\text{Ca}(\text{NO}_3)_2$, $\text{Sr}(\text{NO}_3)_2$ and $\text{Ba}(\text{NO}_3)_2$, were thermographically investigated and the decomposition temperatures for these substances were established. The thermal effects causing decomposition of Ca, Sr and Ba nitrates were also found to be melting effects. The order of the thermal stability of the tested nitrates and carbonates corresponds to the ion radii of the cations, i. e., the thermal stability increases in accordance with a given order. Seventeen references: 1-Ukr; 5-USSR; 1-USA; 5-French; 4-German; and 1-English; (1859-1952). Tables; graphs.

Institution : Acad. of Sc. Ukr-SSR, Institute of Gen. and Inorgan. Chemistry

Submitted : June 29, 1953

SHOR, O. I.

USSR/ Chemistry - Inorganic chemistry

Card 1/1 Pub. 116 - 3/24

Authors : Shargorodskiy, S. D.; Shor, O. I.; and Barabanova, A. S.

Title : Reaction of KCl with potassium-manganese containing minerals in hydrothermal conditions

Periodical : Ukr. khim. zhur. 21/2, 152-157, 1955

Abstract : Investigation was conducted to determine the conversion of KCl when heated in a mixture of individual minerals - polyhalite, kieserite, langbeinite and picromerite. The effect of temperature and heating period on the reaction process is explained. Results obtained are described. Nine references: 6 USSR, 1 Fr/USA, and 2 German (1925-1952). Tables; graphs.

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

Submitted : July 9, 1954

Shor, O.I.

USSR/Chemical Technology -- Chemical Products and Their Application. Fertilizers,
I-6

Abst Journal: Referat Zhur - Khimiya, No 1, 1957, 1449

Author: Shargorodskiy, S. D., Shor, O. I., and Barabanova, A. S.

Institution: None

Title: The Utilization of Alunite in the Preparation of Potassium Sulfate
by the Hydrothermal Method

Original Periodical: Zh. prikl. khimii, 1956, Vol 29, No 4, 492-498

Abstract: Thermographic studies have shown that when a mixture of alunite, containing (in percent): K₂O 7.5, Al₂O₃ 27.8, SO₄ 26.6, SiO₂ 30.9, etc and KCl (C. P.) in the molar ratio Al₂(SO₄)₃:KCl = 1:6 is heated, Al₂(SO₄)₃ and KCl begin to react in the presence of water at 480°, i.e., at the dehydration temperature of alunite. The products of the reaction are Al₂O₃, K₂SO₄, and SiO₂; the conversion of KCl is 62.5%. Experiments have been carried out in which a 3.7:10 weight mixture of KCl and alunite was heated in an electric

Card 1/2

SHOR, C.I.

Chem ✓ The use of alunite for the production of potassium sulfate
by the hydrothermic method. S. D. Shergorodskii, O. I.
Sher, and A. S. Barabanova. J. Appl. Chem. U.S.S.R.
29, 541-5(1956)(Engl. translation).—See C.A. 50, 160363.
B. M. R.

11
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PM

SHOR, O.I.

Third Ukrainian Republic conference on inorganic chemistry. Ukr.
(MIRA 11:9)
khim. zhur. 24 no.3:419-421 '58.
(Chemistry, Inorganic--Congresses)

SHOR, O.I.; SHARGORODSKIY, S.D.; BARABANOVA, A.S.

Effect of oxygen on the reaction of alkali metal chlorides with
magnesium sulfate on heating. Ukr. khim. zhur. 24 no.4:521-525
'58. (MIRA 11:10)

1. Institut obshchey i neorganicheskoy khimii AN USSR.
(Alkali metal chlorides) (Magnesium sulfate) (Oxygen)

CHALYY, V.P.; SHOR, O.I.; ROZHENKO, S.P.

Thermographic study of certain metal hydroxides. Part 1: Individual hydroxides. Ukr. khim. zhur. 27 no.1:3-6 '61. (MIRA 14:2)

1. Institut obshchey i neorganicheskoy khimii AN USSR.
(Hydroxides)

CHALYI, V.R.; SHOR, O.I.

Thermographic study of certain metal hydroxides. Part 2:
Binary hydroxide systems. Ukr. khim. zhur. 27 no. 1:7-11 '61.
(MIRA 14:2)

1. Institut obshchey i neorganicheskoy khimii AN USSR.
(Hydroxides)

SAZHIN, V.S.; SHOP, O.I.; KOLESNIKOVA, I.A.; VOLKOVSKAYA, A.I.

Isotherms of solubility of aluminum oxide in the system
 $\text{Na}_2\text{O} - \text{CaO} - \text{Al}_2\text{O}_3 - \text{SiO}_2 - \text{H}_2\text{O}$. Ukr. khim. zhur. 30
no. 183-8 '64. (MIRA 17:6)

1. Institut obshchey i neorganicheskoy khimii AN UkrSSR.

SHOR, R.M.; BRAGINSKIY, M.A. [Brahins'kyi, M.A.]

Mechanized system for drying Russian leather by the glued-on-glass method. Leh.prom. no. 4:11-13 O-D '63. (MIRA 17:5)

LITVINOV, M.R., inzhener; SHOR, R.M.

Over-all mechanization of tanning processes in the manufacture
of Russian leather. Leg.prom. 16 no.4:45-48 Ap '56. (MLRA 9:8)

1. Nachal'nik konstruktorskogo otdela.
(Kiev--Tanning) (Leather industry)

"APPROVED FOR RELEASE: 08/09/2001

CIA-RDP86-00513R001549910003-9

SHOR, R.M.
SHOR, R.M., inzh.

Automatic assembly line for wool processing. Leg. prom. 16 no.8:50-
51 Ag '56. (MIRA 10:12)
(Woolen and worsted manufacture)

APPROVED FOR RELEASE: 08/09/2001

CIA-RDP86-00513R001549910003-9"

SHOR, R.M., inzh.

Transporting by-products of leather production. Kozh.-obuv.
prom. no.2:33 F '59. (MIRA 12:6)
(Leather industry--By-products--Transportation)

USYCHENKO, T.A.; SHOR, R.M.

Make use of advanced machinery and technology in production.
Kozh.-obuv. prom. no.3:29-31 Mr '59. (MIRA 12:6)
(Leather)

SHOR, R.M., inzh.

Using hydraulic conveying in the leather industry. Izv. vys.
ucheb. zav.; tekhn.leg. prom. no.3:130-134 '58. (MIRA 11:10)

l. Kiyevskiy kozhevennyy kombinat.
(Conveying machinery) (Leather industry)

LITVINOV, M.R., inzh.; SHOR, R.M., inzh.; GOROKHOVSKIY, Ya.Ye.

Section for the continuous production of patent leather. Kozh.-obuv.
prom. no.11:35-37 N '59. (MIRA 13:3)
(Leather industry)

SHOR, R.M.

Automatic atomizer nozzle of a sprayer for multiple coat coloring of leather. Kozh.-obuv.prom. 2 no.1:24-25 Ja '60.
(MIRA 13:5)

1. Nachal'nik konstruktorskogo otdeleniya Kiyevs'kogo kozhevennogo kombinata.

(Dyes and dyeing--Leather)

SHOR, R.M.

Machine for trimming Russian leather. Kczh.-obuv.prom. 2
no.2:26 F '60. (MIRA 13:5)
(Leather)

SHOR, R.M.

Separator for the separation of hide scrapings from water.
Kozh.-obuv.prom. 2 no.3:33 Mr '60. (MIRA 14:5)
(Leather industry—Equipment and supplies)

BELANOVSKIY, Nikolay Grigor'yevich [Bielanov's'kyi, M.H.], SHOR,
Roman Moiseyevich; LYASHCHENKO, T.V., red.; STARODUB,
T.O., tekhn. red.

[Modernization of the equipment of the leather industry]
Modernizatsiya ustavkuvannia shkirianoi promyslovosti.
Kyiv, Derztekhydav URSR, 1961. 102 p. (MIRA 16:9)
(Leather industry--Equipment and supplies)

"APPROVED FOR RELEASE: 08/09/2001

CIA-RDP86-00513R001549910003-9

LITVINOV, M.R.; OVRUTSKIY, M.Sh.; DERBAREMDIKER, M.L.; SHOR, R.M.

Rapid soaking and liming in the processing of Russian leather.
Kozh.-obuv.prom. 3 no.7:22-25 Jl '61. (MIRA 14:9)
(Leather)

APPROVED FOR RELEASE: 08/09/2001

CIA-RDP86-00513R001549910003-9"

"APPROVED FOR RELEASE: 08/09/2001

CIA-RDP86-00513R001549910003-9

SHOR, R.M.; RYTSLIN, V.A.

Automatic stopper for the discharge of solutions from frame
drums. Kozh.-obuv.prom. 4 no.3:35-36 Mr '62. (MIR 15:5)
(Leather industry---Equipment and supplies)

APPROVED FOR RELEASE: 08/09/2001

CIA-RDP86-00513R001549910003-9"

LITVINOV, M.R.; SHOR, R.M.; DERBAREMDIKER, M.L.

Increase of the degree of utilization of the industrial floor space
based on the improvement of equipment and technology. Kozh.-obuv.
prom. 4 no.8:7-11 Ag '62. (MIRA 15:8)

1. Glavnnyy inzhener Kiyevskogo kozhevennogo kombinata No.6 (for
Litvinov). 2. Nachal'nik konstruktorskogo otdela Kiyevskogo
kozhevennogo kombinata No.6 (for Shor). 3. Nachal'nik laboratorii
Kiyevskogo kozhevennogo kombinata No.6 (for Derbaremdiker).
(Leather industry) (Industrial management)

SKURIKHIN, N.F.; SHOR, R.M.; GOL'TSEN, I.I.; METELKIN, A.I.; BOGDANOV, I.V.

Conference of leather specialists on the problem of automation
and mechanization of the operations in leather manufacture.

Kozh.-obuv.prom. 6 no.1:10-19 Ja '64. (MIRA 17:4)

1. Glavnnyy spetsialist Gosudarstvennogo proyektnogo instituta No.2 (for Skurikhin).
2. Gosudarstvennyy proyektnyy institut No.2 (for Bogdanov).
3. Kiyevskiy kozhevennyy kombinat (for Shor)..
4. Moskovskiy kozhevennyy zavod (for Gol'tsen).
5. TSentral'nyy nauchno-issledovatel'skiy institut kozhevenno-obuvnoy promyshlennosti (for Metelkin).

DUSHIN, B.M. (Dushyn, B.M.); SHOR, R.M.

Complete mechanization of the glue cooking shops in
the Kiev Leather Combine No.6. Leh.prom. no.1:53-55
Ja-Mr '64. (MIRA 19:1)

LYAKHOVICH, K.G.; SOBOLEVA, K.P.; STARIKOVA, K.S.; TARKOV, M.I.;
CHERNYAVSKAYA, R.M.; SHOR, R.S.

Causes of the low survival rate of diphtheria bacteria. Zdravookhranenie 3 no.2:29-33 Mr-Ap '60. (MIRA 13:7)

1. Iz Moldavskogo instituta epidemiologii, mikrobiologii i gigiyeny (direktor N.N. Yezhov) i infektsionnoy bol'nitsy g. Kishineva (glavnnyy vrach Z.P. Kiseleva).
(DIPHTHERIA--BACTERIOLOGY)

AREHANGEL'SKIY, K.P.; SHLEVIN, D.N.; SHOR, Sh.I.; ZHUKOV, A.V., kandidat
tekhnicheskikh nauk, redaktor; ENYAZEVSKIY, P. redaktor;
IOAKIMIS, A., tekhnicheskiy redaktor.

[Producing corrugated roofing sheets on the SKVL-2 machine]
Proizvodstvo krovel'nykh volnistykh listov na stanke SKVL-2.
Pod red. A.V. Zhukova. Kiev, Gos. izd-vo lit-ry po stroit. i
arkhitekture USSR, 1955. 80 p. (MIRA 9:5)
(Roofing)

BUROVA, Vilenina Emmanuilovna; SHOR, Semen Mikhaylovich; BULIKOV, A.,
red.; ZAKHAROVA, G., red.; CHEPELEVA, O., tekhn.red.

[Masters of underground storerooms; from the history of the
Il'ich mine in the Donets Basin] Khozinaeva podzemnykh kladovykh;
iz istorii shakhty imeni Il'icha v Donbasse. Moskva, Izd-vo
sotsial'no-ekon.lit-ry, 1960. 165 p. (MIRA 13:5)
(Donets Basin--Coal miners)

87230
S/035/60/000/011/002/010
A001/A001

3.1400

9.7000

Translation from: Referativnyy zhurnal, Astronomiya i Geodeziya, 1960, No. 11,
pp. 16-17, # 11021

AUTHOR: Shor, V.A.

TITLE: The Use of High-Speed Computers for the Solution of the Restricted
Three-Body Problem by the Hill-Brown Method. Part I. Calculation
of the Right-Hand Members of Non-Homogeneous Equations

PERIODICAL: Byull. In-ta teor. astron. AN SSSR, 1960, Vol. 7, No. 8, pp. 639-
675 (Engl. summary)

TEXT: During the last ten years the Institut teoreticheskoy astronomii
(Institute of Theoretical Astronomy) established the possibility, in principle,
and expediency of the use of the Hill-Brown lunar method for the development of
analytical theories of Jupiter irregular satellites. However, obstacles of prac-
tical nature occur on the way of its wide use: the development of the theory,
even with moderate parameters, calls for many-year labor. Moreover, parameter
 $m = n'/(n-n')$ which is used in numerical form from the outset is not always known
with a sufficient accuracy, and making it more precise calls for the re-calculation

Card 1/3

87230

S/035/60/000/011/002/010
A001/A001

The Use of High-Speed Computers for the Solution of the Restricted Three-Body Problem by the Hill-Brown Method. Part I. Calculation of the Right-Hand Members of Non-Homogeneous Equations

of the larger part of inequalities. The article describes the experience of using electronic computers for the automation of the calculation process in the Hill-Brown method. In the first part the sequence of calculations of the right-hand parts of non-homogeneous equations is described. A computer of the "Strela" type was selected for carrying out calculations, since it possesses large operative memory (2,047 cells + magnetic tape) and high calculation speed (2,000 operations per second). The basic principles of the Hill-Brown theory are briefly explained in the first two paragraphs. Further the structure of the program and distribution of the memory are characterized. The process of calculating unknown coefficients of a set of inequalities with a certain characteristic $\lambda = e^{11}e'_{12}k^{13}\alpha^{14}$ can be divided into several stages: 1) calculation of terms of the right-hand parts of equations arising from derivatives of the perturbation function; 2) calculation of terms arising from the expansion into series of $u \zeta^{-1/r^3}$ or $z \sqrt{-1/r^3}$; 3) calculation of terms of the right-hand parts of equations generated by expressions $\zeta^{-1} (D^2 \pm 2mD) \sum u_\mu D^2 \sum z_\mu \sqrt{-1}$, where operator $D = \zeta d/d\zeta$. $\zeta = \exp(n-n')(t-t_0)$ $\sqrt{-1}$, u_μ and z_μ are inequalities with characteristic μ ; 4) solu-

Card 2/3

16.68/2

S/511/61/008/003/001/004
A001/A101

AUTHOR: Shor, V.A.

TITLE: The use of high-speed computers for the solution of the restricted three-body problem by the Hill-Brown method. Part II. A further calculation of the right-hand members of non-homogeneous equations and determination of motion of the pericenter and node

SOURCE: Akademiya nauk SSSR. Institut teoreticheskoy astronomii. Byulleten'. v. 8, no. 3 (96), 1961, 165 - 172

TEXT: This paper is a continuation of the study whose first part was published in the same source, v. 7, no. 8 (91), 1960. The results of further investigations on automation of calculations in the Hill-Brown lunar method are reported. The logical diagram of the routine for calculating those terms in the right-hand sides of the equations, which are generated by expressions containing differential operator D, is constructed. Thereby the problem of calculating the right-hand sides of non-homogeneous equations is solved to the end. The problem of selecting terms with the λ -characteristic contained in the expressions

Card 1/4

13

S/511/61/008/003/001/004

The use of high-speed computers for the solution of A001/A101

- $\zeta^{-1} (D^2 + 2mD) \sum u_\mu$ and $-D^2 \sum z_\mu \sqrt{-1}$ is reduced to selecting such terms from the following expressions:

$$\begin{aligned} & - a \sum_{\mu} \mu \sum_{\tau, i} [2\delta\tau (2i + \tau + 1 + m - x) + (\delta\tau)^2] \mu_{i, \tau} \zeta^{2i + \tau - x}; \quad (4) \\ & - a \sum_{\mu} \mu \left\{ \sum_{\tau, i} [2\delta\tau (2i + \tau - x) + (\delta\tau)^2] \mu_{i, \tau} \zeta^{2i + \tau - x} + \right. \\ & \left. + \sum_{\tau, i} - [2\delta\tau (-2i + \tau + x) + (\delta\tau)^2] \mu_{i, -\tau} \zeta^{-2i + \tau + x} \right\}. \quad (4a) \end{aligned}$$
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It is possible to transform these expressions to the form which permits utilization of blocks described in Part I, where calculation of product of the form

$$\sum_{\tau, i} \sum_k \mu_{i-k, \tau} \delta_k \zeta^{2i + \tau - x}, \quad (10)$$

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was considered in detail. Some additional subprograms for calculating terms $\delta\tau$ and $(\delta\tau)^2$ are described and the logical diagram of the corresponding routine is presented (Fig. 1). The next problem considered is calculating coefficients of expansion in series of the motion of the pericenter and center using the Brown method. The unknown quantities are calculated by the following formulae:

$$c_{vt}^2 = \frac{\sum (B_{i,c} \epsilon_i + B_{i,-c} \epsilon'_i)}{\sum 2 [(2i + c_0 + 1 + m) \epsilon_i^2 - (2i - c_0 + 1 + m) \epsilon'^2_i]}, \quad (11)$$

$$g_{vt}^2 = \frac{\sum B_{i,g} k_i}{\sum 2 (2i + g_0) k_i^2}. \quad (11a)$$

A special block of the routine, Block XVI, shown in Figure 3, is used to calculate these quantities. The symbols are explained and the sequence of operations is described in detail. There are 3 figures.

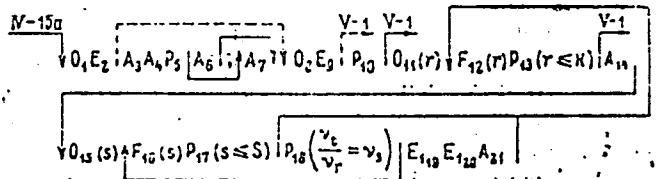
SUBMITTED: July 22, 1960

Card 3/4

S/511/61/008/003/001/004

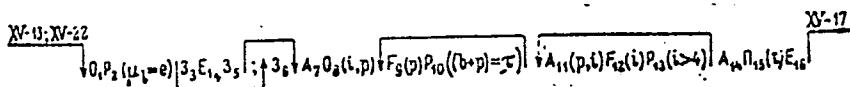
The use of high-speed computers for the solution of ... A001/A101

Figure 1



VB

Figure 3



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A060/A000

AUTHOR: Shor, V. A.

TITLE: Application of high-speed computers to solving the limited three-body problem by the Hill-Brown method. P. III. Calculating the coefficients of the inequalities

PERIODICAL: Referativnyy zhurnal, Matematika, no. 11, 1962, 37, abstract 11V162
(Byul. In-ta teor. astron. AN SSSR, 1962, v. 8, no. 5, 359 - 378) ✓B

TEXT: This paper is a continuation of the author's works published previously (V. A. Shor, Byul. In-ta teor. astron. AN SSSR; 1960, v. 7, no. 8, 1961, v. 8, no. 3). The coefficients of the inequalities in the motion of a satellite are determined as the solutions of systems of linear equations. The solution of these systems on an electronic computer by the method of successive approximations is described. The results are published of calculating the inequalities in the motion of the VII-th satellite of Jupiter on the "Strela" machine.

Author's summary

[Abstracter's note: Complete translation]

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SEQR, V. A.

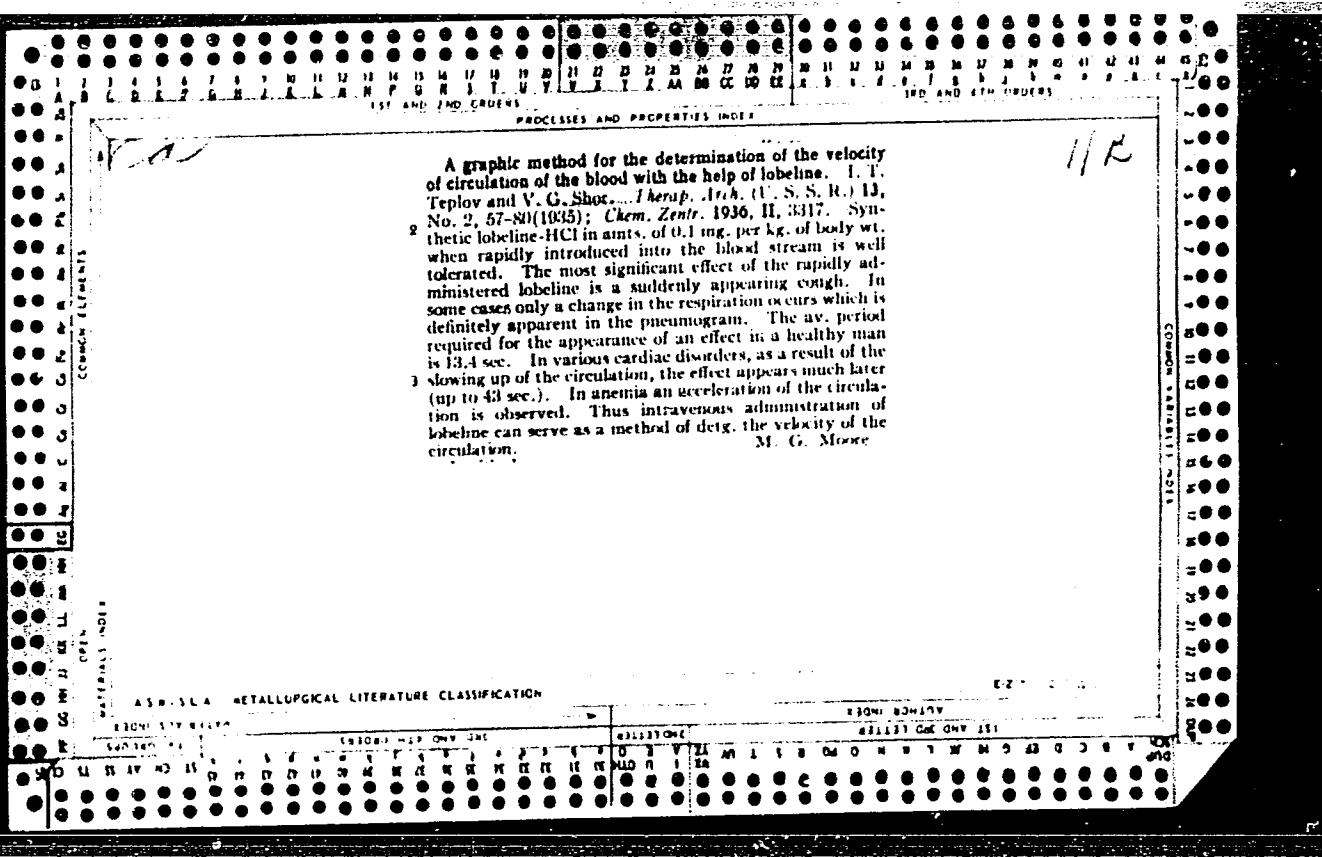
Dissertation defended for the degree of Candidate of Physicomathematical Sciences at the Main Astronomical Observatory in 1962:

"Solution of the Satellite Problem of Three Bodies Using the Hill-Brown Method with the Aid of High-Speed Computers."

Vest. Akad. Nauk SSSR. No. 4, Moscow, 1963, pages 119-145

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(MIRA 17:12)



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SO: U-3950, 16 June 53, (Letopis, 'Zhurnal 'nykh Statey, No. 5, 1949).

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med. 20 no.10:45-48 0 '56. (MIRA 10:1)

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(HEART DISEASES
thrombosis of left atrium)
(THROMBOSIS
of left atrium)

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Two cases of calcinosis of the skin and subcutaneous tissues in
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(SCHLERODERMA, metab.

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(CALCINOSIS, etiol. & pathogen.

skin & subcutaneous tissues in scleroderma (Rus))

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