

modeling, its basis and foundations, of a solid-liquid

Card 1/2

L 52540-65

ACCESSION NR: AT5012707

in solid-liquid and solid two-dimensional models; and 4) a clarification of the feasibility of experiments on two-dimensional solid models (experiments with homogeneous and inhomogeneous materials).

present any experimental results. (Orig. art. has: 51 formulas and 2 figures.

ASSOCIATION: none

SUBMITTED: 00

ENCL: 00

SUB CODE: ES, ME

NO REF SOV: 006

OTHER: 000

llc

Cord 2/2

ACC NR: AT6032728

SOURCE CODE: UR/0000/66/000/000/024/0028

AUTHOR: Krauklis, P. V.; Molotkov, L. A.; Petrashen', G. I.

ORG: none

TITLE Certain wave processes in media containing thin layers

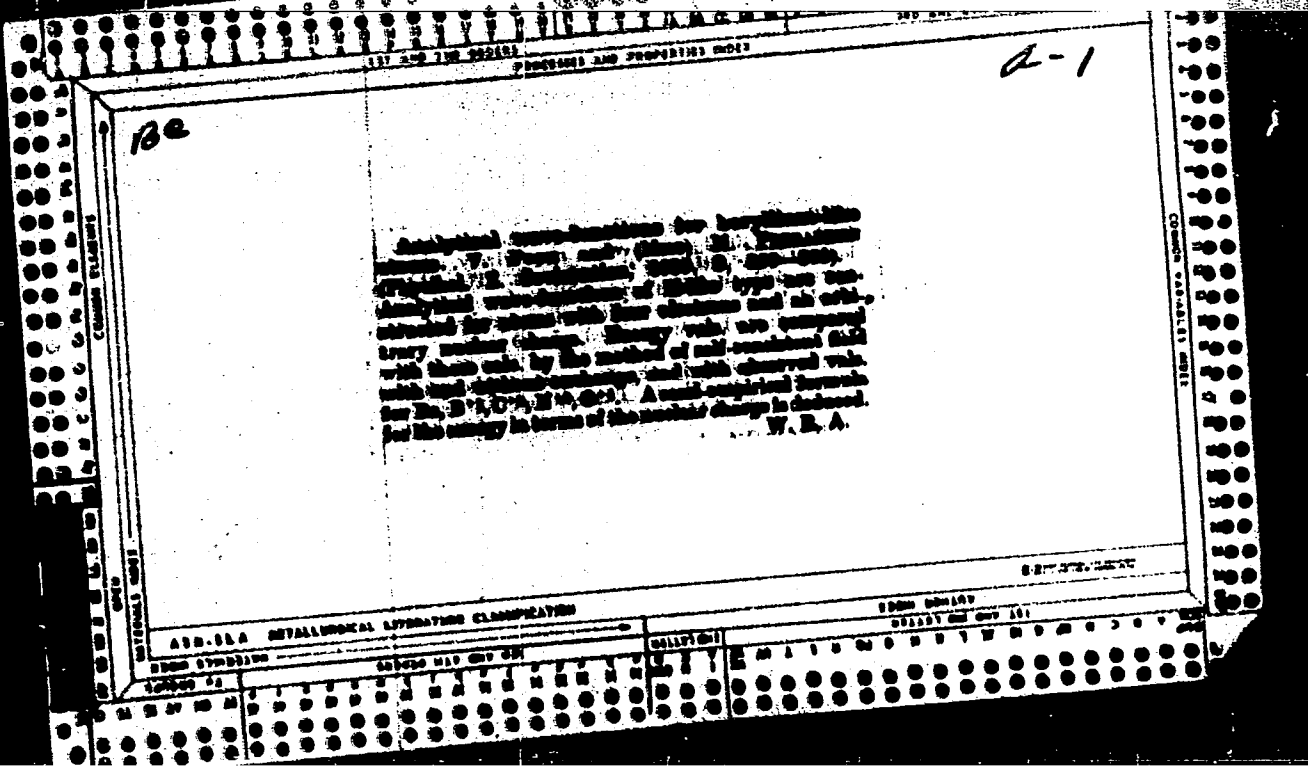
SOURCE: AN SSSR. Institut fiziki Zemli. Geoakustika; ispol'zovaniye zvuka i ul'tra-zvuka v seysmologii, seysmorazvedke i gornom dele (Geoacoustics; the use of sound and ultrasound in seismology, seismic prospecting, and mining). Moscow, Izd-vo Nauka, 1966, 24-28

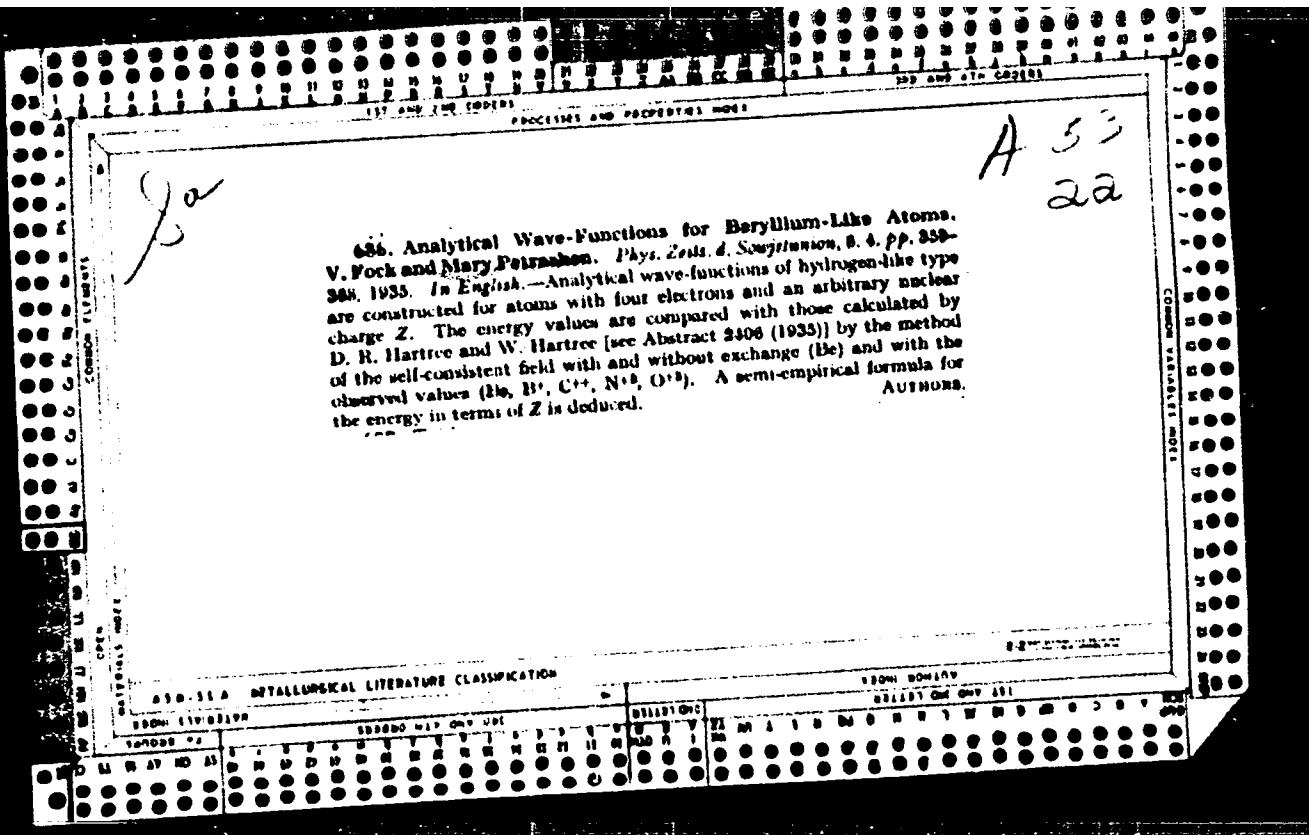
TOPIC TAGS: seismic modeling, seismic wave, wave propagation, head wave

ABSTRACT: Theoretical investigations of wave fields in seismic models containing a thin layer are briefly reviewed. The following are considered: free elastic model, elastic medium in a liquid, elastic medium in rigid or sliding contact with another elastic medium, and a liquid layer between elastic media. The effect of parameters of surrounding media and the type of boundary conditions on propagation of low-frequency waves along the layer is considered. The properties of head waves propagated along an elastic layer placed in a liquid are summarized. Orig. art. has: 6 formulas and 2 figures.

SUB CODE: 08/ SUBM DATE: 28Mar66/ ORIG REF: 008/ OTH REF: 001

Card 1/1





GTiSFL No. 45

Petrashen', M.E. and Porai-Koshits, E.A. Application of the Fourier analysis to the interpretation of X-ray photographs of liquids and vitreous substances. 887-93

Akademiya Nauk S.S.S.R., Doklady Vol. ~~33~~²¹ No. ~~2~~²

ACCESSION NR: AP3002867

S/0054/63/000/002/0005/0015

AUTHORS: Petrashen', M. I.; Kristofel', N. N.; Abarenkov, I. V.

TITLE: The Hartree Fock equations for nonmetallic crystals

SOURCE: Leningrad. Universitet. Vestnik. Seriya fiziki i khimi, no. 2, 1963, 5-15

TOPIC TAGS: Hartree Fock equation, nonmetallic crystal, electron zone theory, electron state, wave function

ABSTRACT: In studying crystals as many-electron systems, there has been some tendency to use other methods than the Hartree-Fock one-electron approximation as being more reliable. The authors have analyzed the Hartree-Fock scheme for a crystal, and they have obtained a one-electron zone theory as an approximation to the Hartree-Fock theory. The approach is similar to the Hund-Milliken approximation for a molecule. The authors have based their work on the results of C. Roothan (Rev. mod. phys., 23, 69; 1951; and 32, 179, 1960). They have shown that the information given by the one-electron zone theory derives from a direct examination of the Hartree-Fock equations and that different crystal states (including

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ACCESSION NR: AP3002887

the excited state) may be obtained from the scheme. In examining the Hartree-Fock equations, the authors investigated the energy spectrum of a crystal on the basis of a model of noninteracting electrons in a periodic field. The authors thus conclude that all results of the one-electron zone theory concerning the structure of spectra of a crystal can be obtained from examination of the system of Hartree-Fock equations if it is written in proper form, accounting for symmetry. Orig. art. has: 21 formulas.

ASSOCIATION: Leningradskiy gosudarstvennyy universitet (Leningrad State University)

SUBMITTED: 01Dec62

DATE ACQ: 24Jul63

ENCL: 00

SUB CODE: PH

NO REF SOV: 002

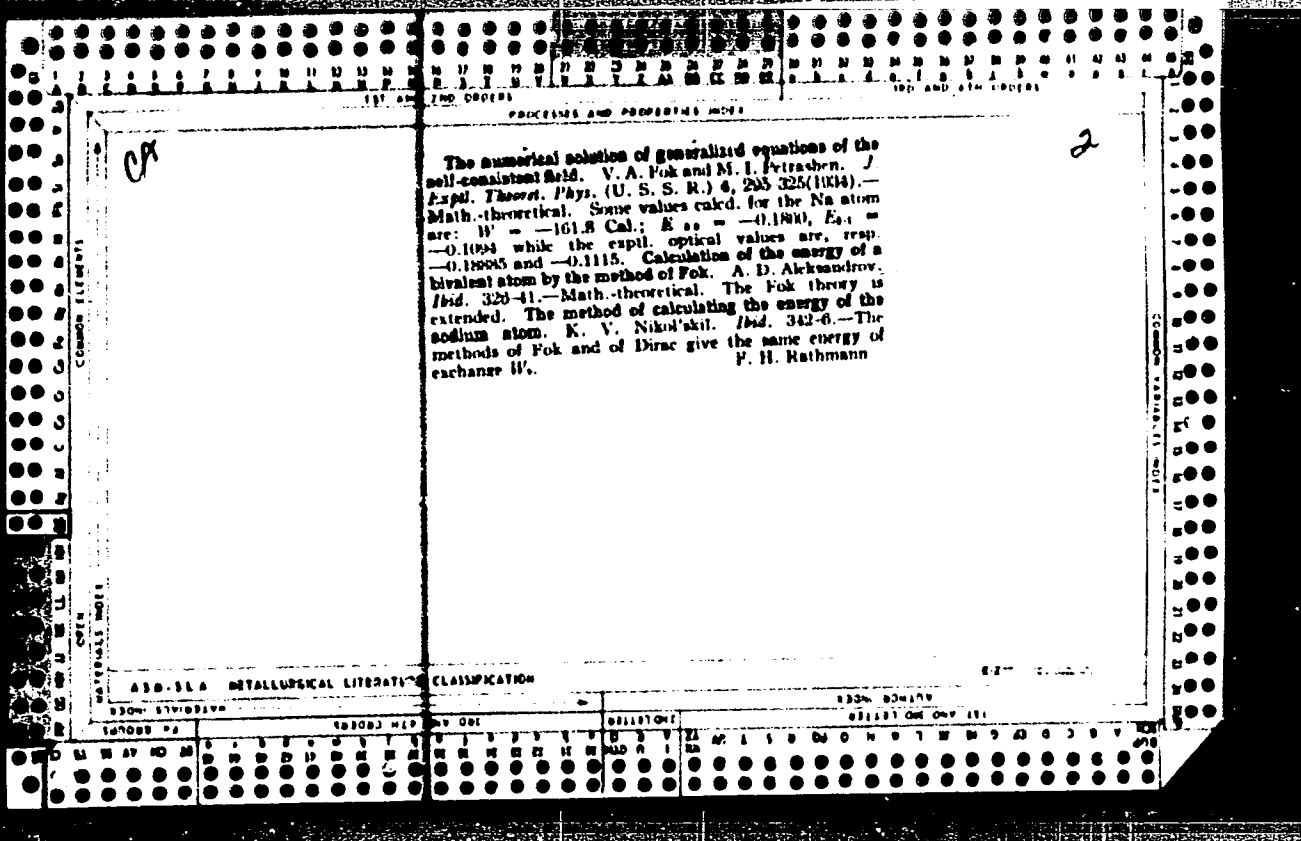
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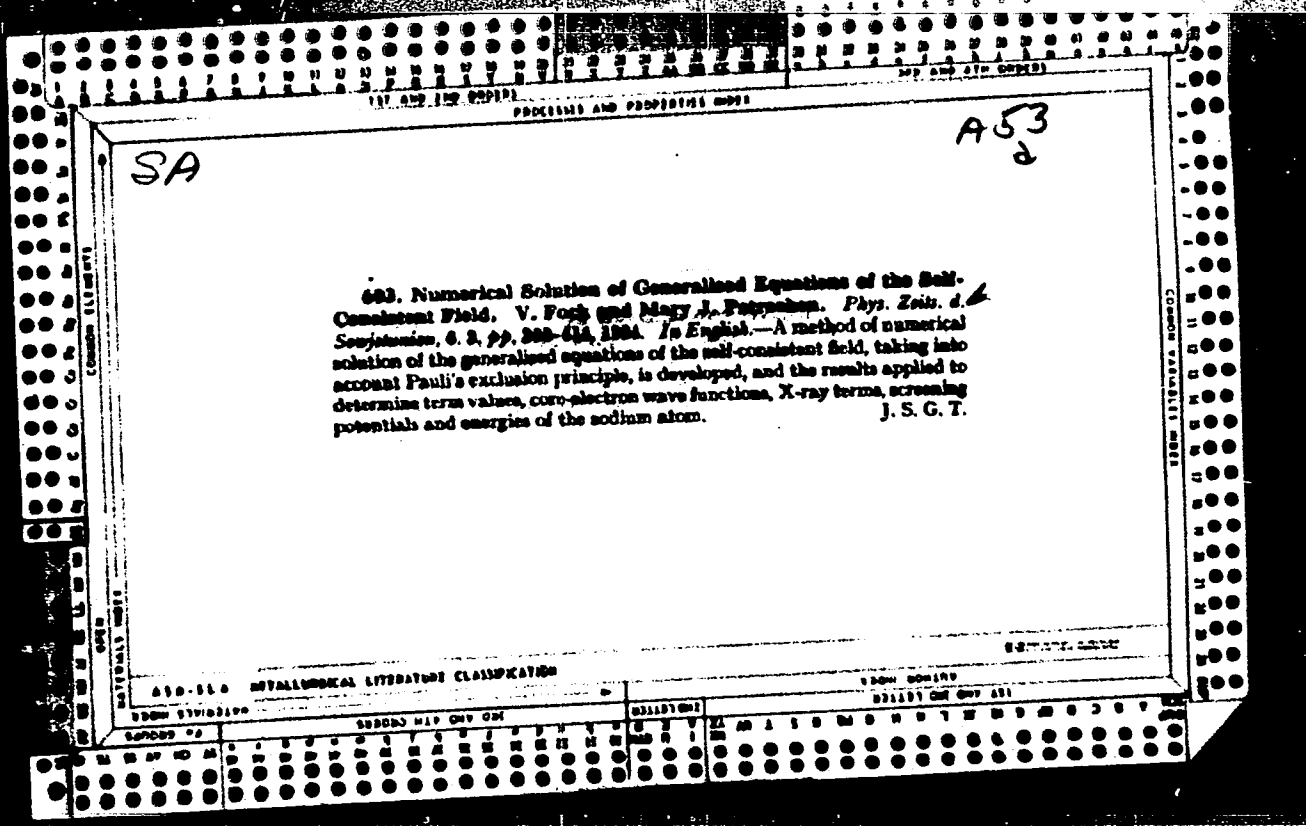
Card 2/2

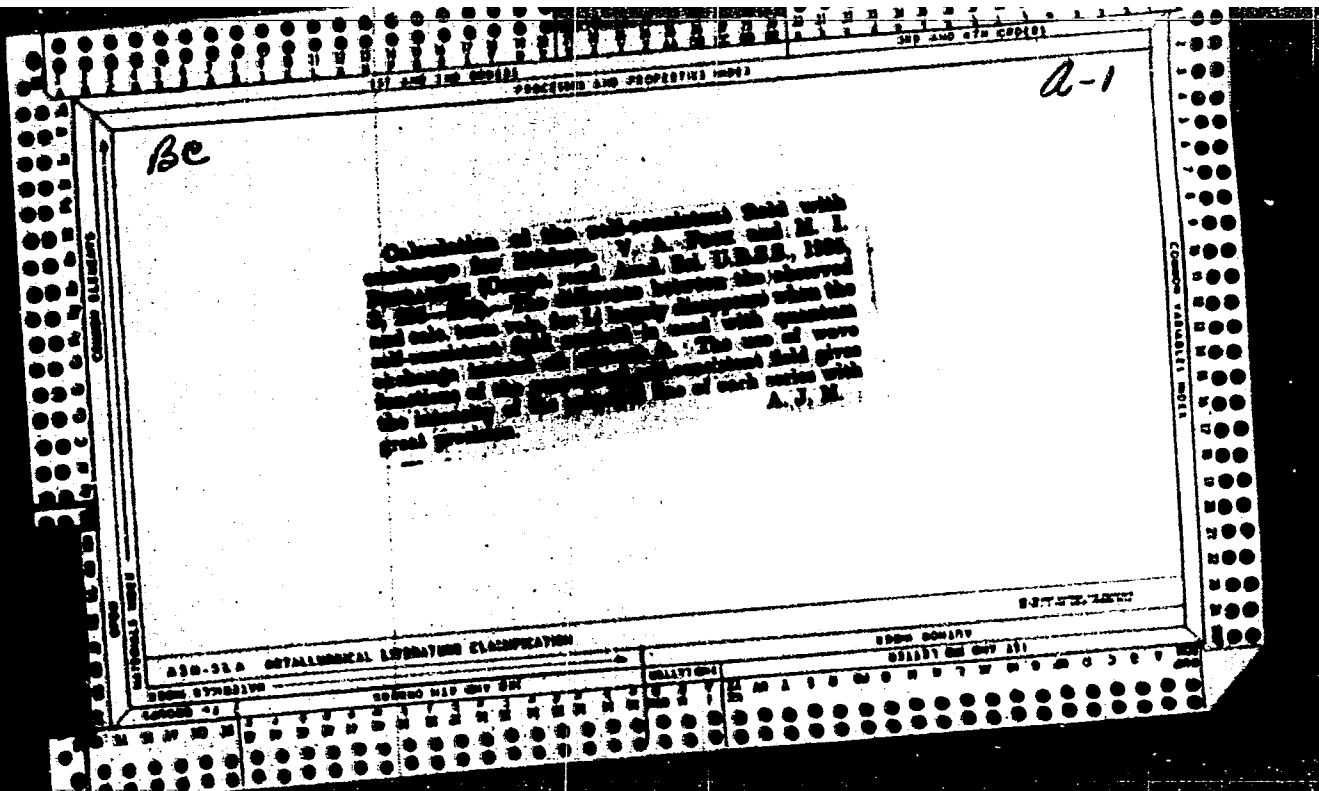
PETRASHEN', M.I.;

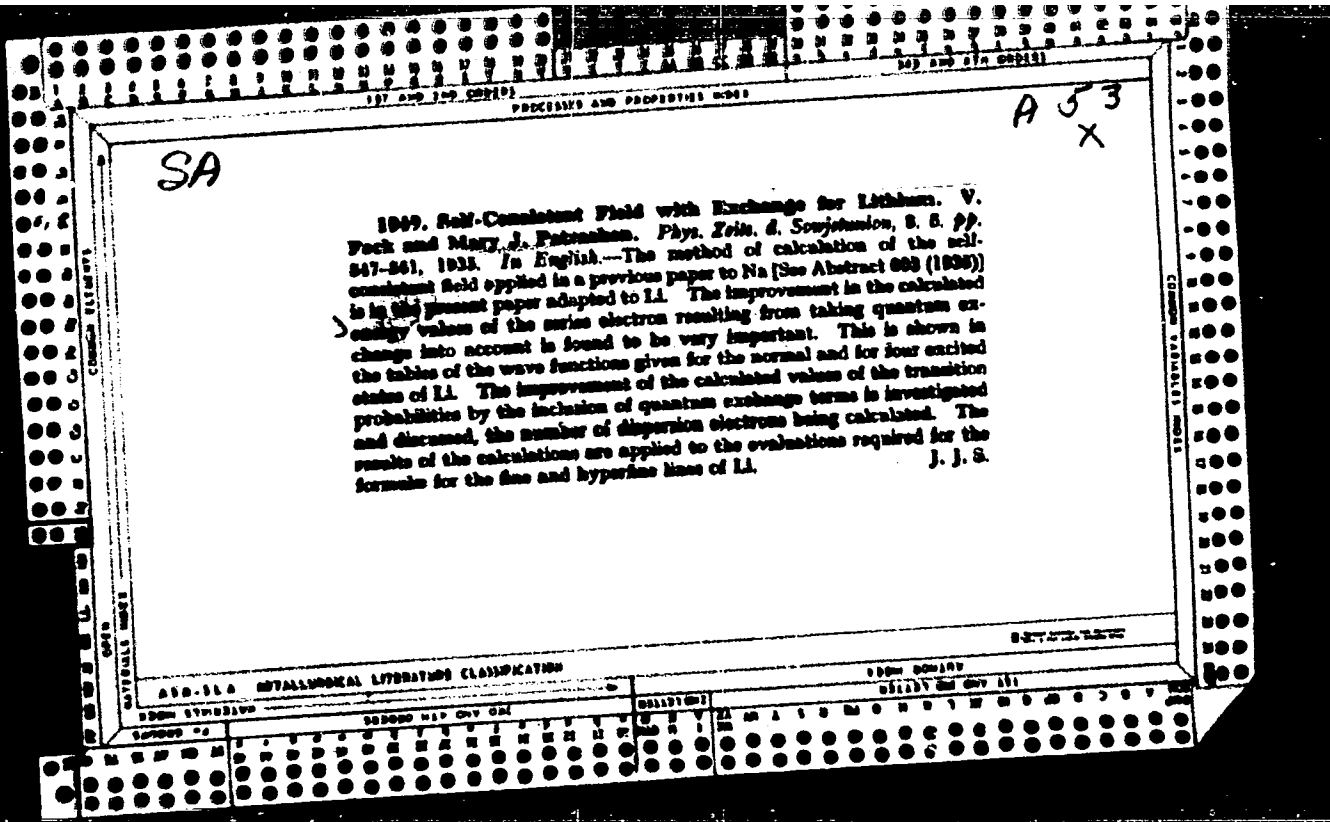
[Energy spectrum of ionic crystals with impurity centers]
Energeticheskiy spektr ionnykh kristallov s primesnymi tsentrami; leksii, pročitannye v letnei shkole po teorii tverdogo tela. Tartu-Tyavere, iyun' 1961. Tartu, Tartuskiy gos. uni. Vol.1. 1962. 28 p. (MIRA 16:1)

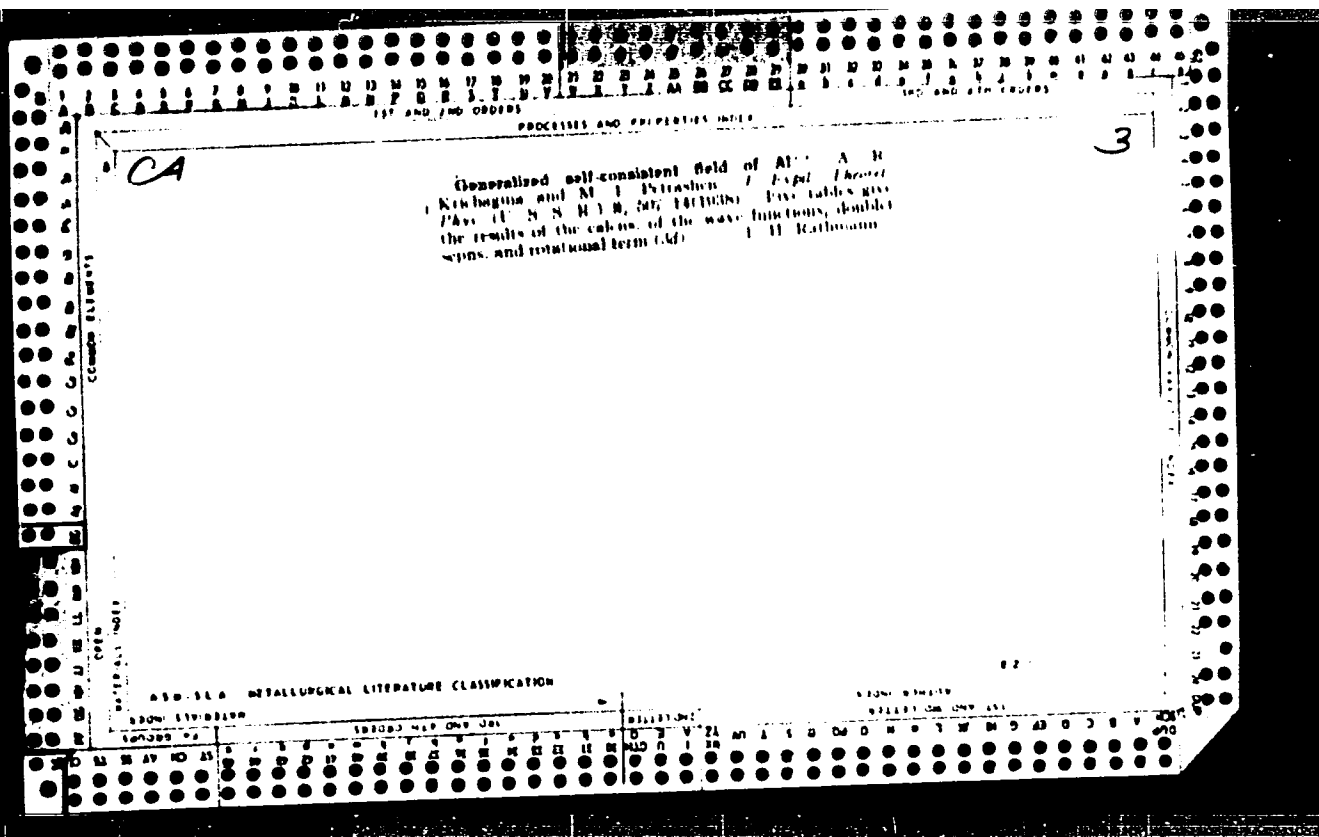
1. Leningradskiy gosudarstvennyy universitet (for Petrashen')
(Ionic crystals--Spectra)











1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

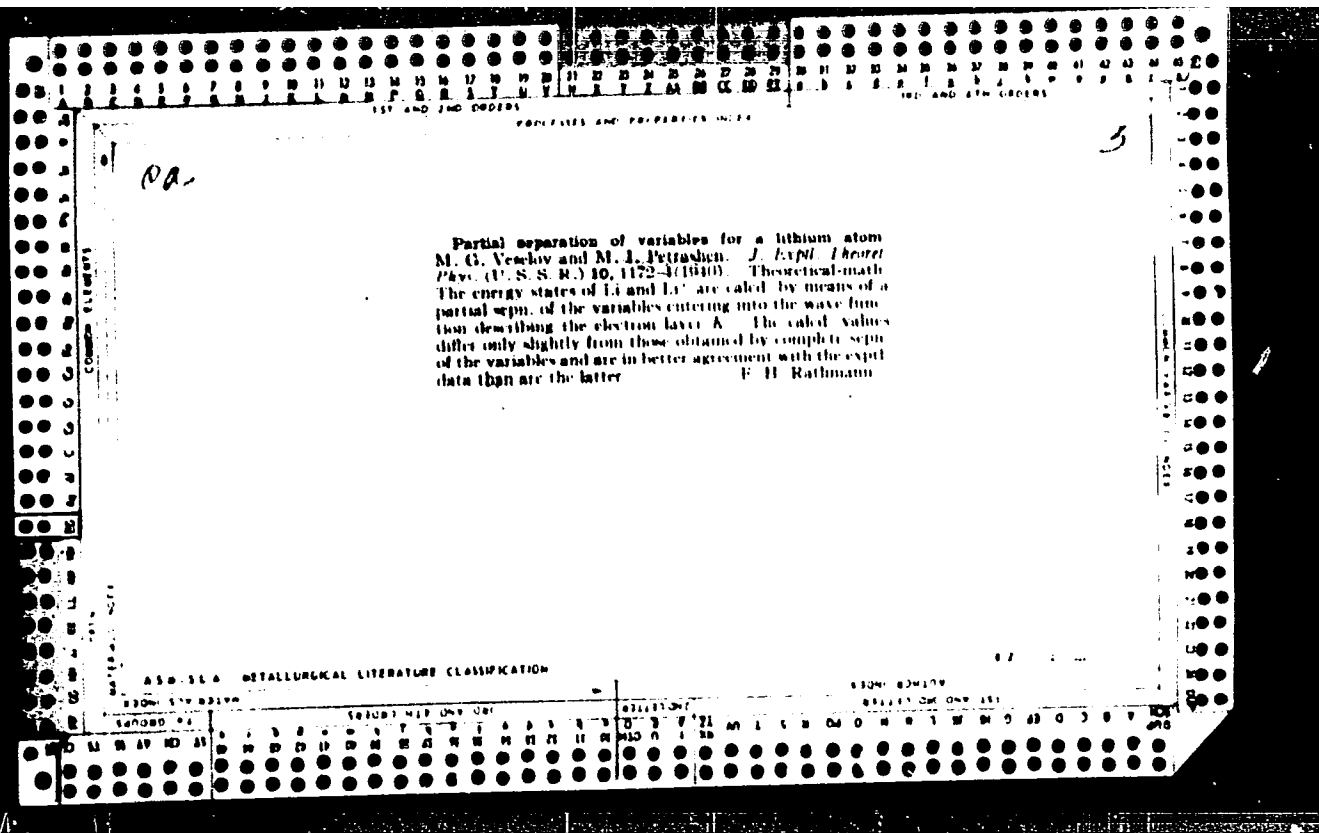
LIST AND END CODES PROCESSES AND PROPERTIES INDEX

CA

Partial separation of variables for the beryllium atom.
M. G. Vozelov, M. I. Petrashev and A. R. Krichagina.
A. Exptl. Theoret. Phys. (U. S. S. R.) 10, 657-64 (1944).
Math. theoretical. The ground state and the exchange
integral of Be are calcd. F. H. Mathmann

ASD-51A METALLURGICAL LITERATURE CLASSIFICATION

100000 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100



PIETRASHEN, M. I.

Petrašen', M. I. On semiclassical methods of solution of the wave equation. Leningrad Gosudarstv. Univ. Učenyje Zapiski 120. Ser. fiz. Nauk. 7, 50-58, (1949) (Russia).
The one-dimensional wave equation is studied by means of changes in the independent variable, and the dependent variable is a new independent variable multiplied by a function of the independent variable. Reference is made to the BWK method and many examples illustrate the discussion.
N. Levinson, Cambridge, Mass.

Source: Mathematical Reviews,

Vol 13 No 0

SA
Sec. A

X-Ray

537.531 : 535.43 : 532.7

5324. The application of Fourier analysis in the interpretation of X-ray diffraction photographs of liquids and viscous substances. M. L. PATAI AND E. A. FOMAL-KHENTZ. *Zh. Eksp. Teor. Fiz.*, 21, 837-93 (No. 8, 1951) in Russian.

Analysis of the fundamental formula of the theory of the scattering of X-rays by liquids and glasses, which relates the intensity of the scattering to the atomic distribution function, demonstrates that even for one kind of atom the results of the formula are based on the assumption of a disordered atomic distribution. Application of the formula to polynuclear substances, its transformation by means of Fourier's theorem, and also its use in the theory of small-angle scattering introduce further aver-ages and simplifications which lessen the value of conclusions reached by Fourier analysis as to the structure of liquids and glasses. Hence the results of Warren (1937) apparently confirming the disordered lattice

and quasicrystalline hypothesis do not follow as unique conclusions of a strict mathematical analysis but are only one possibility obtained on the basis of qualitative crystal-chemical considerations.

A. L. MACLAY

USSR/Physical Chemistry - Molecule. Chemical Bond.

B-4

Abs Jour : Referat Zhur - Khimiya, No 6, 25 March 1957, 18128

Author : Petrashen', M.I., Ivanova, A.V. and Vol'f, G.

Title : Elementary Method of Accounting for the Influence of the Field of Crystalline Lattice upon the Monoelectron S- and P- Functions of an Ion.

Orig Pub : Vestn. Leningr. Un-ta, 1956, No 10, 29-38

Abstract : The influence of the field of cub. lattice of an ion crystal upon monoelctron functions of a separated "central" ion is studied, taking into consideration only electrostatical interaction. The potential of the field is resolved into cub. harmonics. Coefficients in this resolution are determined in the case of point lattice. Examination shows that under the influence of the field of the lattice the electron bond of the positive ion with the nucleus is weakened and the bond of the negative ion becomes stronger. An approximate method is given for

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PETRASHEN, M.

84(7) 809/1700

FRASE I ROSE EXPLORATION

Dr. M. Petrashev

Materialy I Vsesoyuznogo soveshchaniya po spektroskopii, 1956. t. III: Atomnaya spektroskopiya (Materials of the 10th All-Union Conference on Spectroscopy, 1956. Vol. 3: Atomic Spectroscopy) Izdatel'stvo Leningradskogo univ., 1958. 568 p. (Series: It's; Priblizhenno shoralk, vyp. 8(9)) 3,000 copies printed.

Additional sponsoring agency: Skhemskaia nauka SSSR. Komissiya po spektroskopii.

- Mitovskii Board: G.S. Landsberg, Academician, (Resp. Ed.); S.B. Repomet, Doctor of Physical and Mathematical Sciences; L.L. Fabelinskii, Doctor of Physical and Mathematical Sciences; V.A. Fabrikant, Doctor of Physical and Mathematical Sciences; V.G. Krivitskiy, Candidate of Technical Sciences; S.M. Kayukiy, Candidate of Physical and Mathematical Sciences; L.K. Klimovskaya, Candidate of Physical and Mathematical Sciences; V.S. Milyanchuk (Beesman), Doctor of Physical and Mathematical Sciences; A.Ye. Glebovskii, Doctor of Physical and Mathematical Sciences; M.I. S.L. Gusev, Tech. Ed.; T.V. Zaruyuk.

PURPOSE: This book is intended for scientists and researchers in the field of spectroscopy, as well as for technical personnel using spectrum analysis in various industries.

CONTENTS: This volume contains 177 scientific and technical studies of atomic spectroscopy, published at the 10th All-Union Conference on Spectroscopy in 1956. The studies were carried out by members of scientific and technical institutes and include extensive bibliographies of Soviet and other sources. The studies cover many phases of spectroscopy: spectra of rare earths, electromagnetic radiation, physicochemical methods for controlling uranium production, physics and technology of gas discharge, optics and spectroscopy, abnormal dispersion in metal vapors, spectroscopy and the combustion theory, spectrum analysis of ores and minerals, photographic methods for quantitative spectrum analysis of metals and alloys, spectral determination of the hydrogen content of metals by means of isotopes, tables, and studies of spectral lines, spark spectrographic analysis, statistical study of variation in the parameters of calibration curves, determination of traces of metals, spectrum analysis in metallurgy, theoretical and experimental methods, and principles and practice of spectrochemical analysis.

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809/1700

Materials of the 10th All-Union Conference (Cont.)

Furcin, Yu. I. Self-absorption of light in a source and its effect on the relative intensities of components of the hyperfine structure	83
Sitnik, G.P. Absolute photometry of the continuous sun spectrum	85
Yezis, A.P. Generalized method of Pok's self-consistent field and instances of its application	86
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24(2), (5)
AUTHORS:

SOV/54-58-4-3/18
Petrashen', M. I. Gutman, T. L., Balarin, M.

TITLE:

Model of a Central Ion in the Theory of Ionic Crystals and Some of Its Results (Model' tsentral'nogo iona v tselii ionnykh kristallov i nekotoryye yeye rezul'taty)

PERIODICAL:

Vestnik Leningradskogo universiteta. Seriya fiziki i khimii, 1958, Nr 4, pp 28-33 (USSR)

ABSTRACT:

In this paper the authors give an approximate calculation of the energy of a central ion located in a lattice point of a cubic crystal lattice. For this purpose an ion in a crystal phosphorus is investigated, which corresponds to Seitz' model of crystal phosphorus (Ref 3). The general expression of the energy of a central ion consists of the sum of "internal" energy (energy which is described only by its wave function) and energy of the interaction between the electrons of the central ion and the crystal field $W = W_0 + W_1$. In the first approximation the crystal field is regarded as a field with lattice-like arranged point charges. W_1 contains Mandelung's constant and depends on the nuclear charge and number of electrons of the central ion

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SOV/54-58-4-3/18

Model of a Central Ion in the Theory of Ionic Crystals and Some of Its Results

and the lattice constant. The assumption of a point lattice is justified according to the experimental papers listed in references 5 and 6. In the second approximation the finite extension (and the electron distribution) of the surrounding ions is taken into account. In this case W_1 consists of W_1' and W_1'' of the electrostatic and exchange interaction. W_1' is expressed in the preceding form with the additional term $\Delta W_1'$, which takes into account the spatial extension of a neighboring ion. $\Delta W_1'$ is determined for an ion with its six next neighbors. The determination of an approximate expression for W_1'' proved to be very difficult. Further, the authors state that the exchange correction exercises less influence upon the value of the difference of energy levels than does the electrostatic correction upon the finite extension of ions. If the central ion under investigation is an activator, another term W_8 must be added to the aforesaid equation (1), which takes into account that the one-electron function is not rectangular due to the introduction of the activator. There are 9 references, 6 of which are Soviet.

Card 2/2

PETRASHEN', M.I.; ABARENKOV, I.V.

Semiempirical method for calculating oscillator forces. Fiz.
sbor. no.4:92-96 '58. (MIRA 12:5)

1. Fizicheskiy institut Leningradskogo ordena Lenina gosudar-
stvennogo universiteta imeni A.A.Zhdanova.
(Wave mechanics) (Electrons)

SOV/48-22-6-7/28

AUTHORS: Petrashev, M. I., Gutman, T. L.

TITLE: Single-Electron Wave Functions of Tl^{+} in Some Crystals
(Odnoelektronnyye volnovyye funktsii Tl^{+} v nekotorykh kristallakh)

PERIODICAL: Izvestiya Akademii nauk SSSR, Seriya fizicheskaya, 1958, Vol. 22, Nr 6, pp. 668-670 (USSR)

ABSTRACT:

This is a supplement to a paper already published (Ref 1). For the electron wave functions of the central ion the eigenfunctions of the equation by Hartree-Fock (Khartri-Fok) are here set up:

$$-\frac{1}{2} \Delta \psi_k + \left[-\frac{Z}{r} + V(\vec{r}) \right] \psi_k(\vec{r}) - A^0 \psi_k + U(\vec{r}) \psi_k - A \psi_k = E_k \psi_k,$$

where $V(\vec{r})$ denotes the potential of the shielding of the central ion by electrons, $U(\vec{r})$ - potential of the electrostatic field of the crystal, A^0 and A - the corresponding exchange operators of the electrons of the central ion and the crystal electrons. All components of this equation are here represented in form of infinite series. A cubic crystal lattice serves as a basis. A method of approximation was used when solving the equations, which was based upon the conception that the crystal field forms

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Single-Electron Wave Functions of Tl^+ in Some Crystals

SOV/48-22-6-7/28

a barrier of the height ΔE for the electrons of the central ion. The Slater (Slater) method was used for calculation. The approximated solutions were obtained from the single-electron functions of the free Tl^+ ion according to Hartree. For the calculation of ΔE the 6 ions Cl^{-1} , which were nearest to the activator, were taken into account. The wave functions of Cl^{-1} were calculated by the Hartree method. The functions obtained were used for a first estimate of the ratio between $f'S_0 - 3P_1$ and $f'S_0 - P_1$. It is assumed that this manner of estimating made it possible for Soviet scientists to obtain results that show better agreement with experimental ones than those obtained by American scientists. There are 3 references, 2 of which are Soviet.

1. Thallium ions---Theory
2. Crystals---Electrostatic properties
3. Perturbation theory
4. Mathematics

Card 2/2

94300 (1035, 1138, 1143)

S/051/60/009/004/023/034
E201/E191

AUTHORS: Petrashen', M.I., Abarenkov, I.V., and Kristofel', N.N.

TITLE: Approximate Wave-functions of Free Ions and of Ions in a Crystal

PERIODICAL: Optika i spektroskopiya, 1960, Vol 9, No 4, pp 527-529

TEXT: In quantum-mechanical calculations of properties of alkali-halide crystals, the one-electron functions of free ions are used as the functions of ions in a crystal. This approach is not very satisfactory. The present note describes a simple method of calculating approximate one-electron functions of a "central ion" (CI) in an ionic crystal. The one-electron functions of a free CI are assumed to be known. They are then modified by allowing for the effect of other ions in the lattice, regarded as geometrical points. The new functions are known as crystalline one-electron functions and they can be used in the zeroth approximation of the perturbation theory. The next step would be an allowance for the departure from the assumed point geometry of the lattice. The calculation method described here was tested by calculating diamagnetic susceptibility of a crystal.

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83923
S/051/60/009/004/023/034
E201/E191

Approximate Wave-functions of Free Ions and of Ions in a Crystal

It was found that the results obtained with crystalline functions agreed better with experiment than the results deduced using free-ion functions. The paper is entirely theoretical.

There are 6 references: 4 Soviet, 1 English and 1 German.

SUBMITTED: April 16, 1960

Card 2/2

X

ABARENKOV, I.V.; KRISTOFEL', N.N.; PETRASHEN, M.I.

Calculation of the optical properties of small-radius electron
centers in ionic crystals. Opt. i spektr. 10 no.4:487-492 1961.
(MIRA 14:3)

(Ionic crystals--Spectra)

PETRASHEN', M.I.; KRISTOFAL', N.N.; ABABEKOV I.V.

Hartree-Fock's equations for molecular crystals. Vest. LPU 13
no.10:5-15 '63. (MIRA 16:8)

(Crystallography)

PETRASHEN, P. N.

ANDON'YEV, V.L.; BAUM, V.A.; BAUMGARTEN, N.K.; BEREZIN, V.D.; BIRYUKOV, I.K.;
 BIRYUKOV, S.M.; BLOKHIN, S.I.; BOBOVOY, G.A.; BULEV, M.Z.; BURAKOV,
 N.A.; VERTSAYZER, B.A.; VOVK, G.M.; VORMAN, B.A.; VOSHCHIBIH, A.P.;
 GALAKTIONOV, V.D., kand. tekhn. nauk; GENKIN, Ye.M.; GIL'DENBLAT,
 Ya.D., kand. tekhn. nauk; GINZBURG, M.M.; GLEBOV, P.S.; GODES, E.G.;
 GORBACHEV, V.N.; GRZHIB, B.V.; GREKULOV, L.F., kand. s.-kh. nauk;
 GRODZENSKAYA, I.Ya.; DANILOV, A.G.; DMITRIYEV, I.G.; DMITRIYENKO,
 Ya.D.; DOBROKHOTOV, D.D.; DUBININ, L.G.; DUNDUKOV, M.D.; ZHOLIK,
 A.P.; ZHUKOVICH, D.K.; ZIMAREV, Ye.V.; ZIMASKOV, S.V.; ZUBRIK, K.M.;
 KARANOV, I.F.; KHYAZEV, S.N.; KOLEGAYEV, N.M.; KOMAREVSKIY, V.T.;
 KOSENKO, V.P.; KORENISTOV, D.V.; KOSTROV, I.N.; KOTLYARSKIY, D.M.;
 KRIVSKIY, M.N.; KUZNETSOV, A.Ya.; LAGAR'KOV, N.I.; LGALOV, V.G.;
 LIKHACHEV, V.P.; LOGUNOV, P.I.; MATSKOVICH, K.F.; MEL'NICHENKO,
 K.I.; MENDELEVICH, I.R.; MIKHAYLOV, A.V., kand. tekhn. nauk;
 MUSIYVA, R.N.; NATANSON, A.V.; NIKITIN, M.V.; OVES, I.S.;
 OGUL'NIK, G.R.; OSIPOV, A.D.; OSMER, N.A.; PETROV, V.I.; PERYSHKIN,
 G.A., prof.; P'YANKOVA, Ye.V.; RAPOPORT, Ya.D.; REMEZOV, N.P.;
 ROZANOV, M.P., kand. biol. nauk; ROCHEGOV, A.G.; RUBINCHIK, A.M.;
 RYBCHEVSKIY, V.S.; SADCHIKOV, A.V.; SEMENTSOV, V.A.; SIDENKO, P.M.;
 SINYAVSKAYA, V.T.; SITAROVA, M.N.; SOSNOVIKOV, K.S.; STAVITSKIY,
 Ye.A.; STOLYAROV, B.P. [deceased]; SUDZILOVSKIY, A.O.; SYRISOVA,
 Ye.D., kand. tekhn. nauk; FILIPPSKIY, V.P.; KHALTURIN, A.D.;
 TSISHCHEVSKIY, P.M.; CHERKASOV, M.I.; CHERNYSHEV, A.A.; CHUSOVITIN,
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 I.N.; ENGEL', F.F.; YAKOBSON, A.G.; YAKUBOV, P.A., ARKHANGEL'SKIY,
 (Continued on next card)

ANDON'YEV, V.L.... (continued) Card 2.
 Ye.A., retsenzont, red.; AKHUTIN, A.N., retsenzont, red.; BALASHOV,
 Yu.S., retsenzont, red.; BARABANOV, V.A., retsenzont, red.; BAYKOV,
 P.D., retsenzont, red.; BORODIN, P.V., kand. tekhn. nauk, retsenzont,
 red.; VALUTSKIY, I.I., kand. tekhn. nauk, retsenzont, red.;
 GRIGOR'YEV, V.M., kand. tekhn. nauk, retsenzont, red.; GUBIN, M.F.,
 retsenzont, red.; GUDAYEV, I.M., retsenzont, red.; YERMOLOV, A.I.,
 kand. tekhn. nauk, retsenzont, red.; KARAULOV, B.F., retsenzont,
 red.; KRITSKIY, S.N., doktor tekhn. nauk, retsenzont, red.; LITVIN,
 V.V., retsenzont, red.; LUKIN, V.V., retsenzont, red.; LUSKIN, Z.D.,
 retsenzont, red.; MATRIROSOV, A.Kh., retsenzont, red.; MENDELEYEV,
 D.M., retsenzont, red.; MERKEL', M.F., doktor tekhn. nauk, retsenzont,
 red.; OBEZZKOV, S.S., retsenzont, red.; PETRASHEN', P.N., retsenzont,
 red.; POLYAKOV, L.M., retsenzont, red.; RUMYANTSEV, A.M., retsenzont,
 red.; RYABCHIKOV, Ye.I., retsenzont, red.; STASENKOV, N.G., retsen-
 zont, red.; TAKANAYEV, P.P., retsenzont, red.; TARANOVSKIY, S.V.,
 prof., doktor tekhn. nauk, retsenzont, red.; TIZDEL', R.E., retsen-
 zont, red.; FEDOROV, Ye.M., retsenzont, red.; SHEVYAKOV, M.N.,
 retsenzont, red.; SHMAKOV, M.I., retsenzont, red.; ZHUK, S.Ya.
 [deceased], akademik, glavnyy red.; FUSO, G.A., kand. tekhn. nauk,
 red.; FILIMONOV, N.A., red.; VOLKOV, L.N., red.; GRISHIN, M.M., red.;
 ZHURIN, V.D., prof., doktor tekhn. nauk, red.; KOSTROV, I.N., red.;
 LIKHACHEV, V.P., red.; MEDVEDEV, V.M., kand. tekhn. nauk, red.;
 MIKHAYLOV, A.V., kand. tekhn. nauk, red.; PETROV, G.D., red.; RAZIN,
 N.V., red.; SOBOLEV, V.P., red.; FERINGER, B.P., red.; FREYGOFER,
 (Continued on next card)

ANDON'YEV, V.I.... (continued) Card 3.
Ye.F., red.; TSYPLAKOV, V.D. [deceased], red.; KORABLINOV, P.N.,
tekhn. red.; GENKIN, Ye.M., tekhn. red.; KACHEROVSEIY, E.V., tekhn.
red.

[Volga-Don; technical account of the construction of the V.I. Lenin
Volga-Don Navigation Canal, the TSimlyansk Hydroelectric Center,
and irrigation systems] Volgo-Don; tekhnicheskii otchet o stroitel'-
stve Volgo-Donskogo sudokhodnogo kanala imeni V.I. Lenina, TSim-
lianskogo gidrouzla i orositel'nykh sooruzhenii, 1949-1952; v piati
tomakh. Moskva, Gos. energ. izd-vo. Vol.1. [General structural
descriptions] Obshchee opisanie sooruzhenii. Glav. red. S.IA. Zhuk.
Red. tova M.M. Grishin. 1957. 319 p. Vol.2. [Organization of con-
struction. Specialized operations in hydraulic engineering] Orga-
nizatsiia stroitel'stva. Spetsial'nye gidrotekhnicheskie raboty.
(Continued on next card)

ANDON'YEV, V.L.... (continued) Card 4.

Glav. red. S.IA. Zhuk. Red. toma I.N. Kostrov. 1958. 319 p.

(MIRA 11:9)

1. Russia (1923- U.S.S.R.) Ministerstvo elektrostantsii. Byuro
tekhnicheskogo otcheta o stroitel'stve Volgo-Dona. 2. Chlen-kor-
respondent Akademii nauk SSSR (for Akhutin). 3. Deystvitel'nyy
chlen Akademii stroitel'stva i arkhitektury SSSR (for Grishin,
Razin).

(Volga Don Canal---Hydraulic engineering)

BOMBCHINSKIY, V.P.; VTOROV, N.A.; DUNDUKOV, M.D.; YEGOROV, S.A., doktor tekhn.nauk, prof.; YERMOLOV, A.I.; ZAVORUYEV, V.P.; KALININ, V.V.; KACHEROVSKIY, N.V.; KUZNETSOVA, A.K.; KUZ'MIN, I.A., kand.tekhn.nauk; MEKOVDEY, V.M., kand.tekhn.nauk; MIKULOVICH, B.P.; MIKHAYLOV, V.V., kand.tekhn.nauk; PETRASEEN', R.N.; RBYZIN, Ye.S.; SINYAVSKAYA, V.M.; KHALTURIN, A.D.; SHCHERBINA, I.N., kand.tekhn.nauk; SEVAST'YANOV, V.I., red.; KARAULOV, B.P., retsenzent; LOVETSKIY, Ye.S., retsenzent; MIKHAYLOV, A.V., doktor tekhn.nauk, retsenzent; NATANSON, A.V., retsenzent; SOKOL'SKIY, M.M., retsenzent; STANKEVICH, V.I., retsenzent; FREYGOFER, Ye.F., retsenzent; GOTMAN, T.P., red.; VORONIN, K.P., tekhn.red.

[Work of the All-Union Scientific Research Institute for the Study and Design of Hydraulic Structures] Nauchno-issledovatel'skie raboty Gidroproekta. Pod obshchei red. V.I.Sevast'ianova. Moskva, Gos.energ.izd-vo, 1961. 214 p. (MIRA 15:2)

1. Moscow. Vsesoyuznyy proyektno-izyskatel'skiy i nauchno-issledovatel'skiy institut Gidroproyekt imeni S.Ya.Zhuk. Nauchno-issledovatel'skiy sektor.

(Hydraulic engineering--Research)

PETRASHIN, R.N., inzh.

The necessity of considering block joints in calculating temperature stresses in hydraulic structures. Trudy Gidroproekta 2:
118-131 '59. (MIRA 13:7)

1. Nauchno-issledovatel'skiy sektor Vsesoyuznogo projektno-
izyskatel'skogo i nauchno-issledovatel'skogo instituta
"Gidroyeek" im.S.Ya.Zhuk.
(Hydraulic models) (Erosion)

VARVAK, P.M., prof., doktor tekhn.nauk, starshiy nauchnyy sotrudnik;
GUBERMAN, I.O., starshiy inzh.; MIROSHNICHENKO, M.M., inzh.;
PREDTECHENSKIY, N.D., inzh.: Prinimali uchastiye: AMIRO, I.Ya.,
starshiy nauchnyy sotrudnik; DLUGACH, M.I., starshiy nauchnyy
sotrudnik; BOBYR', B.A., inzh.; KUZNETSOVA, A.K., inzh.; PETRA-
SHEN', R.N., inzh.; SOKOL'SKIY, M.M., inzh.. KAPLAN, Ya.L., red.
izd-va; LABINOVA, N.M., red.izd-va

[Tables for designing rectangular slabs] Tablitsy dlia rascheta
priamougol'nykh plit. Pod red. P.M.Varvaka. Kiev, Izd-vo Akad.
nauk USSR, 1959. 418 p. (MIRA 12:11)

1. Institut stroitel'noy mekhaniki Akademii nauk USSR (for Varvak,
Guberman, Amiro, Dlugach). 2. Vsesoyuznyy proyektno-izyskatel'skiy
i nauchno-issledovatel'skiy institut "Gidroproyekt" im. S.Ya.Zhuk
(for Miroshnichenko, Predtechenskiy, Bobyr', Kuznetsova, Petrashen',
Sokol'skiy).

(Concrete construction--Tables, calculations, etc.)
(Concrete slabs)

14(10)

SOV/112-59-1-444

Translation from: Referativnyy zhurnal. Elektrotehnika, 1959, Nr 1, p 60 (USSR)

AUTHOR: Petrashen', B. N.

TITLE: Compression Modulus of a Rock Fill Determined From Observations

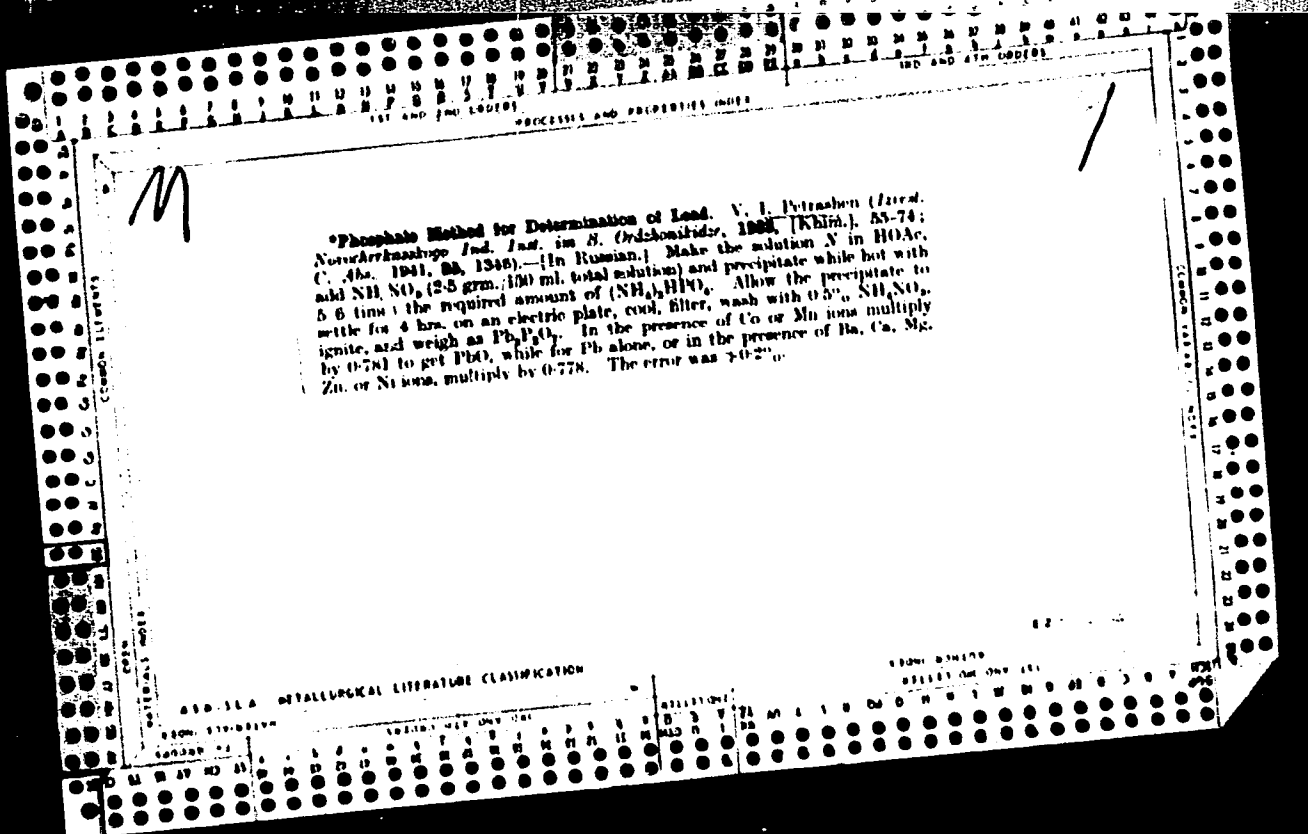
PERIODICAL: Tr. Gidroproyekta, 1958, Nr 1, pp 5-12

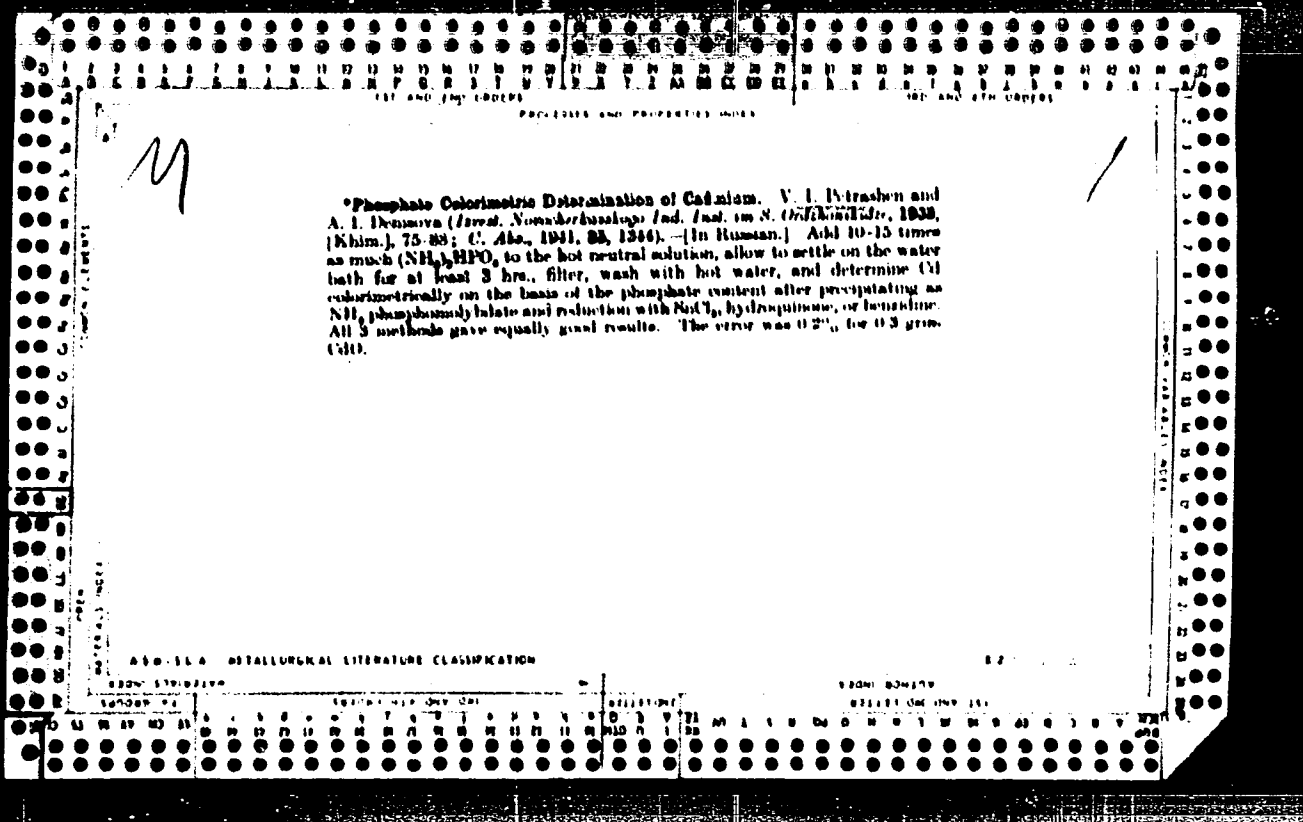
ABSTRACT: Bibliographic entry.

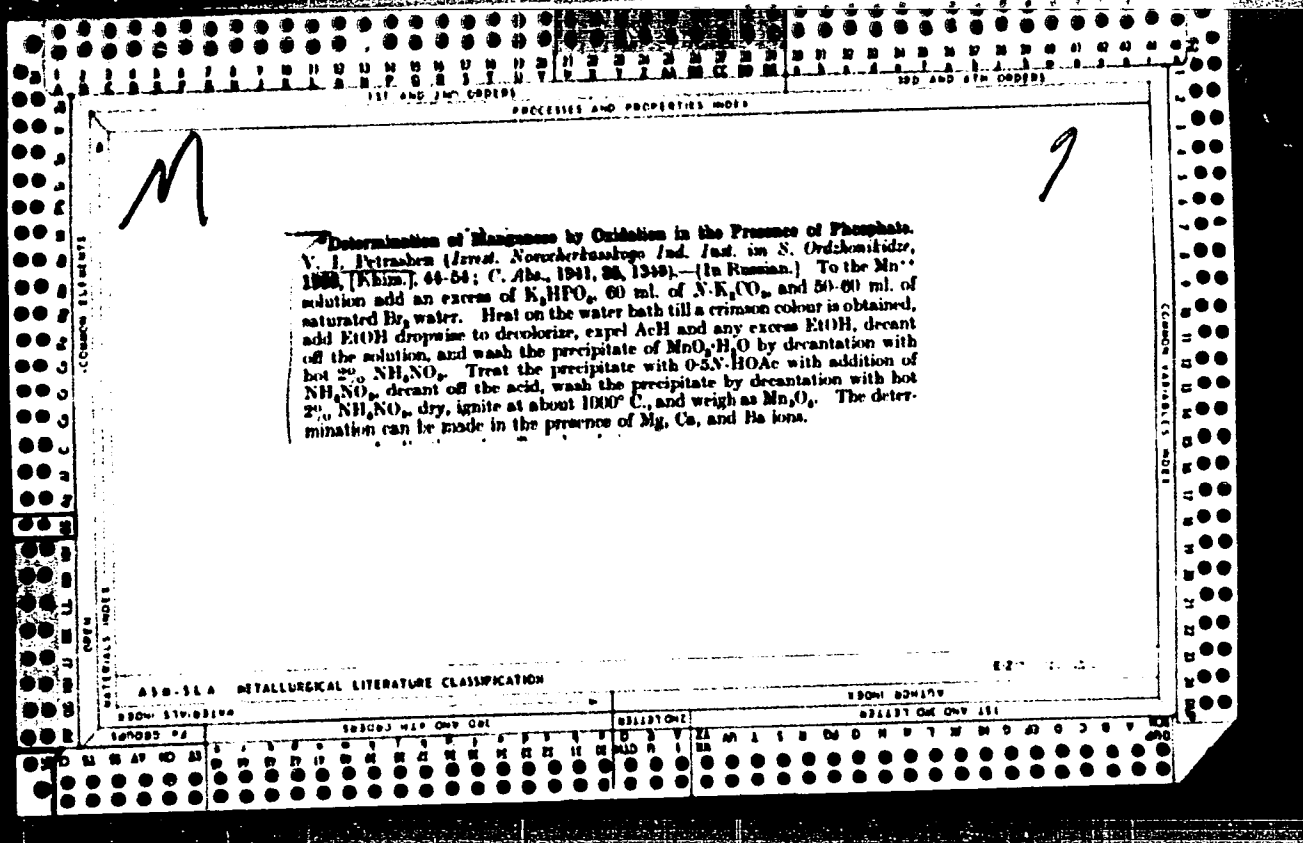
Card 1/1

PETRASHEN', R.N., inzh.

Modulus of compression for rock fill according to data gathered
from field observations. Trudy Gidroproekta no.1:5-12 '58.
(Dams) (MIRA 11:9)







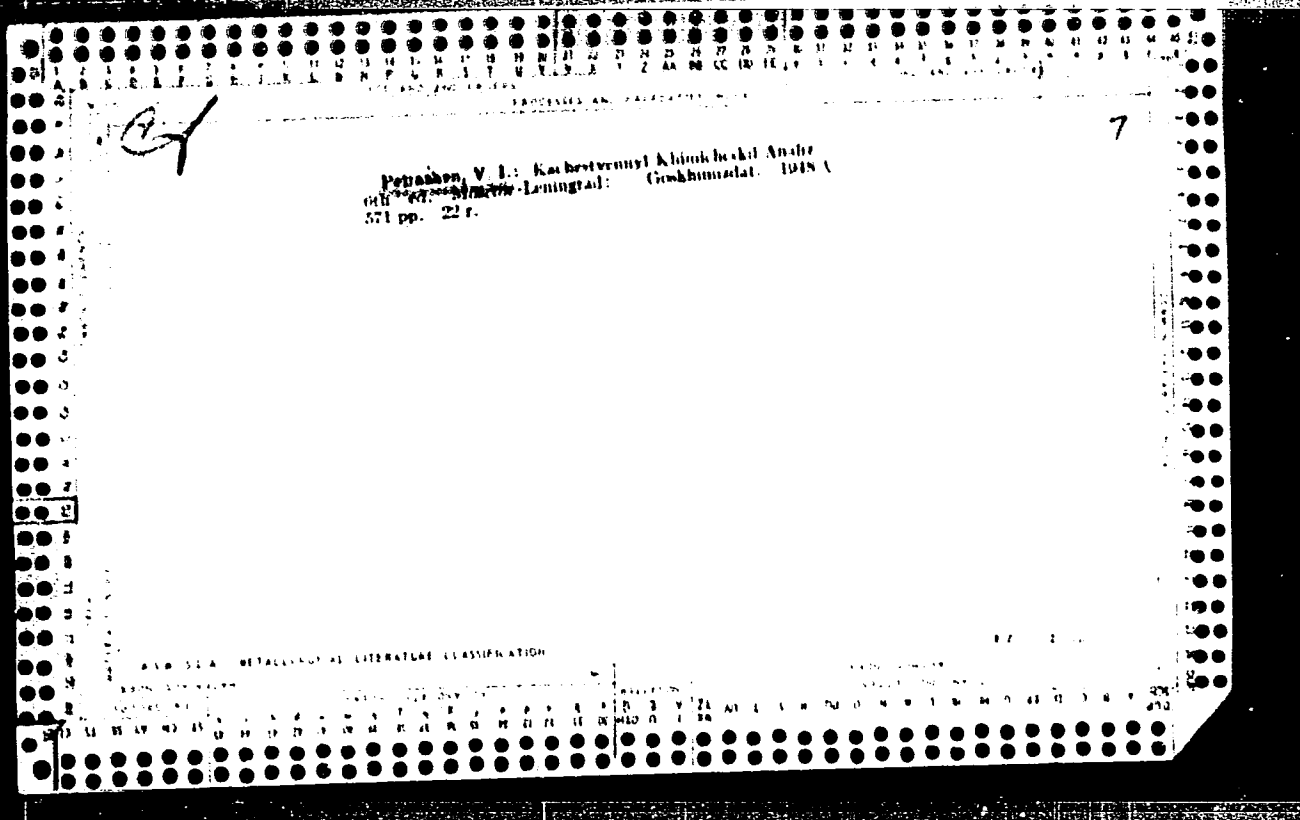
A.S.S.

Ministry of Physics

Phosphate colorimetric method for determining Bi-
muth. M. I. YANAMURO AND V. I. PIRANOM. *Izv. Akad. Nauk SSSR, Ser. Khim. Nauki*, 6 (2) 84 (1941).--The authors suggest a phosphate colorimetric method for determining Bi based on the method of Devizhe. The Bi is precipitated as phosphate. The precipitate is filtered, carefully washed, and dissolved in HCl. The P_2O_5 in the solution is determined colorimetrically. From the amount of P_2O_5 present, the amount of Bi_2O_3 connected with it is calculated. M. I.

PETRASHEN, V I

OB'YEMNY ANALIZ. (Volumetric Analysis - Textbook), 1946



PETRASHEN', V. I.

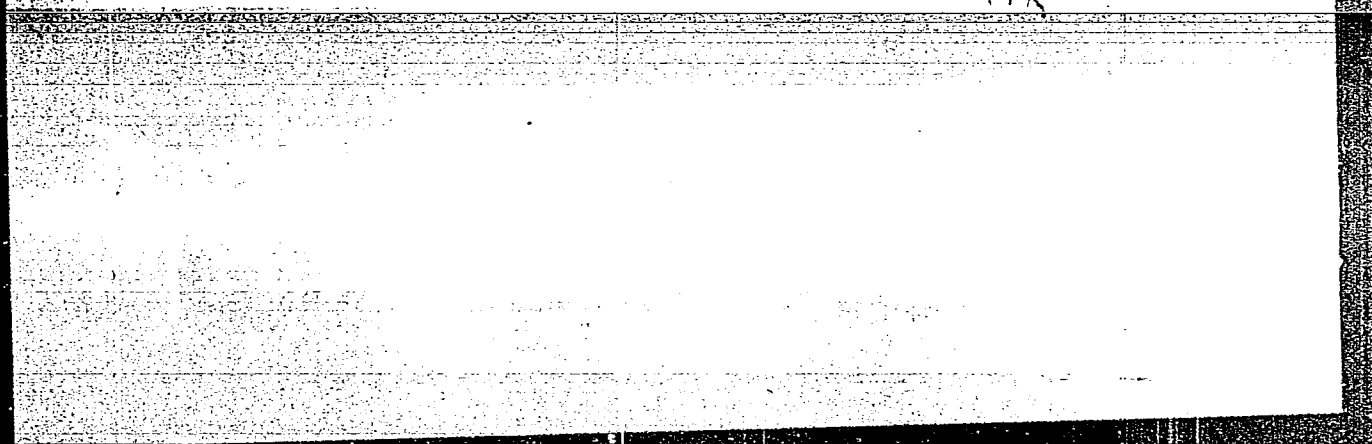
Petrashen', V. I. - "The phosphate-colorimetric method of determining manganese", Trudy Novocherkas. politekhn. in-ta im. Ordzhonikidze, Vol. XIX, 1948, p. 15-21, - Bibliog: 16 items.

SO: U-411, 17 July 53, (Letopis 'Zhurnal 'nykh Statey, No. 20, 1949).

PETRASHEN¹, V. I.

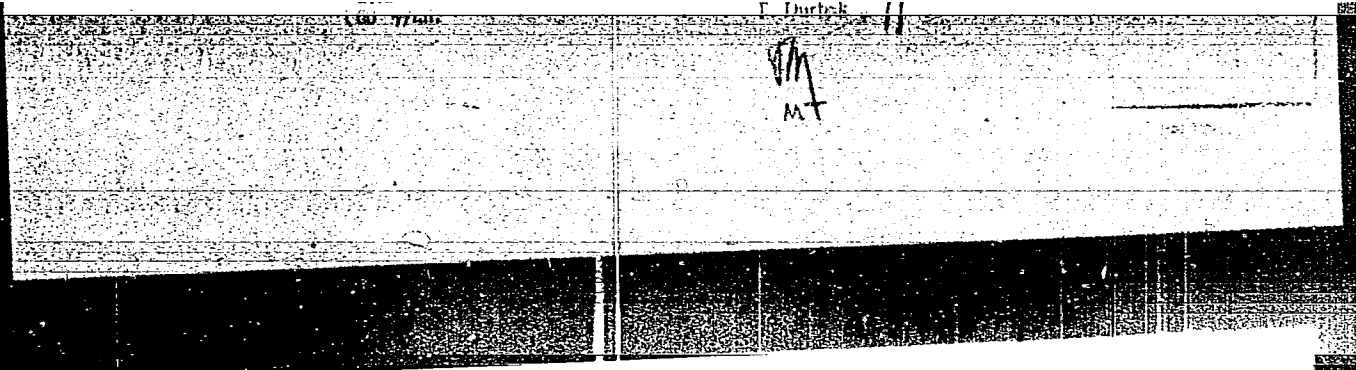
"Qualitative Chemical Analysis." Thesis for degree of Cand. Chemical Sci. Sub. 5 Oct 49.
Moscow Order of Lenin State U. imeni M. V. Lomonosov.

Summary 82, 18 Dec 52. Dissertations Presented for Degrees in Science and Engineering in
Moscow in 1949. From Vechernyaya Moskva, Jan-Dec 1949.



PETRASHEN, V. I.

7 27 4
Colorimetric determination of mercury with methyl violet.
M. P. Anan'evskaya and V. I. Petrashen. Zh. Anal. Khim. 1964, 19, 4241



PETRASHEN¹, V.I., professor, doktor khimicheskikh nauk.

Methods of teaching quantitative chemical analysis in institutions of
higher education. Nauch. trudy NPI 26:299-307 '55. (MLRA 9:12)
(Chemistry, Analytic--Study and teaching)

Petrashen', V.I.

USSR/ Analytical Chemistry - Analysis of Inorganic Substances

G-2

Abs Jour : Referat Zhur - Khimiya, No 4, 1957, 12072

Author : Ankudimova Ye.V., Petrashen' V.I.

Inst : Novocherkask Polytechnic Institute

Title : Determination of Molybdenum in Ore Concentrate

Orig Pub : Tr. Novocherkas. politekhn. in-ta, 1955, 31, 73-77

Abstract : The method is based on reduction of Mo(6-) to Mo(5-) in a bismuth reductor, in hydrochloric acid solution and subsequent titration with an oxidizing agent. On acid decomposition of concentrate no satisfactory results could be obtained. Conditions have been worked out for decomposition with KOH (but not with NaOH). An accurately weighed sample (1 g) of finely ground molybdenum concentrate that has been calcined for 2 hours at 300-310^o, is used. Approximately 6 g KOH are placed on the bottom of an iron crucible, the sample is placed on top, and 6 g KOH are added again. Fusion is started with a very careful

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USSR/ Analytical Chemistry - Analysis of Inorganic Substances

G-2

Abs Jour : Referat Zhur - Khimiya, No 4, 1957, 12072

"flicking" of a small flame of the gas burner over the walls of the crucible. If strong effervescence takes place the flame is removed for a short time until effervescence subsides. Fusing is continued for 10 minutes and is terminated when the melt becomes transparent, no black film of undecomposed concentrate can be seen at the walls and on solidification the melt has a brown coloration without any black coating. On completion of the fusion the crucible is removed from the flame, the solidifying melt is spread over the walls by imparting to the crucible a rotary motion and thereafter the crucible is placed on a cold metal plate. After the melt has cooled and fissured, water is added up to the edge of the melt; very soon the melt separates from the walls. Contents of the crucible are transferred into a 250 ml measuring flask. After cooling the flask is filled to the mark, the content is stirred and after the sediment has settled 1/10 portions of

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USSR/ Analytical Chemistry - Analysis of Inorganic Substances

G-2

Abs Jour : Referat Zhur - Khimiya, No 4, 1957, 12072

the solution are withdrawn. Into each flask are added 10 drops of 30% H_2O_2 to remove the reducing agents and heating to a boil is continued for 1 minute. The solutions are cooled, into the first flask are added 1-2 drops of phenolphthalein and neutralization is effected with HCl. To the amount of acid used up to neutralize the alkali is added the amount of acid that has been calculated as necessary to adjust the acidity to a value from 1.25 to 1.5 N (8.5-8.0 ml). This total amount of acid is added all at once into the second flask with rapid stirring. Solution from the first flask is discarded while the solution in the second flask is used for further analysis. As reductor use is made of a 50 ml burette, provided with a stopcock, filled to $\frac{1}{4}$ of its height with metallic bismuth of grain size 0.25-0.50 mm. During storage the reductor is filled with 1-1.25 N HCl. The liquid is discharged from the reductor until its level is 2-3 mm

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Abs Jour : Referat Zhur - Khimiya, No 4, 1957, 12072

above the bismuth. The solution prepared in the above-described manner is poured into the reductor and is passed through it at a rate of 10-15 ml/minute. Thereafter the flask is washed with 1-1.25 N HCl, using 10-15 ml portions at a time, and the washings are also passed through the reductor. The reduced solution and water washings are collected into a flask, 12-15 ml H_2SO_4 (Sp. Gr. 1.84) and 3-5 drops of phenyl-anthranilic acid are added and titration is carried out with ammonium vanadate, to a red-violet color of the solution. Accuracy of the method is almost equal to that of the gravimetric lead-molybdate method.

Card 4/4

PETRASHEN, V. I.

15
 4E20

V 2565. The determination of free silica (quartz) in
 rocks and mine dusts. I. G. Shchekavina, V. P.
 Kondratova and V. I. Petrashen. Tr. Novosibirsk.
 chersk. Politekh. Inst., 1950, 21, 19-30; Ref. Zhur.
 Khim., 1956, Abstr. No. 58,456. On checking the
 determination of free SiO₂ (quartz) as H₂SiF₆ as
 proposed by Gurvits and Podgaitz (Laved. Lab.,
 1948, (8), 939), high results were obtained. The
 method proposed by Danil'chenko and Hapa

(Steklo i Keramika, 1950, (8), 10) for the determina-
 tion of free SiO₂ in glass as H₂SiF₆ was used with
 some modification for the determination of free
 SiO₂ (quartz) in rocks. Satisfactory results were
 obtained with synthetic

Petrashen, V.I.

USSR/ Analytical Chemistry. Analysis of Inorganic Substances.

G-2

Abs Jour: Referat. Zhur.-Khimiya, No. 8, 1957, 27164

Author : G.G. Shchemeleva, V.I. Petrashen'.

Inst : Novocherkassk Polytechnical Institute.

Title : Photocolorimetric Determination of Thallium with Application of Methyl Violet. (Abridged Report).

Orig Pub: Tr. Novocherkas. politekh. in-ta, 1955, 31, 87-88.

Abstract: This method is based on the colored solid phase reaction of complex anions $[TlCl_4]^-$ and $[TlBr_4]^-$ with methyl violet; the produced suspension dissolves well in toluene coloring the toluene layer into a bluish-violet hue. The color is stable 6

to 7 hours and does not change with the temperature in the range from 15 to 70°; the maximum absorbance

USSR/ Analytical Chemistry. Analysis of Inorganic
Substances.

G-2

Abs Jour: Referat. Zhur.-Khimiya, No. 8, 1957, 27164.

Tl per ml or $\leq 2\%$. The presence of 500 mg of
 Fe^{3+} and Pb^{2+} per ml does not interfere.

Card 3/3

PETRASHEN, V.I.

KONDRATOVA, V.P., inzh.; ~~PETRASHEN~~, V.I., prof., kand. khim. nauk.

Quantitative determination of lead in enamel paints containing lead
siccatives. Trudy NPI 27:211-213 '56. (MIRA 10:12)

1. Kafedra analiticheskoy khimii Novocherkasskogo politekhnicheskogo
instituta.

(Lead) (Paint)

Petrashen, V.I.

3631. Comparison of various methods for the volumetric determination of molybdenum. E. V. Anikshina and ~~V. I. Petrashen~~. Izv. Vsesoyuzn. Nauch. Issled. Inst. Khim., 1959, 41 (25), 8-10; Ref. Zh. Khim., 1957, Abstr. No. 23,313. The volumetric methods are studied by using materials with a high content of Mo. It is concluded that methods based on the reduction of Mo^{VI} to Mo^{III} with metallic mercury, bismuth amalgam and metallic bismuth give better results than methods based on the reduction of Mo^{VI} to Mo^{III} with amalgamated zinc in a Jones reductor and with zinc amalgam.

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4E 40

RW //

Petrashen', V. I.

USSR/Analysis of Inorganic Substances

G-2

Abs Jour: Ref Zhur-Khimiya, No 6, 1957, 19550

Author : M. P. Anan'yevskaya, V. I. Petrashen'
Inst : Polytechnical Institute of Novocherkassk
Title : Gravimetric Method of Determination of Mercury
Using Reineke's Salt.

Orig Pub: Tr. Novocherkas. Politekh. In-ta, 1956, 41
(55), 11 - 14.

Abstract: Both the modifications of Hg (2+) determination
by Mahr's method (C Mahr, Z. analyt. Chem.,
1936, 104, No 7, 8, 241) using Reineke's salt
(I) were improved. According to the 1st modi-
fication, HCl is added to the analysed solution
to the concentration of about 0.5 n., the so-

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USSR/ Analysis of Inorganic Substances.

G-2

Abs Jour: Ref Zhur-Khimiya, No 6, 1957, 19550

lution is heated nearly to the boiling point and the solution of I (50 mg of I per 10 mg of Hg) is added. 2 or 3 minutes later the precipitate is filtered out, washed first with a 1% solution of HCl and, after that, with water, dried at 105 - 110°, weighed in the form of $\text{Hg}[\text{Cr}(\text{NH}_3)_2(\text{CNS})_4]_2$ and Hg is computed. According to the 2nd modification, the obtained precipitate is roasted up to Cr_2O_3 and oxidized to chromate by fusing with Na_2O_2 , then Cr is determined iodometrically and Hg is computed. The maximum error decreases in the 1st modification from 0.7% to 0.3% and in the 2nd modification from 1.1% to 0.4%. The method with the iodometric end was used to determine Hg

Card 2/3

- 31 -

Petrashen' V.I.
USSR Physical Chemistry. Surface Phenomena. Adsorption.
Chromatography. Ion Exchange.

B-13

Abs Jour : Ref Zhur - Khimiya, No 7, 1957, 22563.

Author : A. S. Varniub, V. I. Petrashen'.

Inst : Not given

Title : About the behavior of hexavalent and trivalent chromium on cationite sorbents.

Orig Pub : Tr. Novocherkas. Polytekhn. in-ta. 1956, 41(55), 15-21.

Abstract : Chromium absorption is studied by filtration of $K_2Cr_2O_7$ through the cationite SBS layer or through sulfocarbon in H^+ or Na^+ forms at various acidity of solutions. By a feeble-acid reaction ($pH \leq 6.3$) $Cr(6+)$ is reduced, and the produced $Cr(3+)$ is absorbed by cationite. $K_2Cr_2O_7$ concentration increases slowly in the filtrate coming out of the column but does not attain its initial value at the entrance. The fullest saturation of cationite SBS by Chromium occurs at $pH = 5-5.3$; at higher acidities a marked desorption of Cr^{3+} is observed. Adsorption of Cr^{3+} from solutions $Cr_2(SO_4)_3$ acidified by H_2SO_4 is observed only at acid concentration ≤ 0.1 n. Cationite SBS in limits of acid concentration 0.01-0.1

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USSR/Physical Chemistry. Surface Phenomena. Adsorption.
Chromatography. Ion Exchange.

B-13

Abs Jour : Ref Zhur - Khimiya, No 7, 1957, 22563.

n. sorbs on 0.4-0.5 mg/ekv Cr^{3+} one g more than sulfocarbon.
Cr adsorption on ationites in Na^+ form is higher than in
 H^+ form.

Card 2/2

-201-

PETRASHEN, V. I.

USSR/Analysis of Inorganic Substances

G-2

Abs Jour: Ref Zhur-Khimiya, No 6, 1957, 19574

Author : N. M. Kravtsova, V. I. Petrashen
Inst : Polytechnical Institute of Novochoerkassk
Title : Colorimetric Determination of Chromium by Visual
Method with Application of Carmoisin

Orig Pub: Tr. Novochoerkas. Politekhn. In-ta, 1956, 41(55),
27 - 34.

Abstract: The method of the determination of Cr as a chromate with the application of carmoisin (I) (G.C. Spenser, Industr. and Engng Chem., 1932, 4, No 2, 245) was considerably improved. 0.4 ml of a 0.1% solution of I, 1 ml of 5 n. H_2SO_4 and the neutral chromate solution under investigation are intro-

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Abs Jour: Ref Zhur-Khimiya, No 6, 1957, 19574

duced into a test tube and water is added to make 5 ml in all. It is boiled 10 min., cooled and the intensity of the appearing blue coloration is compared with a standard scale prepared in an analogous way. The detectable minimum is 0.3% of Cr in 1 ml. The error does not exceed 11%, if the Cr content was less than 3% /ml. At the determination of 0.3% /ml of Cr, the presence of K^+ , Na^+ , Mn^{2+} , Ni^{2+} , Co^{2+} , Fe^{3+} , Al^{3+} , V (5+), Mo (6+), Cl^- , NO_3^- , SiO_3^{2-} and ClO_4^- in quantities that do not exceed the Cr content 15,000, 3,000, 6,500, 260, 300, 1, 160, 4, 300, 1,000, 3,000, 60 and 1,200 times is permissible. A surmise is expressed that at the interaction of bichromate with $Cr(6+)$ is

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Abs Jour: Ref Zhur-Khimiya, No 6, 1957, 19574

reduced to Cr(3+), which at the first instant is not yet connected with aquoacid complexes and, therefore, easily produces a colored complex with the non-oxidized I.

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PETRASHEN', V.I.; ANKUDIMOVA, Ye.V.; AGRINSKAYA, N.A.

"Analytical chemistry of molybdenum" by A.I. Busev. Zhur. anal.
khim. 18 no.7:907 JI '63. (MIRA 16:11)

11/12, V. I.

USGR/Analysis of Inorganic Substances

G-2

Abs Jour: Ref Zhur-Khimiya, No 6, 1957, 19562

Author : G. G. Shmelova, V. I. Petrashen'

Inst : -
Title : Colorimetric Determination of Thallium by Visual Method with Application of Methyl Violet

Orig Pub: Tr. Novochoerkas. Politekhn. In-ta, 1956, 41(55), 35 - 40.

Abstract: The determination of Tl(3+) is based on the formation of little soluble compounds by Salcid-complex anions of Tl(3+) with methyl violet (I); these compounds are blue-violet colored and extracted by organic solvents. Tl(1+) is oxidized first, and the excessive Cl is eliminated by boil-

Card 1/3

USSR/Analysis of Inorganic Substances

G-2

Abs Jour: Ref Zhur-Khimiya, No 6, 1957, 19562

ing for a short time. 1 - 2 ml of the neutral solution of Tl(3+), 0.7 ml of 1 n. HCl and 1 ml of a 0.02% solution of I are put into a flat bottomed test tube, the volume of the liquid is increased to 5 ml with water, and it is extracted with 5 ml of toluene. The coloration intensity of the toluene layer is in proportion to Tl(3+) content. It is not extracted by toluene. The quantity of Tl(3+) is determined using a standard scale prepared in the same way. The standard scale is serviceable two weeks. 0.2 - 0.05% of Tl(3+) in 1 ml are determined by the above method. The determination error does not exceed 10%. Na^+ ,

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USSR/Analysis of Inorganic Substances

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Abs Jour: Ref Zhur-Khimiya, No 6, 1957, 19562

K^+ , Mg^{2+} , Ca^{2+} , Al^{3+} , Zn^{2+} , Ni^{2+} , Co^{2+} , Mn^{2+} ,
 Cd^{2+} , In^{3+} , As^{5+} and SO_4^{2-} do not interfere with the
determination. $Cr(3+)$, NO_3^- , Pb^{2+} , Cu^{2+} and Fa^{3+} do
not interfere also, if their contents did not ex-
ceed the Tl content 100, 250, 2500, 10,000
and 100,000 times respectively.

Card 3/3

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PETRAŠEN, V. I.

1-475. Determination of chromium by oxidation with perchloric acid in the presence of manganese dioxide as catalyst. N. V. Belogorskaya, V. I. Petrashev and E. Z. Rudol' (Vyschniy Inst. Novosibirsk). *Dokl. Akad. Nauk*, 1957, 12 (2), 103-105. — Complete oxidation of Cr(III) to Cr(VI) by HClO₄ in the presence of H₂SO₄ is possible only in the presence of a catalyst, e.g. MnO₂ (0.2 g in a soln. of 20 ml of H₂SO₄ and 2 ml of 40% HClO₄). Oxidation proceeds at a low temp. (170° to 180°) and very rapidly (2 min.). Without MnO₂ the reverse reaction occurs at higher temp. (200° to 225°). When the method is used before a titration of Cr, filtration of the diluted soln. is necessary.
G. S. Svirid

4E3d
4E2C/6

NS //

SOV/137-58-10-21786

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 10 p 189 (USSR)

AUTHORS: Vernidub, A. S., Petrashen', V. I.

TITLE: Determination of Vanadium In Steels With a High Chromium Content (Opredeleniye vanadiya v stalyakh s vysokim soderzhaniyem khroma)

PERIODICAL: Tr. Novocherk. politekhn. in-ta, 1958, Vol 69/83, pp 149-152

ABSTRACT: 0.5 - 1 g of steel is dissolved by boiling in 40 cc of H_2SO_4 (1:4), oxidized with HNO_3 (1:1), and evaporated to SO_3 fumes. The cooled solution is neutralized with NH_4OH (1:1) to the appearance of cloudiness, 1 - 1.5 cc H_2SO_4 (1:4) and 20 - 25 cc of 4N KSCN solution are added. The solution is boiled 2 - 3 min, cooled, and passed through a column with the SBS cationite in the ammoniacal form at the rate of 2.5 - 3 cc/min. V^{4+} is completely absorbed by the SBS cationite. V is extracted from the column by 300 cc of H_2SO_4 (1:8) passed through at the rate of 2.5 - 3 cc/min. The eluate (the acid solution containing V) is collected into a 500-cc flask and the V in it is determined by the volumetric or the potentiometric method. 0.02 - 0.24% V is determined with a relative error of $\pm 3-5\%$. P. K.

Card 1/1

1. Vanadium--Determination 2. Chromium steel--Analysis

SOV/137-58-10-21807

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 10, p 193 (USSR)

AUTHORS: Strel'tsova, Ye. M., Petrashen', V. I.

TITLE: Coprecipitation in the System: Basic Dye - Metallic Ion -
Halogenide (Soosazhdeniye v sisteme: osnovnoy krasitel' - ion
metalla - galogenid)

PERIODICAL: Tr. Novocherk. politekhn. in-sta, 1958, Vol 69/83, pp 153-154

ABSTRACT: To 200 cc of acidulated (0.1N HCl or H₂SO₄) solution contain-
ing 1 - 5 % Cu are added: NH₄ SCN (up to 0.02 mole/l) or
NH₄I (up to 0.033 mole/l) and drop by drop, with stirring
20 cc of 1% solution of methyl violet. After 30 min the precipi-
tate is filtered off, washed, and incinerated at 450°C. The
precipitation of Cu is 97 - 100% complete. Fe³⁺, Cd²⁺, Ni²⁺,
Ag⁺, Zn²⁺, Sb³⁺, and Sn²⁺ are precipitated together with Cu.
Cu does not precipitate in the presence of oxidizers.

1. Copper---Precipitation
2. Complex ions---Precipitation P. K.
3. Methyl violet---Applications

Card 1/1

SOV/137-58-10-21808

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 10, p 193 (USSR)

AUTHORS: Strel'tsova, Ye. M., Petrashen', V. I.

TITLE: Complex of Monovalent Copper With a Thiocyanate (Kompleks odnovalentnoy medi s rodanidom)

PERIODICAL: Tr. Novocherk. politekhn. in-ta, 1958, Vol 69/83, pp 155-161

ABSTRACT: The determination of the composition of the monovalent Cu thiocyanate complex was carried out. The coordination number n was found to be equal to 4. One-half the volume of 1 M Na₂SO₃ solution is added to 1-M CuSO₄ solution, the solution is heated to boiling and precipitated with a calculated amount of 1-M solution of NH₄SCN. The precipitate is filtered off, washed, and dissolved in NH₄SCN (0.5 - 6.0 M). After 20 hours the NH₄SCN in the aliquot part of the solution is decomposed by boiling with H₂SO₄ and HNO₃. After the solution is cooled and neutralized with NH₄OH the Cu in it is determined by the carbamate or the NH₄OH method. The constant of the instability of the monovalent Cu thiocyanate complex is determined by the method of solubility and the potentiometric method: K_{inst} = 2 · 10⁻¹¹.

Card 1/1

- 1. Copper thiocyanates--Analysis
- 2. Copper--Determination P. K.
- 3. Thiocyanates--Determination

РЕТРАСТЕНІ, V. I.

AUTHOR: Bilisovich, G. K.
TITLES: Section of Analytical Chemistry of the VIII Mendeleev Congress on General and Applied Chemistry
PERIODICAL: Zhurnal analiticheskoy khimii, 1958, Vol 14, Nr 4, pp 511-512
ABSTRACT:

Approximately 300 persons participated in the work of the Department of Analytical Chemistry, among them representatives of various scientific research institutes, higher schools and industrial enterprises in Russia, scientists from China, Bulgaria, the GDR, Poland, Hungary, and Italy. Approximately 70 reports were presented. In his opening speech I. P. Alimarin reported on the achievements and on modern problems of analytical chemistry. V. I. Retrashten reported on the application of physico-chemical analysis in the solution of problems of analytical chemistry. A. K. Babko reported on modern data in the use of halogenated organic compounds in the correlation between the stability of complexes and the position of the corresponding central atoms in the complexes of Cu, Co, and Ni as depending on the structure of the ligand molecule. I. I. Zubova lectured on the double character of some compounds in the formation of complexes. The problem of the application of heteropolymers in analytical chemistry was dealt with in the lectures of I. P. Babkova and I. I. Zubova. A. K. Babko and N. A. Polakova. A large number of lectures dealt with the use of organic reagents in analytical chemistry and M. I. Yevgenyev reported on the application of dialkyl phosphoric acid, dithio-phosphoric acid and aryl phosphinic acid. B. P. Kaluzhnik used his own research results in the determination of various elements with the photometric determination of a series of elements using colorimetric methods. I. I. Zubova lectured on the use of differential spectrophotometry. M. I. Yevgenyev and I. I. Zubova reported on modern methods of sensitive analytical methods using an ultraviolet spectroscopy. I. I. Zubova lectured on theoretical and practical problems of analytical chemistry. G. K. Bilisovich and G. A. Shchegolev reported on the determination of trace elements by polarography. G. I. Sivakov, I. I. Zubova and I. I. Zubova reported on the use of fixed electrodes in the investigation of the state of substances in solutions. A. S. Verbitskiy and V. I. Retrashten lectured on the chromatographic separation of a series of elements. I. I. Zubova reported on adapting the properties of ion exchange resins. I. I. Zubova and associates reported on the chromatographic proof of sulfamide preparations in liquids of the organics. S. L. Strebinskiy and associates treated the application of high polymers in chromatographic analysis. The lecture of A. A. Zhukovskiy and I. I. Zubova dealt with the use of radioactive isotopes in the chromatographic investigation of complex formation (M. I. Yevgenyev and associates), for the investigation of the coordination compounds of ions of rare metals with sulfides (M. I. Yevgenyev). I. I. Zubova reported on the use of isotopic dilution. I. I. Zubova and V. I. Retrashten reported on the determination of elements in the field of elementary organic chemistry. The lectures of M. I. Yevgenyev, V. I. Retrashten and V. A. Kiselev with associates have to be mentioned, who treated the elaboration of solid micro-methods for the simultaneous determination of several elements. I. I. Zubova reported on the simultaneous determination of several elements.

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deal with the use of radioactive isotopes in the chromatographic investigation of complex formation (M. I. Yevgenyev and associates), for the investigation of the coordination compounds of ions of rare metals with sulfides (M. I. Yevgenyev). I. I. Zubova reported on the use of isotopic dilution. I. I. Zubova and V. I. Retrashten reported on the determination of elements in the field of elementary organic chemistry. The lectures of M. I. Yevgenyev, V. I. Retrashten and V. A. Kiselev with associates have to be mentioned, who treated the elaboration of solid micro-methods for the simultaneous determination of several elements. I. I. Zubova reported on the simultaneous determination of several elements.

PETRASHEN', V.I., doktor tekhn.nauk

Reinforced concrete prestressed pile planks. Mont.i spets.rab.v
stroil. 22 no.3:22-25 Mr 60. (MIRA 13:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut gidroliznoy i
sul'fitno-spiritovoy promyshlennosti.
(Piling (Civil engineering))

KONDRATOVA, V.P.; PETRASHEN', V.I.

Photocolorimetric determination of vanadium with the "acidic chromium 2K" reagent. Izv.vys.ucheb.zav.;khim.i khim.tekh. 5
no.2:210-213 '62. (MIRA 15:8)

1. Novocherkasskiy politekhnicheskiy institut, kafedra analiticheskoy khimii.

(Vanadium—Analysis)

PETRASHEN', V.I., doktor tekhn.nauk, prof.

Vibration of "cross-bar" hydraulic gates. Gidr. stroi.
32 no.6:28-29 Je '62. (MIRA 15:6)
(Gates, Hydraulic--Vibration)

STREL'TSOVA, Ye.M.; PETRASHEN', V.I.

Study of copper-pyridine complexes by the kinetic method.
Izv. vys. ucheb. zav.; khim. i khim. tekhn. 8 no.3:373-377
'65. (MIRA 18:10)

1. Ivanovskiy khimiko-tekhnologicheskii institut, kafedra
neorganicheskoy khimii.

STREL'TSOVA, Ye.M.; PETRASHEN', V.I.

Study of the oxidation kinetics of hydroquinone with hydrogen peroxide in the presence of copper and pyridine ions. *Izv.vys. ucheb.zav.; khim.i Khim.tekh.* 7 no.6:919-923 '64.

(MIRA 18:5)

1. Ivanovskiy khimiko-tehnologicheskij institut, kafedra neorganicheskoy khimii.

GOLOSNIISKAYA, V.A.; PETRASHEN', V.I.

Extraction-photometric determination of perchlorates in the
presence of chlorates. Trudy NPI 143:73-81 '63.

(MIRA 17:8)

AGRINSKIY, N. S.; PETRASHIN, I. I.

Reaction of molybdenum with sulfuric acid. Report No. 1.
Trudy NPI 143:27-33, 1953.

Reaction of molybdenum with sulfuric acid. Report No. 2.
Ibid.:35-44 (M.R. 1953)

KOVALENKO, Ye.V.; PETRASHEN', V.I.

Nature of diphenylcarbazide reaction for hexavalent chromium. Zhur.
anal.khim. 18 no.6:743-749 Je '63. (MIRA 16:9)

1. Novocherkassk Polytechnical Institute.
(Chromium--Analysis) (Carbohydrazide)

GOLOSNITSKAYA, V.A.; PETRASHEN', V.I.

Extraction-photometric determination of perchlorates in the
presence of chlorates. Zhur.anal.khim. 17 no.7:878-882 0 '62.
(MIRA 15:12)

1. S.Ordzhonikidze Novochoerkassk Polytechnical Institute.
(Perchlorates) (Chlorates) (Photometry)

S/O15/62/017/001/005/006
B119/B186

AUTHORS: Golosnitskaya, V. A., and Petrashen', V. I.

TITLE: Extraction-photometric determination of perchlorates in the presence of chlorates

PERIODICAL: Zhurnal analiticheskoy khimii, v. 17, no. 7, 1962, 878 - 882

TEXT: The new method is based on the formation of an intensely colored, hydrophobic brilliant green - perchlorate complex which is extracted from the aqueous phase by means of organic solvents and is measured colorimetrically. Depending on the $[\text{ClO}_3^-] : [\text{ClO}_4^-]$ ratio, it is recommended to use benzene (at 1:1), toluene (at 10:1), or m-xylene (at 100:1) as extractive agents. If strong oxidizing agents (ClO^-) are present in the initial solution their effect is to discolor the complex and interfere with the determination of perchlorates. The maximum permissible anion content is tabulated as follows: ✓

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Extraction-photometric determination...

S/075/62/017/007/005/006
B119/B186

Solvent	$[ClO_4^-], [Cr_2O_7^{2-}]$	$[ClO_4^-], [CrO_4^{2-}]$	$[ClO_4^-], [NO_3^-]$	$[ClO_4^-], [NO_2^-]$	$[ClO_4^-], [F^-]$
Benzene	1 : 1 -	1 : 4	1 : 4	1 : 6	1 : 600
Toluene	1 : 5	1 : 20	1 : 12	1 : 60	1 : 1000
m-Xylene	1 : 2	1 : 60	1 : 3	1 : 100	1 : 2500

Li^+ , K^+ , NH_4^+ , Mg^{2+} , and Ba^{2+} do not affect the determination. The experimental error is 0.06 - 0.15 $\mu g/ml$. There are 5 figures and 1 table. The most important English-language references are: G. P. Haight, *Analyt. Chem.* 25, 642 (1953); W. Bodenheimer, H. Welcher, *Analyt. Chem.* 27, 1293 (1955); G. M. Nabar, L. R. Ramachandran, *Analyt. Chem.* 31, 269 (1959).



ASSOCIATION: Novocherkasskiy politekhnicheskii institut im. S. Ordzhonikidze (Novocherkassk Polytechnic Institute imeni S. Ordzhonikidze)

SUBMITTED: October 3, 1961
Card 2/2

AGRINSKAYA, N. A.; PETRASHEN¹, V. I.

Reaction of molybdenum with 8-mercaptoquinoline, Zhurnal. khim. 16
no.6:701-705 N-D '61. (MIRA 14:12)

1. Novocherkassk Polytechnical Institute.
(Molybdenum)
(Quinoline)

PETRASHEN; V.

"Complex examination of horizontal facing and small beam (crossbar) in planning
Hydroengineering locks."

Dissertation for Candidate of Technical Sciences, Leningrad Polytechnical Inst. im.
Kalinin (LPI)

Subject: Hydroengineering building and construction.

Gidrotekhnicheskoye, stroitel'stvo, 12, 1946.

PETRASHIN, V. I.

Technology

Hydrotechnical locks with a flat carriage casing, Leningrad, Gos, izd-vo
lit-ry po stroit-vu i arkh-re, 1952

Monthly List of Russian Accessions, Library of Congress, June 1953. Uncl.

PETRASHEN', V. I.

USSR/Engineering - Hydraulics, Sluices May 52

"Two-Piece Double Gate for Sluices," V. I. Petras-
hen', Engr

"Gidrotekh Stroit" No 5, pp 42, 43

Analyzes gate designs suggested by S. P. Borise-
vich ("Gidrotekh Stroit" No 10, 1951) and dis-
proves expediency of using stud system in con-
struction of high gates. Suggests double gate
with 2 leaves. Each leaf to consist of upper
part with upper and lower crossbars above down-
stream level, and shield attached by hinges to
upper part. Design offers economy in metal and
convenience of maintenance.

230T19

1. PETRASHEN', V. I.
2. USSR (600)
4. Gates
7. Use of the method of limit conditions in calculating hydraulic gates.
Gidr. stroi. 21 no. 9, 1952

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

$$\Delta = \frac{(Z_0 + Z_1)}{v + \gamma}$$

15

Retracher V.I.

where X_0 and Z_0 are the initial values, and X_1 and Z_1 the dynamic increments of the horizontal and vertical reactions, respectively, of the foundation; γ - coefficient of friction.

This formula is generalized for the case of discontinuously varying loads and concentrated impulses. A numerical example is appended.

O. A. Savinov, USSR

Courtesy of Referativnyi Zhurnal

Translation, courtesy Ministry of Supply, England

2/2

PETRASHEN', V.I., kandidat tekhnicheskikh nauk.

Selecting the best design of two-wing sluice gates. Gidr.stroi. 23
no.2:30-32 '54.

(MLRA 7:4)

(Sluice gates)

112-57-7-14222

Translation from: Referativnyy zhurnal, Elektrotehnika, 1957, Nr 7,
pp 65-66 (USSR)

AUTHOR: Petrashen', V. I.

TITLE: Allowance for Deformability of Cribwork and a Rational Construction of
Cribs (Ob uchete deformativnosti ryazhevykh sooruzheniy i ratsional'noy
konstruktsii ryazhey)

PERIODICAL: Sb. tr. Vses. n.-i. in-ta gidrotekhn. i san.-tekhn. rabot
(Collection of Works of the All-Union Science-Research Institute of Hydro-
engineering and Sanitary Engineering), 1956, Nr 7, pp 65-74

ABSTRACT: To detect deformations in cribwork, a skewness check was used prior
to 1938. Such a check did not take the additional vertical load of the cribwork
into consideration, and was based on the false assumption that the direction of
shift in a crib section depends on the sign of horizontal force moment instead
of on the sign of shifting force. In 1949, the author suggested a reverse con-
structional rake equal to the skewness. However, the possibility of a non-
uniform sagging of cribwork was not evaluated quantitatively. It can be

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112-57-7-14222

Allowance for Deformability of Cribwork and a Rational Construction of Cribs

assumed that the sagging of cribs is proportional to their loads and has a damping nature. It is assumed below that the crib is made of beams or logs of the same thickness, and its filling, as well as the walls, transmits vertical forces. A total angle of turn of the upper surface with relation to the lower surface, with the sagging factor $\epsilon_0 = \text{const}$.

is equal $\theta = \epsilon_0 \int_{h_0}^h \frac{\Delta}{b} dz$ where Δ is the difference between edge stresses; b is the crib width. The total displacement of the top of the superstructure is:

$\delta = \int_{h_0}^h \frac{\Delta}{b} z dz$ here, h is the total height of the construction; h_0 is the superstructure height. If the projecting corner in the crib section is cut off, an "effective crib contour" will result. To use the above formulas, it is necessary to find out experimentally the values for ϵ for the walls of various logs and with various bed widths, as well as for various moisture contents of the lumber. The value of the constructional rake is:

$$i = \delta + \frac{\delta + \theta_0 h}{h - h_0},$$

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SOV/124-57-7-7920

Translation from: Referativnyy zhurnal. Mekhanika, 1957, Nr 7, p 65 (USSR)

AUTHOR: Petrashen', V. I. (Dr. tekhn. nauk)

TITLE: The Action of Broken Waves on Vertical-wall Type Protective Structures (Deystviye razbitykh voln na ograditel'nyye sooruzheniya tipa vertikal'noy stenki)

PERIODICAL: Sb. tr. Vses. n.-i. in-ta gidrotekhn. i san.-tekhn. rabot, 1956, Nr 7, pp 75-110

ABSTRACT: The first two sections deal with a qualitative description of the process of the breaking of a wave and the impact of a broken wave. Numerous diagrams are given to illustrate the effect of various structural parameters and the lay of the bottom on the characteristics of the action of a broken wave. The advisability of applying the GOST recommendations is evaluated. Some empirical relationships are proposed. The third section is devoted to ascertaining the role of the scale effect and the possibility of a model representation of the impact of a broken wave based on the comparison of experiments performed under various conditions. The last part of the paper consists of an enumeration of recommendations for a technical calculation of the action of a broken

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SOV/124-57-7-7920

The Action of Broken Waves on Vertical-wall Type Protective Structures

wave. Empirical formulas are given. The values of the empirical coefficients are determined, etc.

N. N. Moiseyev

Card 2/2

STREL'TSOVA, Ye.M.; PETRASHEV', V.I.

Oxidation of hydroquinone. Zhur. anal. khim. 20 no. 11:1169-1173
'65 (MIRA 19:1)

1. Ivanovskiy khimiko-tekhnologicheskii institut. Submitted
July 6, 1964.

L 14036-66 EPF(n)-2/EWT(m)/EWP(b)/EWP(t) IJP(c) JD

ACC NR: AR5020042

SOURCE CODE: UR/0081/65/000/012/0016/2016

AUTHOR: Golosenitskaya, V.A.; Petrushev, V.I.

ORG: none

TITLE: Photometric determination of perchlorates with brilliant green

SOURCE: Ref. zh. Khimiya, Abs. 120111

REF SOURCE: Tr. Novocherk. politekh. in-ta, v. 141, 1964, 65-72

TOPIC TAGS: perchlorate, analysis

TRANSLATION: It is shown that brilliant green (I) reacts with ClO_4^- in forming a compound which is easily extracted by benzene, toluene and m-xylene. By using the isomolar series method, a ratio of 1:1 was established for the extracted compound of I and ClO_4^- . This ratio was further proved by the maximum logarithms calculation method for determining ClO_4^- with the use of I. The optimum conditions for a determination are: pH 4.5 - 7.0, a ~15 times surplus of I in extracting with benzene, a ~20-times surplus when extracting with toluene or m-xylene; the maximum light absorption of the extracts is found at 619 m, the Beer Law is realized in a concentration of ClO_4^- with in the limits of 0 - 40 γ/ml in benzene, 0 - 32 γ/ml in toluene and 0 - 21 γ/ml in m-xylene extracts. The stain is stable for ≤ 3 hours, the error in determination of

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L 14036-66

ACC NR: AR5020042

0

$\text{ClO}_4^- + 1.2\%$, the duration of the analysis is 15 - 20 minutes. The determination is not disturbed by: Cl^- , ClO_3^- , $\text{Cr}_2\text{O}_7^{2-}$, NO_3^- , NO_2^- , NH_4^+ , Li^+ , K^+ , Mg^{2+} and Ba^{2+} . ClO_4^- is disturbed due to the discoloration of I. The method was used for determining ClO_4^- in solutions of pure salts and also in electrolytes obtained in the process of electrochemical production of perchlorates. V. Bagreyev.

SUB CODE: 07

Card 2/2 10

S/137/60/000/011/003/043
A006/A001

Translation from: Referativnyy zhurnal, Metallurgiya, 1960, No.11, p.24, # 25330

AUTHORS: Vernidub, A.S., Petrashen', V.I.

TITLE: On Sorption of Chromium and Vanadium by the SBS Cationite

PERIODICAL: Tr. Novocherk. politekhn. in-ta, 1959, Vol. 97, pp. 163 - 175

TEXT: An investigation was made for the purpose of studying the possibility of separating Cr and V on a SBS cation and sulfocarbon. It is shown that best results are obtained when using SBS. Reduction of the SBS chromate takes place at a pH solution up to 5.2; at an increase of pH to 6, reduction is interrupted. Trivalent Cr (obtained during reduction or taken from the initial solution) is most completely sorbed at pH 5 - 5.2; its sorption is reduced at a lower pH. Highest sorption takes place at pH 0.9; it decreases at a pH value increased to 4. If pH is > 5 , V is not sorbed. The quantitative separation of Cr and V based on the difference of oxidizing-reduction potentials and ion charges, is not possible.

L.P.

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

Card 1/1

PETRASHVICH, A.

Defense against attack by airborne troops. Nashi vesti 9 no.37:3-4
Ag '53. (MLRA 6:7)
(Airborne troops)